2015 – 2016 Course Offerings Bulletin

Course information (title, credit hours, level, description, etc.) begins on page one. The most current information regarding new courses, changes to existing courses, Quarter to Semester conversion information, credit hours, sections, days, times, buildings, rooms, and instructors may be found on the Web at http://registrar.osu.edu/courses and http://registrar.osu.edu/scheduling.

Explanation of a Course Listing

I. Course Heading Information

1102.01 Beginning French II Classroom  U  4

Course Number: 1102.01
Course Title: Beginning French II Classroom
Instructional Level: U

U = Undergraduate
G = Graduate
D = Dentistry
M = Medicine
L = Law
O = Optometry
P = Pharmacy
V = Veterinary Medicine

Credit Hours: 4

II. Main Course Description

Continued study of French; development of listening, reading, speaking, and writing skills; readings based on contemporary French culture and literature. Taught in French.

III. Course Attributes

Prereq: 1101.01, or completion of 4 cr hrs of 1101.51. Not open to students with credit for 102.01. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Semester of offering (not displayed in example): Au, Sp, Su Sems. May Term.

Au = Autumn Semester
Sp = Spring Semester
Su = Summer Semester
May Term = May Term

Prerequisite(s): 1101.01, or completion of 4 cr hrs of 1101.51.

The course number(s) refers to the specific course within the same department. If a department name is listed, all course numbers following that name belong to that department name until another is listed (e.g., Math 1101, 1102, 1103, Chem 1101, and 1102). Enrollment in a course requires the successful completion of all prerequisites or their equivalents. The department, school, or college office should be consulted with questions of eligibility to take a course.

Exclusionary clause: Not open to students with credit for 102.01.

Students who have taken the listed courses or belong to any other categories listed in the exclusionary clause are not eligible to enroll in the course.

Repeatability clause (not displayed in example): Repeatable to a maximum of 10 cr hrs or 4 completions.

Indicates the maximum number of credit hours and/or the maximum number of completions a course may be repeated for credit (whichever limit is reached first).

Satisfactory/Unsatisfactory grading clause (not displayed in example):
This course is graded S/U.

Indicates that a course is graded on an S/U basis rather than the standard letter grading system.

EM credit clause: This course is available for EM credit.

Indicates that a course is available for a type of exam credit.

GE clause: GE for lang course.

Indicates that the course may be used to meet one or many of the University’s General Education requirements. Students should consult their specific college or adviser before scheduling courses to be applied to this requirement.

Admissions condition clause: FL Admis Cond course.

Indicates that the course may be used to fulfill an admission condition.

Cross-listing clause (not displayed in example): Cross-listed in English.

Indicates that the course is cross-listed with a course in another subject. The course shares a vast majority of its content with the cross-listed course, and instances of these courses are typically taught by the same instructor, in the same space, and at the same time during a semester. Courses usually share the same course number (in which case only the subject will be present in the clause), but where they do not, the number of the cross-listed course will be given.
University Classification and Course Numbering System

The system of numbering courses offered by the University is as follows:

**1000-1999**: Non-credit courses for orientation, remedial, or other non-college level experiences. These are courses taken in addition to a program's graduation requirements.

**1100-1999**: Basic courses providing undergraduate credit, but not to be counted on a major or field specialization in any department. Courses at this level are beginning, required, or elective courses that may be prerequisites to higher-level courses.

**2000-2999**: Intermediate courses providing undergraduate credit that may be counted toward a major or field of specialization.

**3000-3999**: Upper-level courses providing undergraduate credit that may be counted toward a major or field of specialization.

**4000-4999**: Advanced-level courses providing undergraduate credit that may be counted toward a major or field of specialization. Graduate students may enroll in and receive graduate credit for 4000-level courses outside their own graduate program.

**5000-5999**: Courses that are regularly offered for both graduate and undergraduate credit, and sometimes for foundational coursework or research credit at the professional level. These courses provide credit that may be counted toward an undergraduate major or field of specialization.

**6000-6999**: Foundational coursework and research providing graduate or professional credit.

**7000-7999**: Intermediate coursework and research providing graduate or professional credit.

**8000-8999**: Advanced coursework and research providing graduate or professional credit.

Editor: Whitney Ellwood, Enrollment Services, University Registrar

Photo: Courtesy of OSU Photo Services

Publication: May 11th, 2015
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Foundations of Accounting</td>
<td>U 3</td>
<td>A survey of accounting for non-business students; financial statements and analysis; accounting for assets, liabilities and owners' equity; and elements of managerial accounting. Prereq: Not open to students with credit for 2200 (211), 2300 (212), or 310.</td>
</tr>
<tr>
<td>2200</td>
<td>Introduction to Accounting I</td>
<td>U 3</td>
<td>Preparation and use of accounting reports for business entities; focuses on uses of accounting for external reporting, emphasizing accounting as a provider of financial information. Prereq: Econ 2001.01 (200), or equiv. Not open to students with credit for 2000 (310) or 211, or equiv. This course is available for EM credit.</td>
</tr>
<tr>
<td>2200H</td>
<td>Introduction to Accounting I</td>
<td>U 3</td>
<td>Structure and use of financial reports; role of accounting and auditing in markets and organizations. Prereq: Honors standing, and Soph standing. Not open to students with credit for 211H.</td>
</tr>
<tr>
<td>2300</td>
<td>Introduction to Accounting II</td>
<td>U 3</td>
<td>The uses of accounting reports by managers to make business decisions and to control business operations; focuses on the internal use of accounting information. Prereq: 2200 (211) and Econ 2001.01 (200), or equiv. Not open to students with credit for 2000 (310) or 212, or equiv. This course is available for EM credit.</td>
</tr>
<tr>
<td>2300H</td>
<td>Introduction to Accounting II</td>
<td>U 3</td>
<td>Use of accounting information in management control, with ties to the economic theory of the firm. Emphasizes classroom discussion and student presentations. Prereq: Honors standing, and a grade of B or above in 2200H, and Soph standing. Not open to students with credit for 212H.</td>
</tr>
<tr>
<td>2700H</td>
<td>Quantitative Analysis in Accounting</td>
<td>U 3</td>
<td>Accounting information system applications of linear algebra are explored including a subspace representation of double entry accounting structure, a probability assignment, description of a decision maker's uncertain state of knowledge, and Bayesian belief updating description of information processing including projections for the case of linear or Gaussian conditional expectations. Prereq: Honors standing, a grade of B or better in 2200H, and Soph standing. Not open to students with credit for 4780H.</td>
</tr>
<tr>
<td>3193</td>
<td>Individual Studies</td>
<td>U 1 - 6</td>
<td>Individual study projects in selected areas in Accounting and Information Systems. Prereq: Permission of instructor. Repeatable to a maximum of 12 or hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>3194</td>
<td>Group Studies</td>
<td>U 1 - 6</td>
<td>Group study projects in selected areas in Accounting and Information Systems. Prereq: Permission of instructor. Repeatable to a maximum of 12 or hrs or 6 completions.</td>
</tr>
<tr>
<td>3200</td>
<td>Financial Accounting I</td>
<td>U 3</td>
<td>Theory and application of accounting techniques to record and report financial information; asset and liability valuation; income measurement; first of two-course sequence. Prereq: 2300 (212), BusMgt 2300 (330), 2321 (331), BusMHR 2292 (BusAdm 499.01), and Jr standing; or permission of instructor. Not open to students with credit for 3201.02 or 521.</td>
</tr>
<tr>
<td>3200.02</td>
<td>Financial Accounting II</td>
<td>U 1</td>
<td>Bridge course for students transitioning between AcctMIS 521 and AcctMIS 3201; covers some content of AcctMIS 522. Prereq: 521. Not open to students with credit for 3200 or 522.</td>
</tr>
<tr>
<td>3200H</td>
<td>Financial Accounting I</td>
<td>U 3</td>
<td>Economic role of financial reporting in markets and how it is influenced by the regulatory environment. Prereq: Honors standing, and a grade of B or above in 2300H. Not open to students with credit for 519H.</td>
</tr>
<tr>
<td>3201</td>
<td>Financial Accounting II</td>
<td>U 3</td>
<td>Theory and application of accounting techniques to record and report financial information; asset and liability valuation; income measurement; second of two-course sequence. Prereq: 3200, 3200.02, or BusMHR 2292 (BusAdm 499.01); or permission of instructor. Not open to students with credit for 3201.02 or 523.</td>
</tr>
<tr>
<td>3201.02</td>
<td>Financial Accounting II</td>
<td>U 2</td>
<td>Bridge course for students transitioning from AcctMIS 522 to complete remaining content of AcctMIS 3201; covers content of AcctMIS 523. Prereq: BusMHR 2291 (BusAdm 499.01) or 522, or permission of instructor. Not open to students with credit for 3201 or 523.</td>
</tr>
<tr>
<td>3201H</td>
<td>Financial Accounting II</td>
<td>U 3</td>
<td>Study of theory and practice of financial accounting. Prereq: Honors standing, and a grade of B or above in 3200H. Not open to students with credit for 520H.</td>
</tr>
<tr>
<td>3300</td>
<td>Cost Accounting</td>
<td>U 3</td>
<td>Managerial decision making in organizations with an emphasis on the use of financial data; theory and practice of management control. Prereq: 2301 (212), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01); or permission of instructor. Not open to students with credit for 525.</td>
</tr>
<tr>
<td>3300H</td>
<td>Cost Accounting</td>
<td>U 3</td>
<td>Theory and practice of management control with an emphasis on performance evaluation and reward. Prereq: Honors standing, and a grade of B or above in 2300H. Not open to students with credit for 525H.</td>
</tr>
<tr>
<td>3400</td>
<td>Tax Accounting I</td>
<td>U 3</td>
<td>Fundamentals of the federal income tax, and how it influences taxpayer decisions. Emphasis is on the individuals and businesses organized as proprietorships, but rules generally applicable to all taxpayers are covered. Prereq: 3200 (521) and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 626.</td>
</tr>
<tr>
<td>3400H</td>
<td>Tax Accounting I</td>
<td>U 3</td>
<td>Fundamentals of the federal income tax, and how it influences taxpayer decisions. Emphasis is on individuals and businesses organized as proprietorships, but rules generally applicable to all taxpayers are covered. Prereq: Honors standing, and a grade of B or above in 3200H. Not open to students with credit for 626H.</td>
</tr>
<tr>
<td>3600</td>
<td>Introduction to Accounting Information Systems</td>
<td>U 3</td>
<td>The design of accounting information systems; focus is on business processes and internal control. Prereq: 3200 or 521, and BusMHR 2292 (BusAdm 499.01); or permission of instructor. Not open to students with credit for 631.</td>
</tr>
<tr>
<td>3600H</td>
<td>Introduction to Accounting Information Systems</td>
<td>U 3</td>
<td>The design and control of accounting information systems. Prereq: Honors standing, and a grade of B or above in 3200H. Not open to students with credit for 631H.</td>
</tr>
<tr>
<td>3601</td>
<td>Introduction to Information Systems</td>
<td>U 1/2</td>
<td>The role of information systems in capturing and distributing organizational knowledge and enhancing management decision making, process of redesigning organizations utilizing systems analysis and design, quality assurance, and change management techniques, technical foundation of information systems, including hardware, software, telecommunications, networks, and the information architecture.</td>
</tr>
<tr>
<td>3610</td>
<td>Foundations of Business Information Systems</td>
<td>U 3</td>
<td>Technical foundation in programming interactive business information systems. Prereq: 2300 (212), CSE 2123 (214), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 532.</td>
</tr>
<tr>
<td>4193</td>
<td>Individual Studies</td>
<td>U 1 - 6</td>
<td>Individual study projects in selected areas in Accounting and Information Systems. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4194</td>
<td>Group Studies</td>
<td>U 1 - 6</td>
<td>Group study projects in selected areas in Accounting and Information Systems. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.</td>
</tr>
<tr>
<td>4200</td>
<td>Advanced Financial Accounting</td>
<td>U 3</td>
<td>Advanced topics in financial accounting; may include accounting for multi-corporate business entities, international operations, and government and not-for-profit organizations. Prereq: 3201 (523) or 3201.02, and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 624.</td>
</tr>
<tr>
<td>4210</td>
<td>Topics in Financial Accounting</td>
<td>U 3</td>
<td>Contemporary topics in financial accounting and analysis. Students may not repeat topics. Prereq: 3201 (523) and BusMHR 2291 (BusAdm 499.01). Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>4220</td>
<td>Governmental and Non-Profit Accounting</td>
<td>U 3</td>
<td>Focuses on financial reporting concepts and standards for non-profit and governmental units, evaluation of performance and the analysis and interpretation of financial statements of selected non-profit and governmental organizations. Prereq: 3201 (523) and BusMHR 2291 (BusAdm 499.01).</td>
</tr>
<tr>
<td>4310</td>
<td>Topics in Management Accounting</td>
<td>U 3</td>
<td>Advanced topics in management control, strategic interactions within the firm. Students may not repeat topics. Prereq: 3300 (525) and BusMHR 2292 (BusAdm 499.01). Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4410</td>
<td>Tax Accounting II</td>
<td>U 3</td>
<td>Intensive study of the federal income tax treatment of business corporations and partnerships, with particular attention to tax planning by these businesses and their owners. Prereq: 3400 (626) and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 636.</td>
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### Accounting and Management Information Systems

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<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>4500</td>
<td>Auditing Principles and Procedures</td>
<td>U 3</td>
<td>3</td>
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<tr>
<td></td>
<td>Basic concepts and standards of auditing; audit procedures and working papers, internal and external audit reports; professional responsibilities of auditors. Prereq: 3201 (523) and BusMGR 2252 (BusAdm 499.01), or permission of instructor. Not open to students with credit for 627.</td>
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<tr>
<td>4620</td>
<td>Analysis and Design of Management Information Systems</td>
<td>U 3</td>
<td>3</td>
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<tr>
<td></td>
<td>Investigation and application, through real-world projects, of concepts and tools used in the analysis and design of management information systems. Prereq: CSE 3352 (616), BusMGR 2252 (BusAdm 499.01), or permission of instructor. Not open to students with credit for 651.</td>
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<tr>
<td>4630</td>
<td>Business Data Communications</td>
<td>U 3</td>
<td>3</td>
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<tr>
<td></td>
<td>Study of technological, economic, and organizational issues concerning computer based networks for business data communications. Prereq: BusMgt 2320 (330), 2321 (331), and BusMGR 2291 (BusAdm 499.01), or permission of instructor. Not open to students with credit for 653.</td>
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<tr>
<td>4650</td>
<td>Decision Support and Expert Systems</td>
<td>U 3</td>
<td>3</td>
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<tr>
<td></td>
<td>Study of computer-based systems designed to support decision-making within the organization. Prereq: CSE 3232 (616), BusMgt 2320 (330), and 2321 (331). Not open to students with credit for 657.</td>
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<tr>
<td>4660</td>
<td>Electronic Commerce</td>
<td>U 3</td>
<td>3</td>
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<tr>
<td></td>
<td>Examination of technical, managerial, and strategic issues that surround the emergence of electronic commerce on the internet. Prereq: 3610 (532) or CSE 3241 (670), and BusMgt 2320 (330), 2321 (331), and BusMGR 2292 (BusAdm 499.01). Not open to students with credit for 658.</td>
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<tr>
<td>4670</td>
<td>Information Systems Planning &amp; Management</td>
<td>U 3</td>
<td>3</td>
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<tr>
<td></td>
<td>Planning and management of the information system function in business organizations with emphasis on the problems involved. Prereq: CSE 2123 (214), BusMgt 2320 (330), 2321 (331), and BusMGR 2292 (BusAdm 499.01); and Sr or Grad standing. Not open to students with credit for 659.</td>
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<tr>
<td>4780</td>
<td>Accounting Research and Practice</td>
<td>U 3</td>
<td>3</td>
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<tr>
<td></td>
<td>Researching accounting concepts and standards underlying corporate and non-corporate financial statements including consideration of typical accounting problems. Prereq: BusMGR 2292 (BusAdm 499.01), and permission of instructor. Not open to students with credit for 628.</td>
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<tr>
<td>4780H</td>
<td>Accounting Research and Practice</td>
<td>U 3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Researching accounting concepts and standards underlying corporate and non-corporate financial statements including consideration of typical accounting problems. Prereq: Permission of Honors Accounting Director. Not open to students with credit for 628H.</td>
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<tr>
<td>4784</td>
<td>Tax Research Seminar</td>
<td>U 3</td>
<td>3</td>
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<tr>
<td></td>
<td>Case studies requiring an in-depth examination of the tax aspects of situations frequently encountered by businesses and individuals. Prereq: 3410 (626) and BusMGR 2291 (BusAdm 499.01).</td>
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<tr>
<td>4998</td>
<td>Undergraduate Research in Accounting and MIS</td>
<td>U 1-3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Undergraduate Research in Accounting and MIS for non-honors students. Prereq: Permission of Program Director. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.</td>
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<tr>
<td>4998H</td>
<td>Research</td>
<td>U 1-4</td>
<td>3</td>
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<tr>
<td></td>
<td>Special topics research in accounting and/or management information systems; research evaluated through papers, thesis, and/or special examinations. Prereq: A grade of B or above in 320H, or permission of Honors Accounting Director. Not open to students with credit for 738H. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is progress graded.</td>
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<tr>
<td>5000</td>
<td>Accounting and Cost Analysis</td>
<td>U G 3</td>
<td>3</td>
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<tr>
<td></td>
<td>An introduction to accounting and cost analysis for planning, decision-making, and control. Prereq: ISE 2000 (500) and 2040 (504), or enrollment in MBLE Program. Not open to students with credit for 501.</td>
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<tr>
<td>5200H</td>
<td>Honors Advanced Financial Accounting</td>
<td>U G 3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Advanced topics in financial reporting including accounting for multi-corporate business entities, international operations, and other topics. Prereq: Honors standing, and a grade of B or above in 320H; or permission of Honors Accounting Director. Not open to students with credit for 624H.</td>
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<tr>
<td>5500H</td>
<td>Honors Auditing Principles and Procedures</td>
<td>U G 3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Basic concepts and standards of auditing; audit procedures and working papers, internal and external audit reports. Prereq: A grade of B or above in 320H (520H), or permission of Honors Accounting Director. Not open to students with credit for 627H.</td>
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<tr>
<td>6000</td>
<td>Management &amp; Control</td>
<td>G  2½</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Fundamental role of uncertainty, risk and private information in accounting; emphasis on managerial decisions and control problems in organizations. Prereq: Enrollment in Master of Accounting Program. Not open to students with credit for 803.</td>
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<tr>
<td>6050</td>
<td>Accounting and Financial Analysis for Decision Making</td>
<td>G  3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Develops an understanding of accounting fundamentals for managers and builds skills for making corporate investment and financial decisions including risk analysis. Prereq: Admission to the SMB-Marketing Program or MBLE Program. Not open to students with credit for MBA 6211, 6221, 800, 801, or 810.</td>
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<tr>
<td>6200</td>
<td>Financial Reporting</td>
<td>G  2½</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Examination of major aspects of corporate financial reporting by management under GAAP, including coverage of disclosures required for trade securities, tax aspects of mergers and acquisitions, auditing, and financial analysis. Prereq: Enrollment in Master of Accounting Program. Not open to students with credit for 7200 (924).</td>
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<tr>
<td>6201</td>
<td>Professional Research in Accounting</td>
<td>G  2½</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Research and communication skills in a professional accounting context; learn to use various accounting information resources; enhance communication and teamwork skills through collaborative exercises. Prereq: Enrollment in Master of Accounting Program. Not open to students with credit for 804.</td>
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<tr>
<td>6202</td>
<td>Accounting Policy &amp; Research</td>
<td>G  2½</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Provides students the opportunity to develop their knowledge and appreciation of current debates surrounding the accounting profession. They will be exposed to academic research in accounting and the primary underlying methods involved. Prereq: Enrollment in Master of Accounting Program. Not open to students with credit for AcctMIS 844.</td>
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<tr>
<td>7010</td>
<td>Ethical Challenges in Accounting and Business</td>
<td>G  1%</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Provides students with an understanding of ethical challenges facing accounting and business professionals. Prereq: MBA 6211 (800), or enrollment in MAcc program.</td>
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<tr>
<td>7020</td>
<td>Uncertainty, Diversification, and Private Information</td>
<td>G  1%</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Focuses on role of uncertainty, risk aversion, and private information in decision making. The course utilizes the expected utility paradigm to study topics of portfolio diversification, CAPM, option pricing, incentive design, information cascades, and signaling theory. Prereq: Enrollment in Fisher College Grad Program.</td>
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<tr>
<td>7193</td>
<td>Individual Studies</td>
<td>G  ½ - 8</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Individual studies in Accounting and Information Systems; topics vary. Prereq: MBA 6211 (800), or enrollment in MAcc program. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.</td>
<td></td>
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</tr>
<tr>
<td>7194</td>
<td>Group Studies</td>
<td>G  ½ - 3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Group studies in Accounting and Information Systems; topics vary. Prereq: MBA 6211 (800), or enrollment in MAcc program. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
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<tr>
<td>7200</td>
<td>Corporate Financial Reporting I</td>
<td>G  1%</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Examination of major aspects of corporate financial reporting. Prereq: Enrollment in Graduate Business Program. Not open to students with credit for 6200 (824).</td>
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<tr>
<td>7201</td>
<td>Corporate Financial Reporting II</td>
<td>G  1%</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Further examination of major aspects of corporate financial reporting. Prereq: 7200. Not open to students with credit for 6200 (824).</td>
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<tr>
<td>7210</td>
<td>Financial Information and Valuation</td>
<td>G  1%</td>
<td>3</td>
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<td></td>
<td>Accounting, profitability analysis and firm valuation; corporate restructuring; disclosure policy, accounting choice and their impact on financial statement users. Prereq: MBA 6211 (800), or enrollment in MAcc program. Not open to students with credit for 628.</td>
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<tr>
<td>7220</td>
<td>Financial Statement Analysis</td>
<td>G  1%</td>
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<td>Examines the role of financial statement analysis in the evaluation of the firm’s financial performance and the prediction of its future economic condition. Prereq: MBA 6211 (800), or enrollment in MAcc program. Not open to students with credit for 842.</td>
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<tr>
<td>7221</td>
<td>Financial Statement Analysis II</td>
<td>G  1%</td>
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<td>Examines additional techniques to evaluate the firm's financial performance and the prediction of its future economic condition based on financial statements. Prereq: 7220, or permission of instructor. Not open to students with credit for 842.</td>
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<tr>
<td>7230</td>
<td>Accounting for Mergers and Acquisitions (and other Complex Transactions)</td>
<td>G  1%</td>
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<td></td>
<td>Designed for students whose careers will require an expert understanding of advanced accounting and reporting concepts regarding complex financial transactions. Prereq: Not open to students with credit for 841.</td>
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<tr>
<td>7240</td>
<td>International Financial Reporting Standards</td>
<td>G  1%</td>
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<td>Students will learn the guiding principles behind international reporting standards. They will also learn areas of commonalities and substantial divergence between U.S. GAAP and IFRS. Prereq: 6200 or 7200. Not open to students with credit for 849.</td>
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<td>Course Code</td>
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<tr>
<td>7250</td>
<td>Governmental and Non-Profit Accounting</td>
<td>1½</td>
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<tr>
<td>7300</td>
<td>Cost Accounting</td>
<td>1½</td>
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<tr>
<td>7310</td>
<td>Managerial Accounting for Decision Making</td>
<td>1½</td>
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<tr>
<td>7320</td>
<td>Advanced Accounting Analysis for the Controllership</td>
<td>1½</td>
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<tr>
<td>7330</td>
<td>Management Control Systems</td>
<td>1½</td>
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<tr>
<td>7400</td>
<td>Tax Planning for Managerial Decision Making</td>
<td>1½</td>
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<tr>
<td>7410</td>
<td>Tax Accounting II</td>
<td>1½</td>
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<tr>
<td>7420</td>
<td>Tax Accounting III</td>
<td>1½</td>
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<tr>
<td>7430</td>
<td>Taxes and Business Strategy</td>
<td>1½</td>
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<tr>
<td>7500</td>
<td>Auditing Principles and Procedures</td>
<td>1½</td>
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<tr>
<td>7510</td>
<td>Assurance Services and Information Quality</td>
<td>1½</td>
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<tr>
<td>7520</td>
<td>Fraud Examination: Misappropriation of Assets</td>
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<td>7530</td>
<td>Fraud Examination: Fraudulent Financial Reporting</td>
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<td>7600</td>
<td>Corporate Information Systems Management</td>
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<tr>
<td>7610</td>
<td>System Analysis and Design for Managers</td>
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<tr>
<td>7620</td>
<td>Management of Corporate Data Resources</td>
<td>1½</td>
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<td>7630</td>
<td>Emerging Technologies and Electronic Commerce</td>
<td>1½</td>
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<tr>
<td>7716</td>
<td>Accounting and Financial Analysis in Health Sciences</td>
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<td>7784</td>
<td>Tax Research</td>
<td>1½</td>
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<tr>
<td>7800</td>
<td>Advanced Topics in Accounting and MIS for EMBA</td>
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<tr>
<td>7870</td>
<td>Doctoral Seminar in Accounting &amp; MIS</td>
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<tr>
<td>7872</td>
<td>Doctoral Seminar in Financial Accounting</td>
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<td>7873</td>
<td>Doctoral Seminar in Managerial Accounting</td>
<td>1½</td>
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<tr>
<td>7876</td>
<td>Doctoral Seminar in MIS Research</td>
<td>1½</td>
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<tr>
<td>7890</td>
<td>Doctoral Seminar in Accounting Topics</td>
<td>1½</td>
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<tr>
<td>7899</td>
<td>Dissertation Research</td>
<td>1½</td>
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<tr>
<td>3350</td>
<td>The History of Animation</td>
<td>3</td>
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<tr>
<td>5001</td>
<td>Motion Studies through Hand-Drawn Animation</td>
<td>3</td>
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<tr>
<td>5002</td>
<td>3D Computer Animation: Form, Light and Motion I</td>
<td>3</td>
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<tr>
<td>8359</td>
<td>Advanced Computing Center for the Arts and Design</td>
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</table>
## 4 Advanced Computing Center for the Arts and Design

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Grading</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>5003</td>
<td>3D Computer Animation: Form, Light and Motion II</td>
<td>G 3</td>
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<tr>
<td></td>
<td>Further exploration of 3D computer animation and stages of production. Prereq: 5002, or permission of instructor.</td>
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<tr>
<td>5100</td>
<td>Concept Development for Time-Based Media</td>
<td>U G 3</td>
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<td></td>
<td>Methods for developing concepts for time-based media through the cultivation of ideas and problem-solving strategies. Storyboarding, composition, editing and sound principles will be explored. Prereq: Not open to students with credit for ArtsCol 730.</td>
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<tr>
<td>5102</td>
<td>Programming Concepts and Applications for Artists and Designers</td>
<td>U G 3</td>
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<td></td>
<td>Fundamental programming concepts useful to artists and designers for creating algorithm-based graphics and graphics tools. Prereq: Not open to students with credit for ArtsCol 756.</td>
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<tr>
<td>5140</td>
<td>Interactive Arts Media I</td>
<td>G U 3</td>
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<td></td>
<td>Introduction to the theory and practice of the design of interactive media for the web. Prereq: Not open to students with credit for ArtsCol 740.</td>
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<tr>
<td>5141</td>
<td>Interactive Arts Media II</td>
<td>G U 3</td>
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<tr>
<td></td>
<td>Intermediate studies in the application of interactive media for the web. Prereq: 5140 or equiv. Not open to students with credit for ArtsCol 741.</td>
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<tr>
<td>5142</td>
<td>Interactive Arts Media III</td>
<td>U G 3</td>
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<td></td>
<td>Applied studies in creating multimedia for mobile devices. Prereq: 5141 or equiv. Not open to students with credit for ArtsCol 742.</td>
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<tr>
<td>5191</td>
<td>ACCAD Internship</td>
<td>G U ½ - 3</td>
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<td></td>
<td>A collaborative internship assignment conducted under the supervision of a faculty member. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
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<tr>
<td>5193</td>
<td>Independent Study</td>
<td>G U ½ - 3</td>
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<td></td>
<td>Independent study. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.</td>
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<tr>
<td>5194.01</td>
<td>Group Studies in Digital Animation and Interactive Media</td>
<td>G U ½ - 3</td>
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<td></td>
<td>Group study on various topics related to digital animation and interactive media. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
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<tr>
<td>5500</td>
<td>Integrated Tech Lab</td>
<td>U G ½ - 3</td>
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<td></td>
<td>Technology exploration using ACCAD's specialized graphics laboratories. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.</td>
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<tr>
<td>5651</td>
<td>A History of Computer Graphics</td>
<td>G U 3</td>
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<td></td>
<td>An historical overview of the development of the discipline of computer graphics and its four eras of pioneers, innovators, adapters and followers. Prereq: Not open to students with credit for ArtsCol 732.</td>
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<tr>
<td>6002</td>
<td>Computer Game Art and Design I</td>
<td>G 3</td>
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<td></td>
<td>Introduction to concepts for design and prototyping of games for entertainment, learning and social good. Prereq: Sr or Grad standing, and permission of instructor. Not open to students with credit for ArtsCol 733.</td>
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<tr>
<td>6003</td>
<td>Computer Game Art and Design II</td>
<td>G 3</td>
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<td></td>
<td>Advanced topics for design and production of both fun and serious games including networked multi-player and mobile devices. Prereq: Sr or Grad standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
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<tr>
<td>6650</td>
<td>The History of Animation</td>
<td>G 3</td>
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<td></td>
<td>Overview of the history and theory of animation, including the origin of animation forms and Hollywood Studio animation, with a sample of World and contemporary animations. Prereq: Grad standing. Not open to students with credit for ArtsCol 650.</td>
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<tr>
<td>6651</td>
<td>Digital and Physical Lighting</td>
<td>G 4</td>
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<td>Introduction to the principles and concepts of lighting as used in theatre and computer graphics. Working in collaborative teams, students develop and execute digital and analog lighting schemes. Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 754 or Theatre 6651 (754). Cross-listed in Theatre.</td>
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<td>7001</td>
<td>Virtual Modeling</td>
<td>G 3</td>
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<td></td>
<td>Design and modeling principles of 3D objects, environments and characters for animation, games and visualization. Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 751.</td>
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<tr>
<td>7002</td>
<td>Synthetic Cinema</td>
<td>G 3</td>
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<td>Concepts and techniques for the combination of recorded and computer-generated media through processes of editing, composting, motion tracking, virtual sets and other multimedia applications. Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 752.</td>
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<td>7003</td>
<td>Expressive Animation</td>
<td>G 3</td>
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<td>Movement concepts and techniques specific to computer animation including timing, spacing, inverse kinematics/forward kinematics, character motion and advanced animation approaches. Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 752.</td>
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<td>7004</td>
<td>Procedural Shading</td>
<td>G 3</td>
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<td></td>
<td>The application of mathematical models used in computer graphics to mimic light behavior and surface patterns when generating three-dimensional, computer-generated imagery. Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 755.</td>
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<td>7005</td>
<td>Experimental Scripting for Animation in Maya</td>
<td>G 3</td>
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<td></td>
<td>An introduction to scripting in Maya to streamline workflow, exercise control over complex operations and to explore motion graphics through mathematical procedures. Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 759.</td>
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<td>7101</td>
<td>Performance and Installation Technology</td>
<td>G 3</td>
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<td></td>
<td>An overview of technologies useful for creating interactive installations and performance systems, using video projection, 3D graphics, environmental sensors and visual programming. Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 756.</td>
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<td>7102</td>
<td>Motion Capture Production and Experimentation</td>
<td>G 3</td>
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<td>Traditional motion capture pipelines and exploration of possibilities for experimental approaches and applications of the technology. Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 760.</td>
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<td>7103</td>
<td>Designing Immersive Virtual Environments</td>
<td>G 3</td>
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<td>Creative and technical concepts for the development of simulations, installations, augmented reality and responsive spaces using 3D computer graphics with gesture-based and alternative input systems combined with immersive display methods. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.</td>
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<td>7104</td>
<td>Procedural Animation</td>
<td>G 3</td>
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<td></td>
<td>The investigation of procedural methods for modeling and animating 3D computer graphics. Prereq: Grad standing, or permission of instructor. Not open to students with credit for ArtsCol 763.</td>
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<tr>
<td>7193</td>
<td>Independent Study</td>
<td>G ½ - 3</td>
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<td></td>
<td>Independent Study. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.</td>
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<tr>
<td>7504</td>
<td>Animation Production</td>
<td>G 1 - 6</td>
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<td>An advanced studio course designed for students who are well versed in animation concepts and technical basics. The course challenges students to embark on collaborative animation projects that are currently in-house at ACCAD. Prereq: 7001, 7002, 7003, 7004, or 7005, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
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<td>7792</td>
<td>Interdisciplinary Creative Research Seminar</td>
<td>G ½ - 3</td>
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<td>Interdisciplinary investigations around the use of technology in creative research applications. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.</td>
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<tr>
<td>7793</td>
<td>Collaborative Interdisciplinary Research Studio</td>
<td>G 1 - 3</td>
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<td>Experience</td>
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<td>Creative research by teams integrating information, data, techniques, tools, perspectives, concepts, &amp;/or theories from two or more bodies of specialized knowledge to advance fundamental understanding or solve problems whose solutions are evolving. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.</td>
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<td>2200</td>
<td>Introduction to Aerospace Engineering I</td>
<td>U 4</td>
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<td>An introduction to fundamental concepts leading to aircraft design, with an emphasis on aerodynamics and aircraft performance. Prereq: Physics 1250 or 1260 (131); and Math 1152 (152), 1161 (161), 1172 (154), or 1181H, or a grade of C- or above in Math 1544. Prereq or concur: Math 2173 (254), 2153 (153), or 2162 (263). Not open to students with credit for 200.</td>
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2201 Introduction to Aerospace Engineering II U 4
An introduction to fundamental concepts leading to aircraft and spacecraft design, with an emphasis on stability and control, propulsion, space launch/entry, and orbital mechanics.
Prereq: 2200 (200). Not open to students with credit for 201.

2405 Thermodynamics U 3
Aerospace engineering thermodynamics: Introduction to the concepts of energy and entropy, the First and Second Law analysis of systems and control volumes, and the analysis of power and refrigeration cycles.
Prereq: 2200 (200), and AeroEng-BS student (No AAE pre-majors can enroll in this class). Not open to students with credit for 405.

3520 Flight Vehicle Dynamics U 3
Introduction to mathematical modeling of dynamics (equations of motion) for rigid bodies with specific application towards aircraft and spacecraft.
Prereq: 2201 (201) and MechEng 2030 (430), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 520.

3521 Fundamentals of Flight Vehicle Control U 3
Linear dynamic systems analysis using Transfer function (Laplace Transformation based) methods and State Space (matrix theory based) methods with emphasis on aircraft and spacecraft models.
Prereq: 3520 (520) and ECE 2300 (300 and 309), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 521.

3542 Flight Vehicle Structures I U 3
Introduction to aerospace structures: Basic structural components; fundamental elements of linear elastic boundary value problems; composites; bending, torsion and shear of thin-walled sections; laboratory demonstrations.
Prereq: 2201 (201) and MechEng 2030 (430) and 2040, or AeroEng 2201 (201) and MechEng 2010 and 2020 and 2030; and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 542.

3543 Flight Vehicle Structures II U 3
Energy Based Analysis: principles of virtual work and minimum potential energy; rayleigh-ritz & finite element methods; structural stability; thermo-elasticity; structural dynamics; laboratory demonstrations.
Prereq: 3542 (342), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 543.7.

3560 Fundamentals of Aerodynamics U 3
Fundamentals of viscous and inviscid flow encountered in aircraft aerodynamics.
Prereq: 2201 (201) and 2405 (405); and Math 2174, or 2568 (568) and 2415 (415); and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 560 and 570, or AeroEng pre-majors.

3570 One Dimensional Gas Dynamics U 3
Continuation of viscous flows and boundary layers. One-dimensional gas dynamics including shocks, waves, supersonic, and transonic flow.
Prereq: 3560 (560 and 570), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 530.

3580 Heat Transfer U 3
Fundamentals of conduction, convection, and radiation.
Prereq: 3560 (560 and 570), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 570.

3581 Numerical Methods in Aerospace Engineering U 3
Fundamentals of mathematical and numerical modeling techniques and their applications in solving engineering problems.
Prereq: Math 2174, or 2568 (568) and 2415 (415); and enrollment as AeroEng-BS student. Not open to students with credit for 581, or AeroEng pre-majors.

4193 Individual Studies in Aerospace Engineering U 1 - 7
Individual studies project for undergraduates.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

4194 Group Studies in Aerospace Engineering U 1 - 3
Group studies course for undergraduates.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

4510 Experimental Projects I U 2
Conceive, plan and design an experiment with a group of students. Emphasis on planning and experiment preparation.
Prereq: 3543 (543) and 3570 (530 and 570), and Sr standing, and enrollment as AeroEng-BS student (No pre-majors can enroll in this class).

4511 Experimental Projects II U 2
Execute and report on experiment formulated in Projects I. Emphasis on execution and reporting.
Prereq: 4510, and enrollment as AeroEng-BS student (No pre-majors can enroll in this class).

4515 Design of Atmospheric Flight Vehicles I U 3
Conceptual and preliminary design, methodology, case studies, introduction of design software, group planning for subsequent design effort: design of atmospheric flight vehicles and components.
Prereq: 3543 (543) and 3570 (530 and 570) and 3521 (521) and 3580 (580), and Sr standing, and enrollment as AeroEng-BS student (No AAE pre-majors can enroll in this class). Prereq or concur: 4550 (550). Not open to students with credit for 515.01 or 516.01.

4516 Design of Atmospheric Flight Vehicles II U 3
Continuation of 4515. Preliminary and detailed design of atmospheric flight vehicles components: design of a vehicle for atmospheric flight.
Prereq: 4515 (515 and 516), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 516.01 or 517.01.

4517 Design of Space Vehicles and Systems I U 3
Feasibility study of a space mission, elements of mission design and design methodologies of spacecraft subsystems, and preliminary sizing.
Prereq: 3521 (521) and 3543 (543) and 3570 (530 and 570) and 3580 (570), and Sr standing, and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Prereq or concur: 4550 (550). Not open to students with credit for 515.02 or 516.02.

4518 Design of Space Vehicles and Systems II U 3
Continuation of 4517: Preliminary and detailed design of space vehicle components. Design of a space vehicle/system, and mission scenarios simulation via computer software.
Prereq: 4517 (515 and 516), and enrollment as AeroEng-BS student (No pre-majors can enroll in this class). Not open to students with credit for 516.02 or 517.02.

4550 Principles of Flight Vehicle Propulsion U 3
Fundamentals of aerospace propulsion, engine cycles and analysis of various air-breathing and rocket engines.
Prereq: 3570. Not open to students with credit for 550.

4998 Aerospace Engineering Research U 1 - 3
Aerospace Engineering research.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4999 Aerospace Engineering Thesis Research U 1 - 3
Aerospace Engineering research for thesis.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

4999H Aerospace Engineering Honors Thesis Research U 1 - 3
Aerospace Engineering honors research for thesis.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

5610 Helicopter Aerodynamics U G 3
Basic treatment of helicopter aerodynamics, performance, and design.
Prereq: 3570 (530 and 570).

5612 Aircraft Performance and Flight Test Engineering U G 3
Determination of the performance, stability, controllability, and handling qualities of general aviation aircraft through analysis and flight tests.
Prereq: 3520 (520) and 3570 (530 and 570). Not open to students with credit for 612.

5615 Introduction to Computational Aerodynamics U G 3
Introduction to computational methods used in aerodynamics flow problems.
Prereq: 3570 (530 and 570) and 3581 (581), and AeroEng major. Not open to students with credit for 615 or to AeroEng pre-majors.

5620 Stability and Control of Flight Vehicles U G 3
Analysis and design of aircraft, helicopter and missile flight control systems and the associated guidance and navigation systems.
Prereq: 3521 (521). Not open to students with credit for 620 or 621.

5621 Guidance, Navigation, and Control of Aerospace Vehicles U G 3
Spacecraft (satellite) control systems analysis and design.
Prereq: 3521 (521). Not open to students with credit for 620 or 621.

5626 Orbital Mechanics for Engineers U G 3
Introduction to orbital mechanics with orbit determination techniques, orbital maneuvers and lunar and interplanetary trajectories.
Prereq: 3520 (520) and MechEng 2030 (430). Not open to students with credit for 645 or 745.

5645 Introduction to Structural Dynamics and Aeroelasticity of Aerospace Vehicles U G 4
Fundamental Concepts of Structural Dynamics, Unsteady Aerodynamics, and Aeroelasticity of Aerospace Vehicles.
Prereq: 3543 (543), or equiv, and 3570 (530 and 570). Not open to students with credit for 645 or 745.

5751 Advanced Air-Breathing Propulsion U G 3
Fundamental and advanced concepts of gas turbine operation.
Prereq: 4550 (550). Not open to students with credit for 751.
6 Aeronautical and Astronautical Engineering

5752 Advanced Space Propulsion U G 3
Analysis of different propulsion techniques for access to space and inter-planetary flight: liquid, solid, hybrid, nuclear and electric. Emphasizes fundamentals based on physics and mathematics.
Prereq: 4550 (550), or permission of instructor. Not open to students with credit for 752.

5775 Hypersonic Flow U G 3
Introduction to hypersonic inviscid and viscous flows, Newtonian theory, high-temperature effects and heat transfer.
Prereq: 3570 (350 and 370) and 4550 (550). Not open to students with credit for 755.

6193 Individual Studies in Aerospace Engineering G 1 - 7
Individual studies project.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

6194 Group Studies in Aerospace Engineering G 1 - 3
Group studies course.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

6771 Viscous Fluid Flow: Laminar and Transitional G 3
Focus on laminar and transitional flows, beginning with classic analytical solutions to the Navier-Stokes equations and addressing issues of boundary layer stability and compressibility effects.
Prereq: 3560 (560) and 3570 (530). Not open to students with credit for 771.

6860 Experimental Fluid Mechanics G 3
Introduction to experiment planning, data acquisition and analysis, and advanced measurement techniques commonly employed in fluid dynamics research.
Prereq: Grad standing in Mechanical or Aerospace Engineering, or permission of instructor. Not open to students with credit for 860.

6999 Aerospace Engineering Research for MS Thesis G 1 - 15
Aerospace engineering research for thesis. Repeatable. This course is graded S/U.

7720 Advanced Stability and Control of Flight Vehicles G 3
Advanced methods of stabilization and control of flight vehicles including Aircraft flight control systems and spacecraft control systems.
Prereq: 3520 (520). Concur: 3521 (521), or equiv.

7774 Aeroacoustics G 3
Fundamental concepts of classical acoustics; physical mechanisms associated with aerodynamic noise generation; computational aeroacoustic methods.
Prereq: 5615 (615) or equiv.

7842 Advanced Structures for Flight Vehicles G 3
Structural Analysis of Flight Vehicles.
Prereq: Grad standing in Mechanical or Aerospace Engineering, or permission of instructor. Not open to students with credit for 842.

7844 Optimal Design of Aerospace Structures G 3
Optimization applied to aircraft and spacecraft structures.
Prereq: Grad standing in Mechanical or Aerospace Engineering, or permission of instructor. Not open to students with credit for 844 or MechEng 7761 (761). Cross-listed in MechEng 7761.

7862 Internal Flows in Turbomachinery G 3
Detailed study of swirling, rotating, compressible, and unsteady internal flows found in turbomachinery.
Prereq: 3560 (560) and 5751 (751), or permission of instructor. Not open to students with credit for 862.

7875 Introduction to Turbulence G 3
Introduction to turbulence in fluid mechanics with emphasis on understanding the physical mechanisms involved.
Prereq: Grad standing in Mechanical or Aerospace Engineering, or permission of instructor. Not open to students with credit for 875. Cross-listed in MechEng 7513.

8193 Individual Studies in Aerospace Engineering G 1 - 7
Topics selected to give the advanced student opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

8194 Group Studies Aerospace Engineering G 1 - 3
Topics selected to give advanced students an opportunity to pursue special studies as a group not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

8802 Advanced Mathematical Methods in Engineering G 3
Fourier series, complex differentiation and integration and transform and Green's function methods for solution of problems arising in heat transfer, vibrations, fluid mechanics; asymptotic analysis and singular perturbations.
Prereq: Not open to students with credit for 802. Cross-listed in MechEng 8518.

8820 Robust Multivariable Control with Applications G 3
Advanced concepts for robust control of uncertain dynamic systems with applications.
Prereq: 5620 (620) or 6021 (621), or equiv.

8851 Advanced Propulsion Problems G 3
Detailed discussion of current problems in air breathing propulsion with major emphasis on technical papers available from the current archival literature.
Prereq: 5751 (751) or MechEng 7527 (727), or permission of instructor. Not open to students with credit for 851 or MechEng 8527 (827). Cross-listed in MechEng 8527.

8866 Hydrodynamic Stability of Fluid Motions G 3
Instability of inviscid and viscous parallel flows; thermal and centrifugal instability boundary-layer transition; and concepts of linear, nonlinear, and secondary instability analysis.
Prereq: 7771 (771). Not open to students with credit for 866.

8873 Advanced Computational Fluid Dynamics G 3
Fundamentals of most types of numerical approaches employed to solve fluid dynamics and heat transfer problems.
Prereq: 5615 (615) or MechEng 6507 (707), or equiv. Not open to students with credit for 873.

8890 Aerospace Engineering Graduate Seminar G 1
Lecture and discussion of current topics related to Aerospace Engineering presented by graduate students, staff and guest speakers. Course does not count toward course work required for MS or Ph.D degrees.
Prereq: Grad standing in AeroEng. MechEng or NuclEn. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8997 Advanced Topics in Aerospace Engineering G 1 - 3
Advanced topics in Aerospace Engineering to provide instruction not otherwise offered.
Prereq: Permission of Instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

8999 Aerospace Engineering Research for Dissertation G 1 - 16
Aerospace Engineering research for PhD. Repeatable. This course is graded S/U.

African American and African Studies

1101 Introduction to African American and African Studies U 3
Introduction to the scholarly study of the Africana experience, focusing on patterns of resistance, adaptation, diversity, and transnational connections.
Prereq: English 1110 (110). Not open to students with credit for 101. GE soc indivs and groups course.

1121 African Civilizations to 1870 U 3
Exploration of the political, social, and economic history of precolonial African civilizations, using a variety of interdisciplinary approaches and materials.
Prereq: English 1110 (110). Not open to students with credit for 121. GE historical study and diversity global studies course.

1122 African Civilizations, 1870 to the Present U 3
Exploration of the political, social, and economic history of colonial and independent African countries, using a variety of interdisciplinary approaches and materials.
Prereq: English 1110 (110). Not open to students with credit for 122. GE historical study and diversity global studies course.

2080 African American History to 1877 U 3
The study of the African American experience in America from arrival through the era of Reconstruction, focusing on slavery, resistance movements, and African American culture.
Prereq or concur: English 1110.xx. Not open to students with credit for 323.01 or History 2080 (323.01). GE historical study course. Cross-listed in History.

2081 African American History from 1877 U 3
The study of the African American experience in the United States from the era of Reconstruction through the present.
Prereq or concur: English 1110.xx or permission of instructor. Not open to students with credit for 323.02 or History 2081 (323.02). GE historical study course. Cross-listed in History.

2085 Exploring Race and Ethnicity in Ohio: Black Ohio in the 19th Century U 3
Explores the lives and experiences of African Americans in 19th century Ohio. Sometimes this course is offered in a distance-only format.
Prereq or concur: English 1110.xx or permission of instructor. Not open to students with credit for History 2085. GE historical study and diversity soc div in the US course. Cross-listed in History.

2194 Group Studies U 1 - 3
Groups of students are given an opportunity to pursue special studies not otherwise offered.
Prereq: Permission of Instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

2201 Major Readings in African American and African Studies U 3
An introduction to major authors and texts contributing to the discourses that have shaped and defined African American and African Studies from its inception to the present.
Prereq: English 1110 (110). Not open to students with credit for 200 or 201. GE diversity soc div in the US course.
2218 Black Urban Experience U 3
Examination of contemporary black urban experience focused on the impact of persistent residential segregation, increasing class polarization, and the global force of hip hop culture. Prereq: Not open to students with credit for 218. GE soc sci indivs and groups course.

2251 Introduction to African Literature U 3
An assessment of the oral prose tradition and written prose of African literature; specific emphasis placed on student reading from primary sources. Prereq: Not open to students with credit for 251. GE lit and diversity global studies course.

2253 Introduction to Caribbean Literature U 3
An introduction to Caribbean literature with a focus on prose, poetry, and drama. Prereq: Not open to students with credit for 281.

2270 Introduction to Black Popular Culture U 3
A critical analysis of the commodity production and consumption of black popular culture products, such as fashion, film, urban fiction, music, vernacular expression, television and advertising.

2281 Introduction to African-American Literature U 3
A study of representative literary works by African-American writers from 1760 to the present. Prereq: English 1110 (110), or equiv. Not open to students with credit for 281 or English 2281 (281). GE lit and diversity soc div in the US course. Cross-listed in English.

2288 Bebop to Doowop to Hiphop: The Rhythm and Blues Tradition U 3
Examines the aesthetic and historical evolution of rhythm and blues: black music tradition including bebop, rock and roll, and hiphop, redefining American popular culture post-WWII. Prereq: Not open to students with credit for 288 or Music 2288 (288). GE VPA and diversity soc div in the US course. Cross-listed in Music.

2290 Black Youth U 3
Examines how differences of race, class, gender, nation and migration influence identity and experience of Black youth. Prereq: Not open to students with credit for 290.

2291 The Black Family U 3
Study of culturally and structurally diverse forms of Black family life through historical times and geographic space. Prereq: Not open to students with credit for 291.

2327 Introduction to African Politics U 3
Examination of dynamics of nation-building in African countries in transition from colonial dependencies to modern nation-states.

2367.01 African-American Voices in U. S. Literature U 3
Discussion, analysis, and writing about issues presented through the diverse voices of African American literature. Prereq: English 1110 (110). Not open to students with credit for 367.02. GE writing and comm: level 2 and lit and diversity soc div in the US course.

2367.04 Black Women Writers: Text and Context U 3
Writing and analysis of black women's literary representations of issues in United States social history. Prereq: English 1110 (110). Not open to students with credit for 367.04 or WGSST 2367.04 (367.04). GE writing and comm: level 2 and lit and diversity soc div in the US course. Cross-listed in WGSST.

3080 Slavery in the United States U 3
The African American experience in slavery, focusing on the rise of the slave trade, slavery in the colonial and antebellum eras, the Civil War, and abolition. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for History 3080 (559). GE historical study course. Cross-listed in History.

3081 Free Blacks in Antebellum America U 3
Explores the development of free Black communities in the era before the Civil War, focusing on emancipation, fugitive slaves, resistance movements and suffrage. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3081. GE historical study and diversity soc div in the US course. Cross-listed in History.

3082 Black Americans During the Progressive Era U 3
History and experiences of black Americans during the period best known in American History as the Progressive Era. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3082. GE historical study and diversity soc div in the US course. Cross-listed in History.

African American and African Studies 7

3083 Civil Rights and Black Power Movements U 3
Examines the origins, evolution, and outcomes of the African American freedom struggle, focusing on the Civil Rights and Black Power movements. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3083. GE historical study and diversity soc div in the US course. Cross-listed in History.

3086 Black Women in Slavery and Freedom U 3
Traces the experiences and struggles of African American women from slavery through the Civil Rights/Black Power era. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3086. GE historical study and diversity soc div in the US course. Cross-listed in History.

3089 Studies in African American History U 3
Selected topics in African American history from the origins of slavery to the present. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3089. Repeatable to a maximum of 12 or hrs. GE historical study course. Cross-listed in History.

3230 Black Women: Culture and Politics U 3
Examination of the social, cultural, political, economic, and historical forces, dynamics, and processes affecting women throughout the Africana world. Prereq: Not open to students with credit for 230. GE diversity soc div in the US course.

3304 History of Islam in Africa U 3
Africa from the emergence of Islam in the 600s to the Present. African contributions to Islam and the impact of Islam on African societies. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for 541 or History 3304 (541.02). GE historical study course. Cross-listed in History.

3308 History of US-Africa Relations - 1900-Present U 3
History of the United States’ relations with Africa since World War I. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3308. GE historical study and diversity global studies course.

3310 Global Perspectives on the African Diaspora U 3
Study of historical processes, key figures and ideas, and cultural expressions of the worldwide dispersion of people of African descent from different times and places. Prereq: Not open to students with credit for 310.

3320 History of African Cinema U 3
Emergence and development of African cinema as a film genre and part of material culture. European colonial and ethnocentric to modern African cinema. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3320. GE historical study and diversity global studies course.

3342H Music, Religion, and Ritual in Africa U 3
Survey of variety and interaction of musical and religious expressions in selected African societies, focusing on traditional contexts and contemporary Christian and Islamic examples. Prereq: Honors standing, and 1101 (101). Not open to students with credit for 342H. GE cultures and ideas and diversity global studies course.

3361 Psychology of the Black Experience U 3
An analysis of personality theories commonly applied to black Americans and the black experience. Prereq: Not open to students with credit for 361.

3376 Arts and Cultures of Africa and the Diaspora U 3
An overview of African and African diaspora cultures from a historical perspective. Cultural media will include art, literature, film, dance, and photography. Prereq: Not open to students with credit for 376 or HistArt 3102. GE VPA and diversity global studies course. Cross-listed in HistArt 3102.

3440 Theorizing Race U 3
Introduction to issues of "race," consideration of the historical emergence and development of ideas of "race" and of racial practices, along with their contemporary formations. Prereq: Any 2367 course, or Philos 2400, or Jr or Sr standing, or permission of the instructor. Not open to students with credit for 595 or Philos 3440 (595). Cross-listed in Philos.

3451 Themes in Francophone African and Caribbean Literature U 3
An interdisciplinary investigation of the representations of race, religion, identity, nation, and nationalism in Francophone African and Caribbean literature. Prereq: Not open to students with credit for 451.

4193 Individual Studies U 1 - 6
Exploration of relevant subject as individually designed by student and professor. Prereq: Permission of instructor, and permission of dept chair. Repeatable to a maximum of 6 cr hrs and 2 completions. This course is graded SU.
8 African American and African Studies

4250 African Politics U 3
An introductory survey of Sub-Saharan African politics from the pre-colonial period to the contemporary era. It will examine the common themes, issues, and trends that shape politics and development across forty-nine countries. Students will gain an understanding of how context shapes political behavior and how historical and political forces have influenced African politics.
Prereq: Not open to students with credit for PoliSci 4597.02 (Au13, African Politics), 4250, or 4250H. GE soc sci orgs and politics and diversity global studies course. Cross-listed in PoliSci.

4326 Topics in African Americans and Public Policy U 3
Examination of the impact of public policies on African American communities in the U.S. from the New Deal's Welfare State policies and programs of the 1930s to the present.
Prereq: Not open to students with credit for 326.

4378 History of Jazz U 3
An in-depth study of the periods, trends, major performers/composers, styles and influences of jazz from its beginnings to the present.
Prereq: Not open to students with credit for 378 and 379.

4452 Swahili Literature I U 3
Introduction to the origin and development of Swahili literature with emphasis on the novel, the play and modern verse.
Prereq: Swahili 4402. Not open to students with credit for 452.

4453 Swahili Literature II U 3
An exploration of the thematic and formalistic peculiarities of modern Swahili literature.
Prereq: 4452.

4460 Theories in African Literature U 3
Examination of various theoretical perspectives that underlie African and Caribbean literature in both its oral and written expressions.
Prereq: Not open to students with credit for 460.

4504 Black Politics U 3
Economic, political, and social constraints on the development of black political power; the efforts made by black people in recent times to organize for effective political action.
Prereq: Not open to students with credit for 504 or PoliSci 4140 (504). Cross-listed in PoliSci 4140.

4515 Ethnicity, Development and the State in Sub-Saharan Africa U 3
Takes a theoretical and comparative historical approach to analyzing problems of development and ethnic conflict in Sub-Saharan Africa.
Prereq: Soph standing or above. Not open to students with credit for 515 or IntStds 4515 (515). Cross-listed in IntStds.

4527 Pan-Africanism and Nationalism U 3
Modern nationalist and Pan-Africanists movements in Africa and Black Diaspora; parallels and contrasts between African political and social class protests within postcolonial black states.
Prereq: Not open to students with credit for 527.

4530 African Political Economy U 3
A comparative examination of problems of nation-building and national integration faced by selected nations in the postcolonial period.
Prereq: Not open to students with credit for 530.

4535 Topics in Black Masculinity U 3
A theoretical analysis of constructions, perceptions, and performances of black masculinity locally and globally.
Prereq: 3230, or permission of instructor.

4551 Topics in Africana Literature U 3
Topics selected will relate to varying issues in the literatures of the Africa and the African Diaspora.
Prereq: 2251, 2281, or English 2281. Not open to students with credit for 551. GE lit and diversity global studies course.

4557 History of South Africa U 3
An examination of the political and social developments in South Africa from the 19th century to the present.
Prereq: Not open to students with credit for 575.

4561 Topics in Africana Psychology U 3
The study of different dimensions of African and African American psychology; topics vary.
Prereq: 3361, or permission of instructor. Not open to students with credit for 561. Repeatable to a maximum of 6 cr hrs.

4565 Topics in African Diaspora Studies U 3
Selected topics which examine the origins, dimensions, and dynamics of the African Diaspora; topics vary each term.
Prereq: 3310. Not open to students with credit for 565. Repeatable to a maximum of 9 cr hrs.

4570 Theorizing Colonialism in the Post-Colonial U 3
An analysis of debates and theories in postcolonial studies as a way to understand the social, ideological, and political dynamics and processes of colonialism and decolonization.
Prereq: 122, or permission of instructor.

4571 Black Visual Culture and Popular Media U 3
An examination of African Americans in visual culture and the theories of representation in popular media.
Prereq: Not open to students with credit for 571. GE VPA and diversity soc div in the US course.

4582 Special Topics in African-American Literature U 3
Focuses on themes in African American literature. Topic varies. Examples: Neo-slave narratives; the Harlem Renaissance; literature by African-American women.
Prereq: English 2367.01 (367.01), or equiv, and 10 cr hrs or 6 sem cr hrs of English at 2000-3000 level, or permission of instructor. Not open to students with 10 cr hrs or 6 sem cr hrs for 4582 (582) or Eng 4582 (582). Repeatable to a maximum of 6 cr hrs. Cross-listed in English.

4584H Literature and Modern Experience in Africa U 3
A comprehensive view of the dominant thematic directions of African literature in the European languages, and their formal realization in aesthetic and symbolic terms.
Prereq: Honors standing, or permission of instructor.

4921 Intersections: Approaches to Race, Gender, Class, and Sexuality U 3
Examines intersections of race, gender, class, and sexuality in various sites within African American culture (e.g., legal system, civil rights discourse, social justice movements).
Prereq: One course in CompStd, WGSS, or AfrAmASt. Not open to students with credit for 546, CompStd 4921 (546), or WGSS 4921 (545). Cross-listed in CompStd and WGSS.

4998 Senior Research Seminar U 3
A seminar designed to provide experience in the creation of a research paper based on appropriate humanities and social science methodologies. Research topic to be announced.
Prereq: 2101, 3310, and two 4000- or 5000-level courses; or permission of instructor.

4999H Honors Thesis Research U 1 - 3
A program of individual study for undergraduate honors students: may include individual conferences and reports; requires presentation and oral defense of an honors thesis.
Prereq: Honors standing, and 24 cr hrs taken in the Social and Behavioral Sciences and/or Humanities (including 12 hours in AfrAmASt), and Sr standing. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

5189S Community Development: Field Research and Seminar U G 3 - 6
A service-learning course that draws on the principles of experiential learning by immersing students in an organized service activity that meets identified community needs.
Prereq: 1101 or 2101, and permission of course coordinator; Repeatable to a maximum of 6 cr hrs or 2 completions.

5193 Individual Studies U G 1 - 3
Individual reading or research projects by special agreement between instructor and student.
Prereq: 12 cr hrs in AfrAmASt, permission of instructor, and permission of department chair. Repeatable to a maximum of 6 cr hrs or 2 completions.

5194 Group Studies U G 1 - 3
Group studies.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

5485.01 Southern Africa: Society and Culture U G 3
A comparative study of the social, political, cultural, and economic changes in Africa and the impact on contemporary black world. A study of the social and cultural developments in Southern Africa, and the environment.
Prereq: English 1110 (110). Not open to students with credit for 485.01 or 705.01. GE cultures and diversity global studies course.

5485.02 West Africa: Society and Culture U G 3
A comparative study of the social, political, cultural, and economic changes in Africa and the impact on contemporary black world. A chronological and interdisciplinary exploration into the cultures and societies of West Africa.
Prereq: English 1110. Not open to students with credit for 485.03 or 705.01.

5485.03 Afro-Brazilian Society and Culture U G 3
Preparation of students to study abroad in the South American country of Brazil, particularly in Salvador, the Bahia region, which is home to the world's largest Afro-Brazilian population. The course will enable students to survey, understand, appreciate and participate in the richness and dynamic nature of Brazil's history, culture, politics, economy and people.
Prereq: English 1110. GE diversity global studies course.

5798.03 Study Tour: Brazil U G 3
Consists of a two-week educational Study Trip that combines formal lectures by local scholars with visits to local cultural and historical institutions as well as travel within Brazil, the host Latin American country.
Prereq: 5485.03. GE education abroad course.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6189.01S</td>
<td>Community Service</td>
<td>G 3</td>
<td>-</td>
<td>A two part course in experiential learning. The course involves practical work with a community based organization. Prereq: 7756. Not open to students with credit for 710.01. This course is grade (S/U).</td>
</tr>
<tr>
<td>6189.02S</td>
<td>Grant Proposal Writing</td>
<td>G 3</td>
<td>-</td>
<td>A two part course in experiential learning. Instruction on grant proposal writing for specific project identified by community agency and the student during first part of the course. Prereq: 6710.01 and 7756. Not open to students with credit for 710.02. This course is grade (S/U).</td>
</tr>
<tr>
<td>6194</td>
<td>Graduate Group Studies</td>
<td>G 3</td>
<td>-</td>
<td>Group studies. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is grade (S/U).</td>
</tr>
<tr>
<td>6757.01</td>
<td>Introduction to Graduate Studies in African American Literature, 1746 to 1900</td>
<td>G 3</td>
<td>-</td>
<td>A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1746 to 1900s. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 757.01. Cross-listed in English.</td>
</tr>
<tr>
<td>6757.02</td>
<td>Introduction to Graduate Studies in African American Literature, 1900 to Present</td>
<td>G 3</td>
<td>-</td>
<td>A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1900 to the present. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 757.02. Cross-listed in English.</td>
</tr>
<tr>
<td>6999</td>
<td>Master's Thesis Research</td>
<td>G 3</td>
<td>-</td>
<td>Research for master's thesis. Prereq: Permission of instructor. Not open to students with credit for 998. This course is progress graded (S/U).</td>
</tr>
<tr>
<td>7080</td>
<td>Studies in African American History</td>
<td>G 1 - 6</td>
<td>-</td>
<td>Readings in black culture, society, politics, and race relations. Prereq: Grad standing. Not open to students with credit for 752. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.</td>
</tr>
<tr>
<td>7081</td>
<td>African Americans in Early America</td>
<td>G 1 - 6</td>
<td>-</td>
<td>Explores African American life and culture during the colonial, early national, and antebellum eras. Prereq: Grad standing. Not open to students with credit for 755.01. Repeatable to a maximum of 15 or 5 completions. Cross-listed in History.</td>
</tr>
<tr>
<td>7082</td>
<td>African Americans During the 19th Century</td>
<td>G 3</td>
<td>-</td>
<td>Explores African American life and culture from the early national period to the turn of the 20th century. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs. Cross-listed in History.</td>
</tr>
<tr>
<td>7083</td>
<td>African Americans During the 20th Century</td>
<td>G 1 - 6</td>
<td>-</td>
<td>This intensive reading and discussion seminar explores African American life and culture from the Nadir through the start of the new millennium. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.</td>
</tr>
<tr>
<td>7084</td>
<td>African American Historiography</td>
<td>G 1 - 6</td>
<td>-</td>
<td>Explores the origins and evolution of African American history from the late-eighteenth century to the present. Prereq: Grad standing. Not open to students with credit for 755.04. Repeatable to a maximum of 15 or 5 completions. Cross-listed in History.</td>
</tr>
<tr>
<td>7085</td>
<td>19th Century African American Political Thought</td>
<td>G 1 - 6</td>
<td>-</td>
<td>Chronicles the political, spiritual, and social strivings of the black community during the 19th century, focusing on culture, resistance, and nationalism. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.</td>
</tr>
<tr>
<td>7086</td>
<td>The Civil Rights and Black Power Movements</td>
<td>G 1 - 6</td>
<td>-</td>
<td>Examines the origins, evolution, and outcomes of the African American freedom struggle, focusing on the Civil Rights and Black Power movements. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.</td>
</tr>
<tr>
<td>7087</td>
<td>Black Women in the United States</td>
<td>G 1 - 6</td>
<td>-</td>
<td>A study of Historical and related scholarship on the history and experience of black women in the United States. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.</td>
</tr>
<tr>
<td>7300</td>
<td>Introduction to Graduate-Level African History</td>
<td>G 1 - 6</td>
<td>-</td>
<td>The study of the historical literature of Africa and various aspects of African history. Prereq: Grad standing. Not open to students with credit for 743. Repeatable to a maximum of 15 or 5 completions. Cross-listed in History.</td>
</tr>
<tr>
<td>7301</td>
<td>African Historiography and Methodology</td>
<td>G 3</td>
<td>-</td>
<td>The study of sources, research methods, interpretations, and research trends in the field of African history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs. Cross-listed in History.</td>
</tr>
<tr>
<td>7302</td>
<td>Comparative History of The African Diaspora and Enslavement and Emancipation</td>
<td>G 1 - 6</td>
<td>-</td>
<td>Examination of the dispersal of Africans, mainly through the slave trade across the Sahara, the Indian Ocean, the Mediterranean, and the Atlantic Ocean. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.</td>
</tr>
<tr>
<td>7303</td>
<td>Comparative History of the African Diaspora and Post-Emancipation, Colonial, &amp; Post-Colonial Reality</td>
<td>G 3</td>
<td>-</td>
<td>Examination of social, political, and cultural developments and realities in the black world, from the period of the emancipation to the beginning of the 21st century. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs. Cross-listed in History.</td>
</tr>
<tr>
<td>7420</td>
<td>African Historiography and Methodology</td>
<td>G 3</td>
<td>-</td>
<td>The study of sources, research methods, interpretations, and research trends in the field of African history. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs. Cross-listed in History.</td>
</tr>
<tr>
<td>7430</td>
<td>Studies in African History</td>
<td>G 3</td>
<td>-</td>
<td>The study of the historical literature of Africa and various aspects of African history; topics vary. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs. Cross-listed in History.</td>
</tr>
<tr>
<td>7580</td>
<td>Enslavement, Emancipation, Colonial, &amp; Post-Colonial Realities</td>
<td>G 3</td>
<td>-</td>
<td>History and evolution of the African Diaspora worldwide, from ancient times to the present. Examination of social, political and cultural developments and realities in the Black world. Prereq: Grad standing, or permission of instructor.</td>
</tr>
<tr>
<td>7717</td>
<td>African American Social Movement Leadership</td>
<td>G 3</td>
<td>-</td>
<td>Examines Black peoples’ struggles to acquire power. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 717. Cross-listed in History.</td>
</tr>
<tr>
<td>7725</td>
<td>Political Development of Sub-Saharan Africa</td>
<td>G 3</td>
<td>-</td>
<td>The processes and problems of political change in Sub-Saharan Africa. Prereq: Not open to students with credit for 725. Cross-listed in History.</td>
</tr>
<tr>
<td>7730</td>
<td>Black Political Movements and Organizations</td>
<td>G 3</td>
<td>-</td>
<td>Analysis of Black political movements and organizations from slavery to contemporary times. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 730. Cross-listed in History.</td>
</tr>
<tr>
<td>7732</td>
<td>Law, Politics and Human Rights in Africa</td>
<td>G 3</td>
<td>-</td>
<td>An examination of the interplay of law and politics in contemporary Africa, and the place of human rights in the emerging order. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 732. Cross-listed in History.</td>
</tr>
<tr>
<td>7750</td>
<td>Language and Society in Africa</td>
<td>G 3</td>
<td>-</td>
<td>A survey of the interplay between language and society in the African context. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 750. Cross-listed in History.</td>
</tr>
<tr>
<td>7751</td>
<td>Introduction to Graduate Studies and African Literature</td>
<td>G 3</td>
<td>-</td>
<td>A broad survey of the development of African literature, its variations, genres, and themes. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 751. Cross-listed in History.</td>
</tr>
<tr>
<td>7753</td>
<td>Graduate Survey in African-American and African Studies</td>
<td>G 3</td>
<td>-</td>
<td>Critical analysis of the development of African-American and African Studies as a discipline and the theoretical approaches to its subject matter. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 753. Cross-listed in History.</td>
</tr>
<tr>
<td>7754</td>
<td>Methodological Perspectives in African-American and African Studies</td>
<td>G 3</td>
<td>-</td>
<td>A critical and trans-disciplinary examination of methodological approaches employed in the study of the Black experience in its convergent and divergent manifestations across the world. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 754. Cross-listed in History.</td>
</tr>
<tr>
<td>7755</td>
<td>Theorizing Race and Ethnicity</td>
<td>G 3</td>
<td>-</td>
<td>Examination of the ideas and theories of race and its intersection with ethnicity. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 756. Cross-listed in History.</td>
</tr>
<tr>
<td>7759</td>
<td>Topics in African Diaspora Studies</td>
<td>G 3</td>
<td>-</td>
<td>A multi-disciplinary and critical examination of the origins dimensions and legacies of the African Diaspora. Topics will vary each term. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in History.</td>
</tr>
</tbody>
</table>
10 African American and African Studies

7760 African Pop Culture G 3
Examination and critique of various theories and genres of popular culture as they relate to the African situation.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 760.

7765 African Social Movements in the Age of Globalization G 3
Development of social movement politics in Africa in the context of globalization and structural adjustment.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 765.

7781 Topics in African Political Philosophy G 3
Post-colonial African conceptions of power, freedom, alienation, and cultural identity.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

7792 Interdepartmental Studies in the Humanities G 3
Two or more departments present colloquia on subjects of mutual interest; topics to be announced.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs.

7810 Theories of Black Feminist Theory G 3
Theoretical analysis of the politics and perceptions of womanhood in the black community.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 810.

7833 Seminar in U.S. / Africa Relations G 3
A critical analysis of selected theories of American foreign policy, with special emphasis on Africa.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

7851 Seminar in Critical Approaches to Black Literatures G 3
A close reading of major literary critical discourses that have shaped and determined the course of Black literary production in Africa, North America, and the Caribbean.
Prereq: Introductory course in African American Literature, and Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in English 7851.01 and English 7851.02.

7862 Mental Health in the African Community G 3
Theoretical and practical approaches to the problems of mental health in the black community.
Prereq: 7756. Not open to students with credit for 862.

8080 Seminar in African American History G 1 - 6
Graduate research seminar in African American History. Topics will vary.
Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.

8300 Seminar in African History G 1 - 6
Graduate research seminar in African History. Topics will vary.
Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.

8350 Transnational History of the African World G 3
Starts from the premise that the African world no longer includes only the continent of Africa, but also the spaces and cultures populated by peoples of African descent.
Prereq: Grad standing.

8830 Black Women's (Auto) Biographies: Voices of Resistance G 3
Examination of Black Women's autobiographies of the 19th and 20th centuries, focusing on the ways in which gender, race, class, and sexual orientation impact black women's lives and how women used autobiographies to (re)define and empower themselves.
Prereq: Grad standing.

8840 Seminar in Black Masculinity Studies G 3
Engages different topics that address issues and concerns that pertain to black men and boys.
Prereq: Grad standing.

8850 Consumer Culture, Race and Modesty G 3
Acquaints students with critical theoretical perspectives on the social and cultural history of consumer culture in the West, linking it to the rise of capitalism, industrialization, imperial and neo-liberal globalization.
Prereq: Grad standing.

8863 Reading the African Diaspora: Methods and Approaches G 3
Study of research ideas, strategies, methods, techniques, and tools for investigating the peoples, products, and processes of the African Diaspora.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 863.

8865 Race, Gender, and Class in the Diaspora G 3
An examination of the core influences of race, gender, and class on people of African descent.
Prereq: 9 cr hrs taken in Social/Behavioral Sciences, or permission of the instructor. Not open to students with credit for 865.

8899 Interdepartmental Seminar G 3
Two or more departments present seminars on topics of mutual interest; topics to be announced.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

Research for the thesis. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

Agricultural and Extension Education

3550E Foundations of Personal and Professional Leadership U 3
Leadership theories, principles, and concepts. Research-based theories, methods of social scientific inquiry, individual strengths, personal leadership philosophy and vision, concepts of diversity and ethics, and professional development plan.
Prereq: Honors standing. Not open to students with credit for 342 or ComLdr 3550.

7000 Graduate Orientation Seminar G 1
Examination of scholarship in the discipline of agricultural and extension education. Discussion of trends and issues that are important in the disciplines and how trends may influence future career roles.
Prereq: Not open to student with credit for 795.07. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

7230 Strategic and Program Planning for Visionary Change G 3
Examination of strategic and program planning models in educational and community settings. Learn about the strategic and program planning process. Understand change and innovation processes in organizational settings.
Prereq: Not open to students with credit for 723 and 823.

7300 Advanced Methods of Teaching G 3
Designed as advanced preparation for instruction in formal learning environments; this course focuses on skills, strategies and issues common to educators in general. It will introduce learners to literature and research relevant to practicing educators. Delivered online in an asynchronous format via Carmen, will allow for information transfer and consumption.

7320 Adult Learning and Professional Development G 3
This course is designed to provide an introduction to adult learning and professional development to ensure effective programs and education with adult audiences.
Prereq: Not open to students with credit for 822.

7420 Emerging Trends and Issues in Agricultural and Extension Education G 2
Participants in this course will gain an understanding of global issues and trends facing contemporary agricultural and extension organizations, communication and leadership. Repeatable to a maximum of 4 cr hrs.

7520 Human Development and Program Planning G 2
Course provide an introductory understanding of human development and why it is essential for planning programs to serve youth and adults in non-formal and formal education.

7700 Documenting Change through Evaluation and Accountability G 3
The key principles and practices used in evaluating the change resulting from educational programs and activities, and how that relates to programming accountability will be covered.
Prereq: Not open to students with credit for 770.

7889 Workshop in Agricultural and Extension Education G 1 - 3
Intensive study of selected programs, practices, and skills with an emphasis on applications in agricultural and extension education.
Prereq: Teaching or extension experience. Repeatable to a maximum of 18 cr hrs or 18 completions.

8000 Leading Through Historical Perspectives G 3
Examines the mission, purpose, and historical foundations of agricultural and extension education in America. Focuses on the contemporary issues facing agriculture education, extension education, and ag communications.
Prereq: Not open to students with credit for 700.

8100 Applied Communication Theory and Practice G 3
A study of the theories and guiding concepts related to agricultural communication in applied and theoretical settings.
Prereq: Grad standing. Not open to students with credit for 840.

8103 Individual Studies G 1 - 5
Planning, conducting, and reporting a special study appropriate to the needs of the individual student. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is progress graded (S/U).

8310 Theory of Learning and Cognition G 3
AEE 8310 provides a framework for the theoretical development of cognitive skills, psychomotor principles, and teaching methods relevant to teaching agricultural content.
Prereq: Ph.D. student in AEE, or permission of instructor.

8420 Leadership and Administration in Agricultural and Extension Education G 3
Focuses upon theories, concepts, and principles for leadership, administration, and management in communication, education, extension, and community settings.
Prereq: Not open to students with credit for 795.03 or 842.
### Agricultural and Extension Education

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3488</td>
<td>Professional Development in Agricultural Education</td>
<td>U 1-3</td>
<td>Developing twenty-first century skills through hands-on, contextual, and authentic, out-of-class experiences. Students, working individually with the instructor, will design and engage in developmental skill activities. An example is the Earl McMunn. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>3797</td>
<td>Agricultural Communication Study Abroad</td>
<td>U 3</td>
<td>Engages students in concentrated study of food, agricultural, and environmental issues in a foreign country, mass media practices in communicating and educating the public about these issues, and the impact of those practices.</td>
</tr>
<tr>
<td>4130</td>
<td>Publication Design and Production</td>
<td>U 3</td>
<td>Introduces students to basic principles and techniques used in producing professional-quality publications for agricultural and general audiences. Agricultural communicators will find application for these skills in a variety of ways. Pre-req: Not open to students with credit for 300.</td>
</tr>
<tr>
<td>4191</td>
<td>Agricultural Communication Internship</td>
<td>U 1-5</td>
<td>The Agricultural Communication Internship is designed to give you first-hand experience working in a professional communication setting. Regardless of the field, students should be actively involved in the production of information and communication. Pre-req: Enrollment in AgrComm major, and permission of instructor. Repeatable to a maximum of 5 cr hrs or 3 completions. This course is progress graded (S/U).</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research</td>
<td>U 1-10</td>
<td>Conducting and reporting an undergraduate research project. Pre-req: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999</td>
<td>Research with Distinction</td>
<td>U 1-3</td>
<td>Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the University’s Denman Undergraduate Research Forum. Pre-req: CPHR 3.00 or above, and GPA 3.00 or above in major, and permission of project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5130</td>
<td>Campaign Design and Management in Agricultural Organization</td>
<td>U G 3</td>
<td>The goal of this class is to help you learn as well as to develop your skill set as a communication strategist. The area of Public Relations in the private agriculture sector continues to become more and more important in business today. Pre-req: Not open to students with credit for 510.</td>
</tr>
<tr>
<td>5153</td>
<td>Agricultural Feature Writing</td>
<td>U G 5</td>
<td>This is a laboratory course where students will apply skills learned from earlier journalism courses to produce the AgriNaturalist, a student publication of the College of Food, Agricultural, and Environmental Sciences. Pre-req: 4130, Comm 390, and CPHR 2.0 or above. Repeatable to a maximum of 5 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>5150</td>
<td>Communication Strategies for Change and Development</td>
<td>U G 3</td>
<td>Examines communication competencies needed by development and social change practitioners. Pre-req: Jr or Sr standing, and permission of instructor. Not open to students with credit for 510.</td>
</tr>
<tr>
<td>5170</td>
<td>International Development Theory and Practice</td>
<td>U G 3</td>
<td>We will explore varying theoretical perspectives, trace the history and the ideological underpinnings embedded in it; analyze the actors and their internationalities; and review contemporary views on the subject. Pre-req: Not open to students with credit for AEE 790.</td>
</tr>
<tr>
<td>5190</td>
<td>Extension Education in Developing Countries</td>
<td>U G 3</td>
<td>What is extension and what are the problems, prospects and challenges facing extension in the developing world? The course provides an opportunity for students to explore issues related to extension in developing countries. Pre-req: Not open to students with credit for AEE 790.</td>
</tr>
</tbody>
</table>

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### Additional Courses

<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>8735</td>
<td>College Teaching in Agriculture</td>
<td>G 2</td>
<td>Theory, principles, and procedures associated with effective teaching in agricultural and extension education at the secondary, technical, and post-secondary levels. Pre-req: Grad standing. Not open to students with credit for 735.</td>
</tr>
<tr>
<td>8850</td>
<td>Research Methods</td>
<td>G 2</td>
<td>Principles and techniques of research appropriate for planning, conducting, and reporting research in applied social and life sciences. Pre-req: Not open to students with credit for 885.</td>
</tr>
<tr>
<td>8851</td>
<td>Research Proposal I</td>
<td>G 1</td>
<td>Companion course with 8850 in which students prepare a draft of chapter three for their theses/dissertation research. Students will be supervised by their graduate advisor in collaboration with the 8850 instructor. Concur: 8850. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8860</td>
<td>Research Design</td>
<td>G 2</td>
<td>Development of effective design for research problems in applied social and life sciences, including theory, models, and sampling. Pre-req: Not open to students with credit for 886.</td>
</tr>
<tr>
<td>8861</td>
<td>Research Proposal II</td>
<td>G 1</td>
<td>Companion course with 8860 in which students prepare a draft of chapter three for their theses/dissertation research. Students will be supervised by their graduate advisor in collaboration with the 8860 instructor. Concur: 8860. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8870</td>
<td>Analysis and Interpretation of Data</td>
<td>G 2</td>
<td>Analysis and interpretation of descriptive and inferential statistics for research in applied social and life sciences. Pre-req: Not open to students with credit for 887.</td>
</tr>
<tr>
<td>8875</td>
<td>Data Analysis and Interpretation Laboratory</td>
<td>G 1</td>
<td>Learn SPSS statistical data analysis computer program for application and interpretation of descriptive and inferential statistics in research. Concur: 8870. Not open to students with credit for 795.05. This course is graded S/U.</td>
</tr>
<tr>
<td>8880</td>
<td>Instrumentation and Procedures for Data Collection</td>
<td>G 2</td>
<td>Selection, development, and analysis of various types of instruments and procedures for collecting research data. Pre-req: 8850 (885). Not open to students with credit for 888.</td>
</tr>
<tr>
<td>8890</td>
<td>Applied Regression Analysis</td>
<td>G 2</td>
<td>Advanced multivariate data regression techniques used in the applied social and life sciences. Pre-req: Grad level research methods course. Not open to students with credit for 995.</td>
</tr>
<tr>
<td>8895</td>
<td>Advanced Data Reduction Techniques</td>
<td>G 2</td>
<td>Advanced multivariate data reduction techniques used in the applied social and life sciences. Pre-req: Grad level research methods course. Not open to students with credit for 995.</td>
</tr>
<tr>
<td>8998</td>
<td>Graduate Research</td>
<td>G 1 - 3</td>
<td>Graduate student research that is not part of a thesis or dissertation. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8999</td>
<td>Research</td>
<td>G 1 - 12</td>
<td>Research for thesis or dissertation purposes only. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is progress graded (S/U).</td>
</tr>
</tbody>
</table>

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### Agricultural Communication

<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>2130</td>
<td>Visual Media in Agricultural and Natural Resources</td>
<td>U 2</td>
<td>Prepares students to be proficient in photography, photo editing, and image composition techniques used in the agricultural and natural resource communications fields. This course is graded S/U.</td>
</tr>
<tr>
<td>2193</td>
<td>Individual Studies</td>
<td>U 1-3</td>
<td>Planning, conducting, and reporting a special study appropriate to the needs of the student. Pre-req: GPA 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>2194</td>
<td>Group Studies</td>
<td>U 1 - 3</td>
<td>Group studies for students in specialized programs. Pre-req: Permission of instructor. This course is graded S/U.</td>
</tr>
<tr>
<td>2367</td>
<td>Agricultural Issues in Contemporary Society</td>
<td>U 3</td>
<td>This course helps students develop a critical understanding of agricultural, environmental and related issues facing the United States and the world while improving their writing skills. This is a second writing course. Pre-req: First writing course. Not open to students with credit for 367. GE writing and comm: level 2 and diversity soc div in the US course.</td>
</tr>
<tr>
<td>3130</td>
<td>Oral Expression in Agriculture</td>
<td>U 3</td>
<td>An introductory public speaking course that will analyze the communication process and prepare students enrolled to write and deliver speeches for various occasions and purposes. Pre-req: Not open to students with credit for 390.</td>
</tr>
</tbody>
</table>
12 Agricultural Communication

5193 Individual Studies U G 1 - 3
Students plan, conduct, and report on a special problem in agricultural communication not included in regular course work. Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded SU.

5194 Group Studies U G 1 - 3
Selected topics in agricultural communication. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded SU.

5197 Agricultural and Environmental Communication Study U G 1 - 2
Abroad
Engages students in concentrated study of media practices in a foreign country, its agricultural, environmental and food systems issues and the role of the media in addressing those issues.

5530 Advanced Agricultural Communication Technology U G 3
Course is designed to further introduce students to practices and techniques used in computer-based electronic production when preparing informational and educational messages for public and student audiences in agriculture and natural resources. Prereq: Not open to students with credit for 350 or AEE 532.

5797 Study Abroad in Agricultural Communication U G 3
Engages undergraduate and graduate students in an international learning experience to address their academic and professional interests in agricultural communication. Course objectives and topics will vary based on the country explored and the focus of the experience.

Agricultural Systems Management

1100 Exploring Agricultural Systems Management U %
Basic understanding of the global trends within agricultural systems management, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.

2193 Individual Studies U G 1 - 3
Introductory individual study of problems and topics not included in regular Agricultural Systems Management courses. Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded SU.

2194 Group Studies U G 1 - 5
Introductory group study of selected topics in Agricultural Systems Management. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

2240 Basic Metal Fabrication for Agriculture U 3
A study of the principles and practices in basic metal fabrication using the current metallurgical and welding processes required in the agricultural industry. Prereq: AgSysMgt 1100 and FAES 1100 (100), or one of the other university survey courses. Not open to students with credit for AgSysMgt 240 or ConSysM 2240 (ConSysMt 240). This course is available for EM credit.

2241 Building Materials and Construction in Agriculture U 3
Principles and techniques used in the fabrication of wood, concrete, and masonry materials used in agricultural and commercial applications. Prereq: Not open to students with credit for AgSysMgt 241 or ConSysM 2241 (ConSysMt 241). This course is available for EM credit.

2305 Professional Development I U 3
Business communications and professional development in agricultural systems management including informative and persuasive writing, academic planning, project management, research techniques, teaming, report writing and presentations. Prereq: English 1110 (110). Not open to students with credit for AgSysMgt 305 or ConSysM 2305 (ConSysMt 2305). This course is available for EM credit.

2310 Electrical Systems for Agricultural and Residential Applications U 2
Principles, design and installation of systems and components essential for generation, distribution and control of electricity for power, heat, motors and illumination in residences and agricultural structures. Prereq: Math 1148 (148), and Physics 1103 (103), 1200 (111), or 1250 (131). Not open to students with credit for AgSysMgt 310 or ConSysM 2310 (ConSysMt 310). This course is available for EM credit.

2370 Environmental Hydrology U 2
Principles of hydrology applied to agricultural and forest watersheds, including applications in drainage, erosion, irrigation, water supply and water quality. Prereq: Not open to students with credit for AgSysMgt 370. This course is available for EM credit.

2371 Land Surveying for Agricultural and Environmental Systems U 2
Principles of land surveying applied to soil and water management on agricultural, forested, and environmentally sensitive areas. Traditional surveying methods, total stations and GPS will be covered. Prereq: Math 1148 (148), or permission of instructor. Concurs: Physics 1103 (103), 1200 (111), or 1250 (131). Not open to students with credit for AgSysMgt 371. This course is available for EM credit.

3191 Internship in Agricultural Systems Management U 2
A pre-approved internship of planned and supervised work experiences which provide professional and technical growth in the agricultural industry. Prereq: AgSysMgt 2305 (AgSysMt 305), and enrollment in AgSysMgt major, and 8 cr hrs in AgSysMgt, and permission of internship coordinator. Not open to students with credit for AgSysMgt 490.

3232 Engines and Power Transmission U 3
Principles of engine theory, operation, maintenance, and repair. In addition, alternative fuels, engine design and basic power transmission will be explored. Prereq: Math 1130 (130) or 1148 (148), and Physics 1103 (103), 1200 (111), or 1250 (131); or enrollment in Sustainable Plant Systems major or Landscape Construction minor. Not open to students with credit for AgSysMgt 320.

3360 Agricultural Machinery Management U 3
Basic principles of operation, selection and management of agricultural machinery, including power requirements, performance evaluation, calibration, adjustment, costs of operation and optimum size. Prereq: Math 1148 (148), and Physics 1103 (103), 1200 (111), or 1250 (131). Not open to students with credit for AgSysMgt 380.

3350 Animal and Rural Waste Management U 2
Management of animal wastes, wastewater and solid waste generated through agricultural practices and rural living to utilize nutrients, recover energy, reuse water, protect public health and abate environmental pollution. Prereq: Not open to students with credit for AgSysMgt 550.

4193 Individual Studies U G 1 - 3
Advanced individual study of problems and topics not included in regular Agricultural Systems Management courses. Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded SU.

4194 Group Studies U G 1 - 5
Advanced group studies of selected topics in Agricultural Systems Management. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

4300 Engineering Applications in Agriculture U 4
Engineering and technology applications essential to the operation, selection and management of the processes, machinery, structures, soil and water, and materials handling systems in agriculture. Prereq: Math 1130 (130) or 1148 (148). Not open to students with credit for 301 or students enrolled in AgSysMgt or Eng.

4560 Fluid Power and Electronics in Agricultural Machinery U 3
Principles of operation, maintenance, and selection of basic fluid power, electrohydraulic, electronic and computer controlled systems found on agricultural and construction machinery. Prereq: AgSysMgt 2310 (AgSysMt 310) and 3360 (360). Not open to students with credit for AgSysMgt 560.

4575 Applied Agricultural Water Management U 2
Planning and managing the drainage, irrigation, erosion and sediment control, water harvesting and storage systems and agricultural constructed wetlands for the agricultural landscape. Prereq: AgSysMgt 2370 (AgSysMt 370) and 2371 (371), or ConSysM 2440 (ConSysMt 440); and ENR 3000 (300.01); or permission of instructor. Not open to students with credit for AgSysMgt 575.

4580 Precision Agriculture U 2
Introduction to the principles and technologies of precision agriculture including: Global Positioning System (GPS), guidance systems, plant and soil sensors, soil sampling, yield mapping and related technologies. Prereq: Not open to students with credit for AgSysMgt 580.

4591 Agricultural Mechanics Workshop U 1 - 5
In-depth study of a selected area of agricultural mechanization with emphasis on the application of principles, objectives, methods, and equipment to the organization, management and teaching of agricultural mechanics. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.
Agricultural Systems Management

4605 Professional Development II U 1
Developing and pursuing career plans; strategies and programs for employment in the agricultural industry, professional development, personal growth, and relationships.
Prereq: 2305 (AgSysMgt 305), 3360 (AgSysMgt 360), and AgrComm 3130 (380) or Comm 2110 (321), and any writing course numbered 2367 (367). Not open to students with credit for AgSysMgt 605.

4900 Capstone in Agricultural Systems Management U 3
Building upon prior knowledge and experiences gained through the major, students will develop a practicum solution(s) to a real world problem that relates directly to student's interests and general area of study.
Prereq: S standing, and enrollment in AgSysMgt major (final semester of enrollment).

4998 Undergraduate Research U 1 - 3
Supervised undergraduate research on various topics.
Prereq: CPHR 2.5 or above and permission of the instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4999 Research with Distinction U 1 - 3
Conducting and reporting research with Distinction. Students are expected to participate in the CFAES Undergraduate Research and the Denman University Undergraduate Research Forums.
Prereq: CPHR 3.0 or above, and major GPA 3.0 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is progress graded (S/U).

4999H Honors Research with Distinction U 1 - 3
Conducting and reporting Honors research with Distinction. Students are expected to participate in the CFAES Undergraduate Research and the Denman University Undergraduate Research Forums.
Prereq: Honors standing, and FAES 4980.01H (500H), and GPA 3.4 or above, and major GPA 3.4 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5533 Laboratory Pedagogy and Management U 4 G
Develops the pedagogical and management skills required to efficiently utilize educational laboratory facilities at the secondary school level for teaching agricultural mechanics and science.
Prereq or concur: ASE 5220 (AE 530), and enrollment in AgScience Education major. Not open to students with credit for AgSysMgt 533.

5600 Agricultural Safety and Health U G 3
Develops the knowledge, awareness and attitude necessary to becoming an effective safety manager in a non-traditional occupational environment. Includes hazard identification and mitigation; safety education, engineering, and enforcement strategies.
Prereq: Not open to students with credit for AgSysMgt 600.

5786 Environmental Issues in East Asia U G 3
STEM students will study emerging, interdisciplinary environmental issues in China, Korea, Japan, Taiwan and Hong Kong, such as air and water pollution, waste management, habitat destruction, exotic species, and energy.
Prereq: Enroll in a Science, Technology, Engineering or Math (STEM) discipline, and Jr, Sr, or Grad Standing.

Agricultural, Environmental, and Dev Economics

1100 Exploring Agribusiness and Applied Economics U 1/2
Basic understanding of the global trends within agribusiness and applied economics, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.

1200 Exploring Sustainability: SUSTAINS LC Seminar U 1
Designed for SUSTAINS Learning Community students to explore their interests within sustainability, learn about the various opportunities to be involved in campus and local community sustainability efforts, and connect with campus partners and faculty working and researching in the field. Students must be a part of the SUSTAINS Learning Community in order to take this seminar.
Prereq: Must be in the SUSTAINS Learning Community. This course is graded S/U. Cross-listed in ENR.

2001 Principles of Food and Resource Economics U 3
Microeconomic principles applied to allocation issues in the production, distribution, and consumption of food and natural resource use.
Prereq: Not open to students with credit for 2001H (200H) or Econ 2001 (200). This course is available for EM credit. GE soc sci human, nat, and econ resources course. SS Admin Cond course.

2001H Principles of Food and Resource Economics U 3
Microeconomic principles applied to allocation issues in the production, distribution, and consumption of food and natural resource use.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2001 (200), Econ 2001 (200), or 2001H (200H). GE soc sci human, nat, and econ resources course. SS Admin Cond course.

2005 Data Analysis for Agribusiness and Applied Economics U 3
Introductory course in data analysis, stressing computer applications of probability and statistics, problems of data gathering, presentation, and interpretation in economics and business.
Prereq: Math 1130 (130) or 1131 (131) or 1148 (148) or 1150 (150) or 1151.01 (151.01) or 1151.02 (151.02) or 1156 (151.03). Not open to students with credit for 2005 (205) or ComLdr 3557 (AgEduc 387 or AE 387) or HCS 2260 (260) or AnimSci 2260 (260) or Stat 1430 (130) or 1450 (145). GE data only course.

2105 Managerial Records and Analysis U 3
Nature and need for business records, analysis and interpretation of essential records from manager/owner viewpoint; their use in small business practices.
Prereq: 2001 (200H) or 2001H (200H) or Econ 2001 (200) or 2001H (200H). Not open to students with credit for 412 or AccMIS 2200 (211) or 2300 (212).

2500 Introduction to Environment, Economy, Development and Sustainability U 3
Introduces students to principles from various disciplines related to social, economic and environmental sustainability. Students will evaluate key concepts and examine tradeoffs that are a part of sustainability action using case studies representing diverse perspectives. Cross-listed in ENR.

2580 Feast or Famine: The Global Business of Food U 3
Global and regional trends in food consumption and production are surveyed. Trade, technological change, and other responses to food scarcity are analyzed.
Prereq: Not open to students with credit for 280 or 385 or intStds 2580 (280). GE soc sci human, nat, and econ resources and diversity global studies course. Cross-listed in IntStds.

3101 Principles of Agribusiness Management U 3
Introduction to agribusiness management principles and skills in the context of the four functions of management: planning, organizing, directing, and controlling.
Prereq: 2001 (200H) or 2001H (200H) or Econ 2001 (200) or 2001H (200H). Not open to students with credit for 401.

3102 Principles of Agribusiness Marketing U 3
Study of specific problems of marketing food and fiber products with emphasis on structures and institutions facing agribusinesses in domestic and international markets.
Prereq: 2001 (200), 2001H (200H), Econ 2001 (200), or 2001H (200H). Not open to students with credit for 402.

3103 Principles of Agribusiness Finance U 3
Financial management of agribusinesses: financial system, time value of money, security valuation, capital budgeting, capital structure, portfolio analysis, financial institutions, futures and options contracts.
Prereq: 2001 (200), 2001H (200H), Econ 2001 (200), or 2001H (200H); and AEDEcon 2105 (412) or AccMIS 2200 (211); and AEDEcon 2005 (205); AE 387, AnimSci 2260 (260), ComLdr 3557, HCS 2260 (260). Stat 1430 (130), or 1450 (145). Not open to students with credit for 403.

3104 Farm Business Management U 3
Analysis of resource control and detailed application of economic and management principles to the organization, operation, and administration of farm businesses.
Prereq: 3101 (401). Not open to students with credit for 410.

3121 Salesmanship in Agribusiness and Agriculture U 2
Principles and techniques of selling to agribusiness buyers.
Prereq: 2001 (200), 2001H (200H), Econ 2001 (200), or 2001H (200H). Not open to students with credit for 421.

3122 Economics of the Livestock- Meat Industry U 2
Principles and practices involved in marketing livestock and meat; institutions and agencies concerned in pricing and product flows; industry organization and performance, public regulation; future trends; a market/consumer approach to meat industry.
Prereq: 2001 (200) or 2001H (200H). Not open to students with credit for 422 or 522.

3123 Grain Marketing U 3
Principles and practices involved in grain and feed marketing and the theory of grain pricing; economics of grain marketing.
Prereq: 2001 (200), 2001H (200H), Econ 2001 (200), or 2001H (200H). Not open to students with credit for 423.

3128 Marketing Fruits and Vegetables U 2
Principles involved in the marketing of fresh and processed fruits and vegetables and the institutions and agencies concerned in pricing and product flows from producer to consumer.
Prereq: 2001 (200), 2001H (200H), Econ 2001 (200), or 2001H (200H). Not open to students with credit for 428 or 528.

3131 Advanced Sales Techniques and Practice U 2
Expands on basic sales principles with additional emphasis on required skills to establish long term customer-client relationships in today's business context.
Prereq: 3121.
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>3141</td>
<td>Agricultural Cooperatives</td>
<td>2</td>
<td>Basic principles of cooperatives including types of organizations, legal aspects, governance, membership relations, debt and equity financing, organizational and inter-cooperative problems, and distribution of earnings. Prereq: 2001 (200), 2001H (201H), Econ 2001 (200), or 2001H (200H). Not open to students with credit for 441 or 541.</td>
</tr>
<tr>
<td>3160</td>
<td>Human Resource Management in Small Businesses</td>
<td>2</td>
<td>Human resource planning, job analysis, organizational structure, recruitment and selection, training, motivation, leadership, communication, compensation, and evaluating employee performance in context of small businesses. Prereq: 3rd standing. Not open to students with credit for 460 or 560.</td>
</tr>
<tr>
<td>3170</td>
<td>Agribusiness Law</td>
<td>3</td>
<td>A study of the legal system and selected areas of law that affect agricultural types of businesses, including civil liabilities, property law, business law and regulatory law. Prereq: 2001 (200), 2001H (200H), Econ 2001 (200), or 2001H (201H). Not open to students with credit for 470 or 670.</td>
</tr>
<tr>
<td>3191</td>
<td>Internship in Agribusiness and Applied Economics</td>
<td>2</td>
<td>Supervised experience with an approved firm or organization; pre-approved proposal and report are required. Prereq: 4193 (401), 3192 (402), 3103 (403), 4001 (500), or Econ 4001 (501), and enrollment in department major, and permission of instructor. Not open to students with credit for 489. This course is graded S/U.</td>
</tr>
<tr>
<td>4001</td>
<td>Managerial Economics for Agribusiness</td>
<td>3</td>
<td>Application of economic theory and methods to agribusiness decision making. Prereq: 2001 (200) or 2001H (200H) or Econ 2001 (200) or 2001H (201H); and 1131 (Math 131 [WI 03 or thereafter]) or 1132 (132) or 1151.01 (151.01) or 1152.01 (152.01). Not open to students with credit for 500.</td>
</tr>
<tr>
<td>4002.01</td>
<td>Econometric Applications in Agribusiness and Applied Economics</td>
<td>2</td>
<td>Quantitative models and methods and their application to agricultural, environmental, and development economics and agribusiness. Prereq: 2010 (205) or AEE 387 or AnimSc 2260 (260) or ComLdr 3537 or HCS 2260 (260) or Stat 1430 (133) or 1430 (133) or AEE 4001 (200) or 2001H (200H) or Econ 2001 (200) or 2001H (201H); and Math131 (Math 131 [WI 03 or thereafter]) or 1132 (132) or 1151.01 (151.01) or 1152.01 (152.01). Prereq or concour: 4001 (500) or Econ 4001.02 (501.02). Not open to students with credit for 502.</td>
</tr>
<tr>
<td>4002.02</td>
<td>Operations Research in Agribusiness and Applied Economics</td>
<td>2</td>
<td>Quantitative models and methods and their application to agricultural, environmental, and development economics and agribusiness. Prereq: 2005 (205), ComLdr 3537 (AEE 387), HCS 2260 (260), AnimSc 2260 (260), Stat 1145 (145), or 1430 (133); or AEE 4001 (200) or 2001H (200H) or Econ 2001 (200) or 2001H (201H); and Math 1131 (Math 131 [WI 03 or thereafter]) or 1132 (132) or 1151.01 (151.01) or 1152.01 (152.01). Prereq or concour: 4001 (500) or Econ 4001.02 (501.02). Not open to students with credit for 502.</td>
</tr>
<tr>
<td>4003</td>
<td>Economics of Public Policy Analysis</td>
<td>3</td>
<td>Understanding of economic tools and concepts for analyzing public policies important to the food industry, agriculture and natural resources. Prereq: 2001 (200) or 2001H (200H) or Econ 2001 (200) or 2001H (201H); and Math 1131 (Math 131 [WI 03 or thereafter]) or 1132 (132) or 1151.01 (151.01) or 1152.01 (152.01). Prereq or concour: 4001 (500) or Econ 4001.02 (501.02). Not open to students with credit for 503.</td>
</tr>
<tr>
<td>4106</td>
<td>Strategic Management</td>
<td>3</td>
<td>Experiential learning and managerial economics applied to strategic management in agribusiness. Formulate managerial strategies in a competitive environment constrained by the firm's products, internal resources, market segments, and supply chains. Prereq: 3101 (401), 3103 (403), and 4001 (500), and a second writing course. Not open to students with credit for 601.</td>
</tr>
<tr>
<td>4191</td>
<td>EEDS Professional Practice in Agricultural, Environmental, and Development Economics</td>
<td>2</td>
<td>Preparation of a written report and delivery of a presentation based on internship employment in sustainability-based professions. Prereq: Not open to students with 2 completions or 4 credits of ENR 4191 or 689 or AEE/Econ 4191. This course is graded S/U.</td>
</tr>
</tbody>
</table>
Agricultural, Environmental, and Dev Economics

4597.01 Food, Population, and the Environment U 3
Issues related to world-wide population increases, food production, and associated environmental stress; policy options for lessening these concerns, especially in low-income countries.
Prereq: Jr or Sr standing. Not open to students with credit for 597.01, 4597.01H (597.01H), IntSd 597.01 (597.01), or 4597.01H (597.01H). GE cross-disciplinary seminar course. Cross-listed in IntSd.

4597.01H Food, Population, and the Environment U 3
Issues related to world-wide population increases, food production, and associated environmental stress; policy options for lessening these concerns, especially in low-income countries.
Prereq: Honors standing, and Sr standing; or permission of department or instructor. Not open to students with credit for 597.01H, 4597.01H (597.01H), IntSd 597.01H (597.01H), or 4597.01H (597.01H). GE cross-disciplinary seminar course. Cross-listed in IntSd.

4999 Research With Distinction U 1 - 3
Conducting and reporting research with distinction. Students are expected to present at the CF/ES Undergraduate Research Forum and the Denman Undergraduate Research Forum.
Prereq: CPRH 3.0 overall, and GPA 3.0 or above in major, and permission of project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

4999H Honors Research With Distinction U 1 - 3
Conducting and reporting the honors research with distinction. Students are expected to present at the CF/ES Undergraduate Research and the Denman Undergraduate Research Forums.
Prereq: Honors standing, and FAES 4590.01H (590.01H), and CPRH 3.4 or above, and GPA 3.4 or above, and permission of honors project supervisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5250 Commodity Futures and Options Markets U G 3
Institutional structure, allocative function, and managerial applications of commodity futures and options markets.
Prereq: 4001 (500), or Econ 4001 (501). Not open to students with credit for 625.

5330 Benefit-Cost Analysis U G 3
Benefit-cost analysis theory and methods and their application to projects pertaining to public infrastructure, agriculture, the environment, natural resources, and human health.
Prereq: 4310 (531), 4001 (500), or Econ 4001 (501). Not open to students with credit for 631.

5500 Agribusiness and Applied Economics Project U G 3
Experience
Field projects with participating organizations that require application of one or more key principles of agribusiness management or applied economics.
Prereq: 3101, 3102, 3103, and permission of instructor. Repeatable to a maximum of 6 cr hrs.

5797 Study at a Foreign Institution U G 1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.
Prereq: Permission of dept. chairperson. Repeatable to a maximum of 25 cr hrs or 3 completions.

5900 Food System Planning and the Economy U G 3
Examines the social, environmental and economic costs and benefits of our food production, distribution, and consumption.
Prereq: Not open to students with credit for CRPlan 5900 or PubAfrs 5900. Cross-listed in CRPlan and PubAfrs.

6010 Applied Economics I G 4
Theories of production, consumption, and finance and their application to the exchange of agricultural and environmental goods and services.
Prereq: 4001 (500) or Econ 4001 (501). Not open to students with credit for 711.

6020 Applied Economics II G 4
Theories of social welfare, market failure, and public goods and their application to issues in agricultural, environmental, and development economics.
Prereq: 6010. Not open to students with credit for 713.

6110 Applied Quantitative Methods I G 4
Application of econometric and time series method to the analysis of problems in agricultural, environmental, and development economics.
Prereq: 4001 (500) or Econ 4001 (501), and 2005 (205) or Stat 1430 (133). Not open to students with credit for 701.

6120 Applied Quantitative Methods II G 4
Application of mathematical programming and statistical methods to the analysis of problems in agricultural, environmental, and development economics.
Prereq: 4001 (500) or Econ 4001 (501), and 2005 (205) or Stat 1430 (133). Not open to students with credit for 702.

6194 Group Studies G 1 - 4
Analysis of special problems in agricultural, environmental, and development economics by various students, under the guidance of an instructor.
Prereq: Permission of instructor. This course is graded S/U.

6200 International Economics and Policy G 3
Application of economic theory and methods to current problems in international economics, policy and trade.
Prereq: 4001 (500) or Econ 4001 (501). Not open to students with credit for 734.

6300 Environmental and Resource Economics G 3
Application of economic theory and methods to current problems in environmental and resource economics.
Prereq: 4001 (500) or Econ 4001 (501). Not open to students with credit for 831.

6400 Regional and International Development G 3
Application of economic theory and methods to current problems in regional and international economic development.
Prereq: 8010 or 4001 (500), or Econ 4001 (501). Not open to students with credit for 833.

7110 Advanced Quantitative Methods I G 3
Application of advanced mathematics and mathematical optimization methods to problems in agricultural, environmental, and development economics.
Prereq: 4001 (500) or Econ 4001 (501).

7120 Advanced Quantitative Methods II G 3
Theoretical formulation and numerical analysis of stochastic dynamic models in agricultural, environmental, development and financial economics.
Prereq: 4001 (500) or Econ 4001.01 (501.01).

7130 Advanced Econometrics I G 3
A rigorous introduction to techniques of econometric analysis with applications to empirical problems in agricultural, environmental, and development economics.
Prereq: 4001 (500) or Econ 4001 (501). Not open to students with credit for 801.

7140 Advanced Econometrics II G 3
Special topics pertaining to the application of econometric methods to empirical problems in agricultural, environmental, and development economics.
Prereq: 7130 and Econ 8712 (804), or equiv.

7210 Applied Microeconomics G 4
Application of advanced economic theory and methods to problems of production, consumption, and market allocation; applied welfare economic analysis.
Prereq: Econ 8712 (804). Not open to students with credit for 808 or 809.

7310 Advanced Environmental Economics G 3
Application of advanced economic theory and methods to the allocation of environmental goods and services.
Prereq: Econ 8712 (804). Not open to students with credit for 831.

7320 Advanced Resource Economics G 3
Application of advanced economic theory and methods to the allocation and optimal management of exhaustible and renewable natural resources.
Prereq: Econ 8712 (804).

7410 Advanced Regional Economics I G 3
Application of advanced economic theory and methods to problems of regional economic development.
Prereq: Econ 8712 (804). Not open to students with credit for 840.

7415 Advanced Regional Economics 2 G 3
Application of advanced economic theory and methods to problems of regional economic development. Continuation of AEDEcon 7410.
Prereq: Econ 8712.

7420 Advanced Development Economics G 2
Application of advanced economic theory and methods to problems of international economic development.
Prereq: Econ 8712 (804). Not open to students with credit for 833.

7421 Advanced Development Economics I G 3
Application of advanced economic theory and methods to problems of international economic development.
Prereq: Econ 8712 (804). Not open to students with credit for 840.

7425 Advanced Development Economics II G 3
Application of advanced economic theory and methods to problems of international economic development.
Prereq: Econ 8712 (804). Not open to students with credit for 840.

7890 Workshop on Microeconomic Analysis G 2
Review and synthesis of advanced microeconomic theory and methods. For first-year AEDEcon PhD students preparing for microeconomics qualifying examination.
Prereq: PhD standing in AEDEcon, and permission of instructor. This course is graded S/U.

7999 Thesis Research G 1 - 18
Individual research for thesis or Plan B paper.
Prereq: MS student in AEDEcon. Repeatable to a maximum of 36 cr hrs or 10 completions. This course is graded S/U.
Individual Studies

- UG Individual Studies: 1 - 4
  Analysis of special problems in agricultural, environmental, and development economics by an individual student, under the guidance of an instructor.
  Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs. This course is graded S/U.

- UG Group Studies: 1 - 4
  Analysis of special problems in agricultural, environmental, and development economics by various students, under the guidance of an instructor.
  Prereq: Permission of instructor. This course is graded S/U.

Frontiers of AED Economics

- G 1 - 6
  Critical discussion of seminal and innovative scholarly research in agricultural, environmental, and development economics.
  Prereq: Not open to students with credit for any 899-series course. This course is graded S/U.

Seminar in AED Economics

- G 1
  Critical discussion of current academic research in agricultural, environmental, and development economics.
  Prereq: Grad standing in ADEEcon. This course is graded S/U.

Workshop on Research Methods

- G 2
  Preparation of research manuscripts in agricultural, environmental, and development economics.
  Prereq: PhD standing in ADEEcon, and permission of instructor. This course is graded S/U.

PhD Research Seminar

- G 1 - 4
  PhD Students presenting and discussing research in agricultural, environmental, and development economics under the guidance of an instructor.
  This course is graded S/U.

Thesis and Dissertation Research

- G 1 - 16
  Individual research for doctoral dissertation.
  Prereq: PhD candidate in ADEEcon. Repeatable. This course is graded S/U.

Agriscience Education

Early Experience in Agriscience Education

- U 1
  The early experience program is designed to help students explore careers and gain experience in Agriscience Education.
  Prereq: Not open to students with credit for AEE 280.

Individual Studies

- UG Individual Studies: 1 - 3
  Planning, conducting, and reporting a special study appropriate to the needs of the student.
  Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

Group Studies

- UG Group Studies: 1 - 5
  Group studies for students in specialized programs. Repeatable to a maximum of 10 or hrs or 5 completions.

Professional Development in Agriscience Education

- UG Professional Development: 1 - 3
  Developing Twenty-first Century skills through hands-on, contextual, and authentic, out-of-class experiences. Students, working individually with the instructor, will design and engage in developmental skill classes.
  Repeatable to a maximum of 3 or hrs or 3 completions. This course is graded S/U.

Context-Based Learning in Agriscience Education

- UG Context-Based Learning: 1
  Students will be provided field experiences in agricultural education. They will gain the skills necessary to work in the diverse and nontraditional environments of agricultural education.
  Prereq: Professional standing, and placed for student teaching.

Group Studies in Agriscience Education

- UG Group Studies: 1 - 3
  Specialized topics in Agriscience Education. Repeatable to a maximum of 10 or hrs or 5 completions.

Undergraduate Research

- UG Undergraduate Research: 1 - 10
  Conducting and reporting an undergraduate research project.
  Prereq: Permission of instructor. This course is graded S/U.

Research with Distinction

- UG Research with Distinction: 1 - 6
  Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.
  Prereq: CPHR 3.0 or above, and GPA 3.0 or above, and permission of project supervisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

Honors Research with Distinction

- UG Honors Research: 1 - 6
  Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.
  Prereq: Honors standing, and FAE 4590H (560.01H), and CPHR 3.4 or above, and GPA 3.4 or above, and permission of honors project supervisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

Individual Studies in Agriscience Education

- UG Individual Studies: 1 - 3
  Planning, conducting, and reporting a special study appropriate to the needs of the student.
  Prereq: CPHR 2.50 or above, and permission of instructor. Repeatable to a maximum of 6 or hrs or 3 completions. This course is graded S/U.

Group Studies for students in specialized programs.

FAES Egyptian Program - Pre-Program Seminar

- UG 2
  The FAES in Egyptian course will provide undergraduate and graduate students with an opportunity to learn about issues related to food, agriculture, and the environment in Egypt.

Methods of Teaching in Agriscience Education

- UG 3
  Examining the teaching and learning process with emphasis on planning and delivering agriscience instruction in public schools. Students will demonstrate competence in agricultural literacy instruction, and science-based agriculture instruction.
  Prereq: AEE 230 and 260. Not open to students with credit for AEE 530.02.

Experiential Learning in Agriscience Education

- UG 2
  Provides future secondary agriscience teachers with a foundation in experiential education as part of a comprehensive agricultural education program including supervised agricultural experience and career technical student leader organizations.
  Prereq: Not open to students with credit for AEE 531.

Program Planning in Agriscience Education

- UG 2
  Principles and procedures used in planning and conducting programs of career and technical education in the public schools.
  Prereq: Not open to students with credit for AEE 585.

Internship in Agriscience Education

- UG 4
  Supervised participation in teaching and other professional responsibilities of teachers of agriculture in the public schools.
  Prereq: 5230 and 5231. Not open to students with credit for AEE 580.01.

Capstone in Agriscience Education

- UG 4
  Clinical analysis of teaching agriculture in the public schools, conferences, and seminars.
  Prereq: 5230 and 5231. Not open to students with credit for AEE 580.02.

Evaluation in Agriscience Education

- UG 4
  Lesson plan development, written assignments, and other documentation of teaching agriculture in the public schools, conferences, and seminars.
  Prereq: 5280 and 5282. Not open to students with credit for AEE 580.03.

Study at a Foreign Institution

- UG 3
  The study abroad program will provide undergraduate and graduate students with an opportunity to learn about agriculture and related issues in a foreign country and receive credit for that work.
  Repeatable to a maximum of 9 or hrs.

Air Force Aerospace Studies

The Foundation of the United States Air Force I

- U 1
  Introduction to the United States Air Force and ROTC. Officership and military customs and courtesies are discussed. Foundational Air Force communication are covered.

The Foundation of the United States Air Force II

- U 1
  Looks at the origin and organization of the Air Force. Selected topics contributing to an understanding of the Air Force are covered.

Evolution of United States Air Force Air and Space Power I

- U 1
  Examines air and space power from an historical perspective. Covers early flight and World War I to the Korean War and ICBMS.

Evolution of United States Air Force Air and Space Power II

- U 1
  Examines air and space power from an historical perspective. Covers period from the Vietnam War to the Gulf War plus a look at the Air Force of the future.

Air Force Leadership Studies I

- U 3
  Study of leadership professional knowledge and communication skills required for an Air Force officer. The role of a leader as supervisor and counselor is discussed.
  Prereq: 1001, 1002, 2001, and 2002, and permission of instructor.

Air Force Leadership Studies II

- U 3
  Study of quality management fundamentals and communication skills for the Air Force officer. The Air Force personnel evaluation system and military ethics are discussed.

Air Force Defense Studies I

- U 3
  Course examines the political, economic and social constraints upon national security and defense structure. The role of the military including joint operations is discussed. Regional defense issues studies.
The role of the military and regional defense are covered. Current air force issues and other topics relevant to preparing an air force officer for active duty are covered. 


**Undergraduate Research**

Undergraduate research in variable topics related to American Indian Studies. Student-initiated projects.

Prereq: Permission of instructor. Repeetable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

**Research in American Indian Studies Honors**

Undergraduate honors student research or creative project in variable topics related to American Indian Studies.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

**Undergraduate Research: Thesis**

A program of arranged reading for each student, with individual conferences, reports, paper and/or thesis.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

**Honors Thesis Research**

A program of reading, research, writing, and/or creative work arranged for each student, with individual conferences, progress reports, and honors thesis.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr/hr or 4 completions. This course is graded S/U.

**Internship**

Workplace experience requiring writing and/or research.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

**Individual Studies**

Individual directed study for work not typically offered in courses.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

**Group Studies**

Directed group study for a topic not offered in regular courses.

Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

**American Indian Studies Workshop**

Structured participation in seminar or event organized for that semester.

Repeatable to a maximum of 9 hrs or 3 completions. This course is graded S/U.

**Elementary American Sign Language I**

Students develop elementary ASL skills—receptive (listening) and expressive (speaking).

American deaf culture and history introduced with an emphasis on making comparisons and connections to one's own culture. Instruction primarily in ASL. Not open to native users of ASL.

Prereq: Not open to students with 2 or more years of ASL study in high school. Not open to students with credit for 101, English 101, or EduTL 101. This course is available for EM credit. GE for lang course.

**Elementary American Sign Language II**

Further development of ASL skills. Focus on talking about others. Continued exploration of American deaf culture and history. Instruction primarily in ASL. Not open to native users of ASL.

Prereq: 1101 (101), English 101, or EduTL 101. Not open to students with credit for 102, English 102, or EduTL 102. This course is available for EM credit. GE for lang course.

**Intermediate American Sign Language**

Advanced development of ASL skills. Focus on talking about community. Continued exploration of American deaf culture and history. Instruction primarily in ASL. Not open to native users of ASL.

Prereq: 1102 (102), English 102, or EduTL 102. Not open to students with credit for 103, EduTL 113, or SpHng 103, or equiv. This course is available for EM credit. GE for lang course.

**Intermediate American Sign Language II**

More advanced development of ASL skills with a focus on storytelling and ASL literature. Further exploration of American deaf culture and history. Instruction primarily in ASL. Not open to native users of ASL.

Prereq: 1103. This course is available for EM credit. GE for lang course.

**American Deaf Arts and Literature**

Survey of literary and artistic works about being deaf that are written or created by individuals who are American deaf.

Prereq: Not open to students with credit for ArtsSci 350.

**American Sign Language**

**Introductory American Sign Language for Engineers**

Introduction to human anatomy for undergraduate engineering students using a systems approach through lectures, laboratory with prosected cadavers, and computer software.

Prereq: Enrollment in BiomedE major, or permission of instructor. Not open to students with credit for 220.

**Human Structure and Function for Engineers**

Offers a block of lectures and laboratories that present the fundamentals of human anatomy and physiology tailored to undergraduate bioengineering students.

Prereq: Enrollment in BiomedE major, or permission of instructor. Not open to students with credit for 220.

**Human Anatomy**

Regional study of the basic structure and terminology associated with the human body supplemented with computer-assisted instruction. Laboratory includes demonstrations on prosected human cadavers.

Prereq: Health Science students in CED and ASC. Not open to students with credit for 3300.

**Human Anatomy**

Regional study of the basic structure and terminology associated with the human body supplemented with computer-assisted instruction. Laboratory includes demonstrations on prosected human cadavers.

Prereq: Enrollment in pre-MED only. Not open to students with credit for 3300.

**Human Anatomy**

Regional study of the basic structure and terminology associated with the human body supplemented with computer-assisted instruction. Laboratory includes demonstrations on prosected human cadavers.

Prereq: GPA 2.75 or above, and enrollment in pre-Nursing. Not open to students with credit for 3300.

**Advanced Human Anatomy for Undergraduates**

Fundamental principles of human anatomy using a regional approach. Instructional format includes lecture, laboratory with prosected human cadavers, practical examinations, and interactive computer software and website.

Prereq: Not open to students with credit for 2300.

**Human Anatomy**

Advanced undergraduate study of the structure of the human body through regional dissection of a human cadaver and an introduction to histology, embryology, neuroanatomy, and medical imaging.

Prereq: 2300.xx (199.xx) or 3300 (200), and permission of instructor.

**Learning Human Anatomy Through Dissection**

Enables students with introductory human gross anatomy experience the opportunity to further investigate the human body through the complete dissection of a human cadaver.

Prereq: A grade of B- or better in 2300 or 3300, or equiv; and an application (with selection process), and permission of Course Director. This course is graded S/U.

**Advanced Musculoskeletal Anatomy**

Musculoskeletal anatomy of the human body through an in-depth dissection experience.

Prereq: Enrolled in DPT or MOT programs, and permission of instructor.

**Individual Studies in Anatomy**

Enables the student to pursue a minor investigation in some anatomical field of choice.

Prereq: Grad standing in Anatomy, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

**Human Anatomy for Dissection for Engineers**

Introduction to human anatomy for engineering graduate students using a regional approach through lectures, dissection laboratory, and computer software.

Prereq: Grad standing in Engineering, or permission of instructor.

**Human Anatomy for Dental Students I**

Introduces dental students to the basic concepts of human gross anatomy, histology, neuroscience and embryology.

Prereq: Enrollment in Dentistry, or permission of instructor.
Anatomy

6512 Human Anatomy for Dental Students II M 7
Continues the introduction of dental students to the basic concepts of human gross anatomy, histology, neuroscience and embryology. Prereq: Enrollment in Dentistry, or permission of instructor.

6600 Human Embryology G 2
Designed to acquaint graduate students with a basic knowledge of human embryology. Prereq: Grad standing in Anatomy, or permission of instructor. Not open to students with credit for 710.

6700 Human Histology G 4
The microscopic study of cells, tissues, and organs with particular emphasis on human. The microscopic structure of various organ systems are integrated with their functions. Prereq: Grad standing in Anatomy, or permission of instructor.

6800 Human Neuroanatomy G 4
Introduces graduate students to the basic concepts of human neuroanatomy. Prereq: Grad standing in Anatomy, or permission of instructor. Not open to students with credit for NeuroSci 716.

6900 Human Anatomy for Graduate Students G 8
Graduate level study of human anatomy by regional dissection. Anatomy 200 or equivalent is recommended. Prereq: Permission of instructor.

7289 Practicum: Developing Educational Components G M 1 - 4
Practical experience developing educational tool(s) and/or curricular component(s) in Anatomy. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

7310 Advanced Anatomy for Dental Residents G 1
Advanced head and neck anatomy for residents in the dental specialties. Prereq: DDS or equiv, and enrollment as a resident or fellow in dental residency program.

7500 Radiologic Anatomy G 2
Application of knowledge of the anatomy of the human body to the interpretation and understanding of diagnostic images. Prereq: 6900 or equiv, and permission of instructor.

7600 Structure and Function of Autonomic Nerves G 2
The course has two parts. Part One describes the structure and function of autonomic nerves. Part Two addresses the autonomic control of specific organ systems in a case-based format. Prereq: Anatomy 6900 or equiv, or permission of instructor.

7891 Seminar in Anatomy G 1
Readings and discussion of topics in biomedical or educational research pertinent to anatomy. Prereq: Grad standing in Anatomy, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7892 Advanced Topics in Injury Biomechanics G 2
This is an advanced discussion-based seminar exploring new methods and research in injury biomechanics. Prereq: Grad standing in Engineering, or permission of instructor.

7999 Master Research in Anatomy G 1 - 8
Designed to enable the student to conduct an in-depth research investigation in some anatomical field of choice. Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 20 completions. This course is graded S/U.

8110 Advanced Studies in Histology G 2
Discussion of selected topics in histology based on in-depth readings of the primary biomedical literature. Sample topics might include: bone and connective tissues, cardiovascular, respiratory tissues. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs.

8120 Advanced Studies in Embryology G M 2
Mammalian embryological development using descriptive & experimental studies in variety of vertebrate models to present current information on molecular mechanisms responsible for normal development & birth defect in humans. Anatomy 6600 recommended. Prereq: Grad or professional standing; or medical or dental residency; or advanced undergraduate, and permission of instructor. Repeatable to a maximum of 4 cr hrs.

8130 Advanced Studies in Tomographic Anatomy G 1 - 4
In-depth study of human anatomy using multiaxial sections of the body obtained using modern imaging modalities (computed tomography, magnetic resonance imaging, and ultrasonography) emphasizing the inter-relationships of structures to one another. Prereq: 6900 or equiv, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions.

8140 Advanced Regional Dissection G 2 - 4
In-depth dissection of one or more regions of the human body, supplemented with literature research. Prereq: 6900 or equiv, and permission of instructor. Repeatable to a maximum of 24 cr hrs or 6 completions.

8289 Anatomy Teaching Practicum G M 1 - 4
A teaching practicum involving direct participation in classroom teaching under the guidance of a faculty mentor. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

8999 Research in Anatomy G 2 - 8
Designed to enable the student to conduct an in depth research investigation in some anatomical field of choice. Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 20 completions. This course is progress graded (S/U).

Animal Sciences

1100 Exploring in Animal Sciences U ½
Basic understanding of the global trends within animal sciences and the diversity of career opportunities within the industry, in addition to opportunities for undergraduate professional development. Prereq: Not open to students with Soph standing or above.

2000 Animal Handling U 2
General introduction to domestic animal behavior and hands-on experience handling food animal species.

2100 Appreciation of Companion and Production Animals U 3
Overview of the size and scope of companion and production animal systems, economic impact of animals and their products, and influences on our habits, behaviors, actions, and environment. Prereq: Not open to students with credit for 245 and 250.

2200.01 Introductory Animal Sciences U 3
A study of the basic principles of genetics, breeding, reproduction, nutrition, behavior, and biotechnology as it applies to the molecular, cellular, and physical underpinnings of domesticated animal form and function. Prereq: Not open to students with credit for 2300H (204H) or 200. GE nat sci bio course.

2200.02 Introductory Animal Sciences Laboratory U 1
Laboratory experience associated with basic principles of genetics, breeding, reproduction, nutrition, behavior, and biotechnology as it applies to the molecular, cellular, and physical underpinnings of domesticated animal form and function. Prereq or concur: 2100 and 2200.01, or permission of instructor. Not open to students with credit for 2300H (204H) or 200.

2221 Introduction to Equine Studies U 3
Introduces students to equine studies. Uses of the horse, their economic impact on society, and principles of equine behavior, anatomy, physiology, nutrition, reproduction, and health and disease are emphasized. Prereq: Not open to students with credit for 201.

2260 Data Analysis and Interpretation for Decision Making U 3
Introduces students to the use of statistics in data analysis and interpretation. Students develop skills in quantitative literacy and logical reasoning. Prereq: Math 1130 (130), 1149 (149), 1150 (150), or 1151.01 (151.01). Not open to students with credit for 260, AEDEcon 2205 (205), ComLdr 3537, AEE 387, ENR 2000 (222), HCS 2260 (260), or Stat 1450 (145). GE data analy. course.

2300H Honors Introductory Animal Sciences U 4
A study of the basic principles of genetics, breeding, reproduction, nutrition, behavior, and biotechnology as it applies to the molecular, cellular, and physical underpinnings of domesticated animal form and function. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2200.01 (205) and 2200.02, or 200H. GE nat sci bio course.

2301 Equine Behavior and Training U 3
Introduces students to principles of equine behavior and training techniques and practical application of that knowledge to safely and effectively modify desirable and undesirable behavior of assigned horses. Must have medical insurance. Prereq: Permission of instructor. Not open to students with credit for 211.01. A maximum of 3 credits between 2301 and 2401 may count in the AnimalSci major.

2367 Animals in Society U 3
Introduction to the historical, social, cultural, economic and legal frameworks within which current human-animal relationships have evolved. Prereq: English 1110 (110) or 111, or equiv. Not open to students with credit for 240. GE writing and comm: level 2 and soc sci indivs and groups course.

2400.01 Equine Studies in Europe U 1
First course in a two-course series (2400.01 & 3797.01) designed to give students an appreciation for how world history, government, geography, and infrastructure can impact the equine industry within a society. Prereq: 2200.01 (200), 2221 (201), or 2300H (200H), and permission of instructor. Repeatable to a maximum of 2 cr hrs.
2400.05 Human and Animal Interactions  U  2
Students will expand their understanding of the role that animals play in shaping society, culture, and economics within the US and the non-US destination identified in the 3797.02, 3797.03, or 3797.04. This course has 3 required Saturday field trips.
Prereq: Not open to students with credit for 248.

2400.07 Global Dairy Industries  U  1
An opportunity for students to study the culture, political, economic, and social framework; and dairy industry of another country. This course is offered in conjunction with AnimSci 3797.07 - Dairy Industry Outside the US. Concur: 3797.07. Not open to students with credit for 697.04.

2401 Advanced Equine Behavior and Training  U  3
Utilizes principles of equine behavior and advanced training techniques to safely and effectively modify desirable and undesirable behavior of assigned horses.
Prereq: Permission of instructor. Must have medical insurance. Maximum of 3 credits between 2401 and 2407 may count in the AnimSci major. Repeatable to a maximum of 6 cr hrs.

2500H Freshman Research Seminar: Contemporary Animal  U  2
Biology Research
Exploration of prominent scientists and emerging issues in animal biology research. Only open to students with 60 hrs or fewer.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 299H.

2507 Challenges and Opportunities for the Dairy Industry  U  1
Increase the understanding by students to the challenges and opportunities within the Ohio and US dairy industries. As the economic climate changes and the consumer demands shift, the dairy industry must respond.
Prereq: 2200.01 (200) or 2300H (200H). Not open to students with credit for 347.

2700 Diverse Fields and Opportunities within Animal Sciences  U  1
Basic understanding of the global trends in animal sciences and the diversity of career opportunities within the industry, in addition to opportunities for undergraduate professional development. Students should plan to complete the course within the first year of enrollment within the major.

3100 Animal Growth and Development  U  3
Exploring the formation of tissues and organs in domestic animal growth, their influence on form and function, and the value of their resulting products.
Prereq: Not open to students with credit for 400.

3101 Equine Facilities, Marketing, and Management  U  3
Aspects of equine business management, marketing and facility design.
Prereq: 2200.01 (200), 2221 (201), or 2300H (200H). Not open to students with credit for 341.

3105 Domestication, Form, and Function of Dogs  U  3
A study of the events that have shaped the domestic dog. Includes a focus on the role of domestication, selective breeding, and factors impacting growth and development on form and function of the domestic dog.
Prereq: 2200.01 (200), 2300H, Biology 1113 (113), or 1113H (115H), and Soph standing or above; or permission of instructor.

3110 Introductory Meat Science  U  3
Analysis of the principles of meat science as related to meat animal value factors, processing technology, and marketing systems affecting the producer, processor, and consumer.
Prereq: Not open to students with credit for 355.01, or MeatSci 3110. Cross-listed in MeatSci.

3130 Principles of Animal Nutrition  U  3
A study of nutrients needed by animals.
Prereq: 2200.01 (200), 2300H, Biology 1113 (113), or 1113H (115H), and Soph standing or above; or permission of instructor. Not open to students with credit for 330.

3131 Equine Feeds and Feeding  U  3
Focuses on the nutrient needs of the horse and the significance of supplements and feeds as they relate to the horse's nutrition and health.
Prereq: 2200.01 (200), 2221 (201), or 2300H (200H). Not open to students with credit for 331.

3140 Principles of Animal Systems Physiology  U  3
An introductory course that surveys organs/systems within the body and relates the functional physiology of those systems to animal production.
Prereq: Biology 1101 (101), 1113 (113), or 1113H (115H). Not open to students with credit for 310. GE nat sci bio course.

3140E Principles of Animal Systems Physiology  U  3
An introductory course that surveys organs/systems within the body and relates the functional physiology of those systems to animal production.
Prereq: Honors standing, and Biology 1113 (113) or 1113H (115H). Not open to students with credit for 310H. GE nat sci bio course.

3147 Milk Secretion  U  2
Introduction to mammary gland anatomy, milk synthesis, and factors affecting mammary health.
Prereq: 2200.01 (200) or 2300H (200H), and Biology 1113 (113) or 1113H (115H). Not open to students with credit for 317.

3150 Principles of Genetic Improvement  U  3
Introduction to the methods available for bringing about genetic change in animals.
Prereq: 2200.01 (200) and 2200.02, or 2300H (200H); and 2260 (260), HCS 2260 (260), Stat 1450 (145), AEDEcon 2005 (205), ComLdr 3357, or AEE 387. Not open to students with credit for 320.

3160 Reproductive Physiology  U  3
Introduction to anatomy and physiology of reproductive systems of various species with a focus on agricultural species, 3140 (310) or 3140H (310H) is recommended.
Prereq: 2200.01 (200) or 2300H (200H), and Soph standing or above. Not open to students with credit for 318.

3170 Animal Health I  U  2
Provides students with an introduction to principles of animal health and emphasizes management practices that influence host-pathogen interactions. 3140 (310) or 3140H (310H) is recommended.
Prereq: 2200.01 (200) or 2300H (200H), and Soph standing or above. Not open to students with credit for 413.

3171 Equine Health & Disease  U  2
Introduction to infectious disease affecting horses with emphasis on management practices that influence host-pathogen interactions.
Prereq: 2200.01 (200), 2221 (201), or 2300H (200H).

3191 Internship in Animal Sciences  U  2
Supervised preplanned employment experience and/or on-site problem solving study program.
Prereq: 12 cr hrs in AnimSci, and enrollment in AnimSci major; and permission of academic adviser. Not open to students with credit for 489. This course is graded S/U.

3200 Applied Animal Bioscience Laboratory  U  2
Laboratory experience exploring the organs, tissues and cells associated with the physiological systems of domestic animals and the nutrients used to support these systems. Prereq or concur: 3130 (330), and 3140 (310) or 3140H (310H).

3270 Animal Health II  U  2
Introduction to principles of immunology and emphasis on management practices that influence host immune responses.
Prereq or concur: 3170.

3300 Livestock Selection and Evaluation  U  3
Laboratory exercises employing current standards of animal excellence including carcass value for the selection and improvement of farm livestock.
Prereq: 3101, or Jr standing or above, or permission of instructor. Not open to students with credit for 300.

3301 Equine Selection and Evaluation  U  2
Emphasis on the relationship of form to function by evaluating conformation and performance and orally defending that evaluation.
Prereq: 2200.01 (200), 2221 (201), or 2300H (200H), or permission of instructor. Not open to students with credit for 301.

3306 Introduction to Poultry Science and Evaluation  U  2
This course will provide students the opportunity to learn about the principles of poultry science, the evaluation of standard breeds of chickens, and the evaluation of poultry meat and egg products. In addition, the course will cover practical and safe handling techniques of live poultry.
Prereq: Soph standing or above, or permission of instructor.

3307 Dairy Cattle Selection and Evaluation  U  2
Use of functional type traits in evaluation and selection of dairy cattle.
Prereq: Soph standing or above, or permission of instructor. Not open to students with credit for 207.

3400 Management Intensive Grazing  U  2
Application of scientific principles of plant growth, animal nutrition and behavior to manage grazing systems for profitable, sustainable livestock enterprises.
Prereq: 2200.01 (200), 2300H (200H), or HCS 2200. Not open to students with credit for 340.

3488 Professional Development in Animal Sciences  U  1 - 2
Participation in structured co-curricular programs leading to professional development (e.g. Academic Quadathlon, Livestock Selection and Evaluation Teams, etc.).
Prereq: CPHR 2.0 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

3500 Professional Networking in Animal Sciences  U  2
Professional networking and exposure to the breadth of the animal industries in Ohio and the potential for career development.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Corequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3600</td>
<td>Global Food and Agriculture</td>
<td>3</td>
<td>The integration of food, agriculture, environment, resources, technology, culture, and trade on a global scale.</td>
<td>Prereq: Not open to students with credit for 360.</td>
<td>The integration of food, agriculture, environment, resources, technology, culture, and trade on a global scale.</td>
</tr>
<tr>
<td>3600E</td>
<td>Global Food and Agriculture</td>
<td>3</td>
<td>The integration of food, agriculture, environment, resources, technology, culture, and trade on a global scale.</td>
<td>Prereq: Honors standing. Not open to students with credit for 360 or 360E.</td>
<td>The integration of food, agriculture, environment, resources, technology, culture, and trade on a global scale.</td>
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<tr>
<td>3700</td>
<td>Animal Research Methods Laboratory</td>
<td>2</td>
<td>Exploring research techniques associated with food animal tissues such as quantifying, separating and identifying proteins, fatty acids and carbohydrates.</td>
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</tr>
<tr>
<td>3797.01</td>
<td>Equine Studies in Europe</td>
<td>3</td>
<td>The study abroad experience will allow the students to be surrounded with a different culture, geography, community/government infrastructure, and history to directly compare how those aspects shape and impact the equine industry in that society.</td>
<td>Prereq: 2200.01 (200), 2221 (201), or 2300H (200H), and permission of instructor. Prereq or concur: 2400.01 (697.08). Not open to students with credit for 697.08. Repeateable to a maximum of 6 or hrs.</td>
<td>The study abroad experience will allow the students to be surrounded with a different culture, geography, community/government infrastructure, and history to directly compare how those aspects shape and impact the equine industry in that society.</td>
</tr>
<tr>
<td>3797.03</td>
<td>Human and Animal Interactions Study Abroad</td>
<td>3</td>
<td>Experience the beliefs and views of the culture in destination countries on the use and involvements of animals as part of their daily lives.</td>
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</tr>
<tr>
<td>3797.07</td>
<td>Dairy Industry Outside the U.S.</td>
<td>3</td>
<td>Increase the understanding of undergraduate students to the global nature of the dairy industry, comparing the demographics, cultural and economic forces, and natural resource availability on dairy farming and milk processing in a global setting.</td>
<td>Prereq or concur: 2400.07, and permission of instructor. Not open to students with credit for 697.04.</td>
<td>Increase the understanding of undergraduate students to the global nature of the dairy industry, comparing the demographics, cultural and economic forces, and natural resource availability on dairy farming and milk processing in a global setting.</td>
</tr>
<tr>
<td>4001</td>
<td>Equine Production and Management</td>
<td>4</td>
<td>Application of scientific principles and best management practices in the areas of anatomy, physiology, genetics, reproduction, nutrition and health to the production of horses.</td>
<td>Prereq: 3130 or 3131. Not open to students with credit for 541.</td>
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</tr>
<tr>
<td>4002</td>
<td>Beef Cattle Production and Management</td>
<td>4</td>
<td>The application of science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of beef cattle.</td>
<td></td>
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<tr>
<td>4003</td>
<td>Swine Production</td>
<td>4</td>
<td>Application of science and basic principles of nutrition, physiology, genetics, health, economics, meats, and housing in integrated management systems for modern swine production.</td>
<td></td>
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<tr>
<td>4004</td>
<td>Small Ruminant and Pseudo Ruminant (Sheep, Goat, Alpaca, &amp; Deer) Production and Management</td>
<td>4</td>
<td>Application of science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of small ruminants.</td>
<td></td>
<td>Application of science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of small ruminants.</td>
</tr>
<tr>
<td>4005</td>
<td>Companion Animal Biology and Behavior</td>
<td>4</td>
<td>Anatomy, genetics, nutrition, physiology and behavior of dogs and cats. Human-animal companion relationships.</td>
<td></td>
<td>Anatomy, genetics, nutrition, physiology and behavior of dogs and cats. Human-animal companion relationships.</td>
</tr>
<tr>
<td>4006</td>
<td>Poultry and Avian Management</td>
<td>4</td>
<td>Describes classes of poultry and game birds, incubation, housing, anatomy, diseases, genetics and nutrition. Laboratories include raising chickens for market and egg production.</td>
<td></td>
<td>Describes classes of poultry and game birds, incubation, housing, anatomy, diseases, genetics and nutrition. Laboratories include raising chickens for market and egg production.</td>
</tr>
<tr>
<td>4007</td>
<td>Dairy Herd Management</td>
<td>4</td>
<td>Application of scientific principles to practical herd management, analyses of alternatives and decision making.</td>
<td></td>
<td>Application of scientific principles to practical herd management, analyses of alternatives and decision making.</td>
</tr>
<tr>
<td>4133</td>
<td>Individual Studies</td>
<td>1 - 3</td>
<td>Special assignments and advanced research; problems assigned after consultation with the instructor in charge.</td>
<td>Prereq: CPHR 2.5 or above, and permission of instructor. Not open to students with credit for 593. Repeateable to a maximum of 6 or hrs or 6 completions. This course is graded S/U.</td>
<td>Special assignments and advanced research; problems assigned after consultation with the instructor in charge.</td>
</tr>
<tr>
<td>4194</td>
<td>Group Studies</td>
<td>1 - 3</td>
<td>Special topics area group studies finally proposed for a specific semester by an animal science faculty member.</td>
<td>Prereq: Permission of instructor. Repeatable to a maximum of 6 or hrs or 6 completions. This course is graded S/U.</td>
<td>Special topics area group studies finally proposed for a specific semester by an animal science faculty member.</td>
</tr>
<tr>
<td>4400</td>
<td>Animal Welfare and Behavior in Livestock Industries</td>
<td>3</td>
<td>The study of animal welfare and behavior and resulting influences on livestock production systems.</td>
<td>Prereq: 3140 (310) or 3140H (310H), or permission of instructor.</td>
<td>The study of animal welfare and behavior and resulting influences on livestock production systems.</td>
</tr>
<tr>
<td>4597</td>
<td>Contemporary Animal Use Issues</td>
<td>3</td>
<td>The historical, biological, ethical, nutritional and economic issues of using animals to meet human needs.</td>
<td></td>
<td>The historical, biological, ethical, nutritional and economic issues of using animals to meet human needs.</td>
</tr>
<tr>
<td>4999</td>
<td>Research with Distinction</td>
<td>1 - 5</td>
<td>Conducting and reporting research with Distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.</td>
<td>Prereq: CPHR 3.0 overall, and GPA 3.0 or above in major, and permission of project supervisor. Not open to students with credit for 683H. Repeateable to a maximum of 6 or hrs or 6 completions. This course is graded S/U.</td>
<td>Conducting and reporting research with Distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.</td>
</tr>
<tr>
<td>5000</td>
<td>Human Dimension in Animal Sciences</td>
<td>3</td>
<td>Examines how humans have and continue to influence the field of Animal Sciences. Students will gain a perspective on both individual and societal actions and reactions to aspects of animal production for human consumption. Topics will include, but will not be limited to, attitudes, beliefs, values, and value orientations.</td>
<td></td>
<td>Examines how humans have and continue to influence the field of Animal Sciences. Students will gain a perspective on both individual and societal actions and reactions to aspects of animal production for human consumption. Topics will include, but will not be limited to, attitudes, beliefs, values, and value orientations.</td>
</tr>
<tr>
<td>5031</td>
<td>Ruminant Nutrition</td>
<td>3</td>
<td>Principles of ruminant nutrition: nutrients, metabolism and physiology. Includes computer formulations and feeding strategies for nutritional management of ruminants.</td>
<td>Prereq: 3130 (330), or Grad standing. Not open to students with credit for 630.01.</td>
<td>Principles of ruminant nutrition: nutrients, metabolism and physiology. Includes computer formulations and feeding strategies for nutritional management of ruminants.</td>
</tr>
<tr>
<td>5032</td>
<td>Non-Ruminant Nutrition</td>
<td>3</td>
<td>Principles of nonruminant nutrition: nutrients, metabolism and physiology. Includes practical feeding strategies for nonruminant animals.</td>
<td>Prereq: 3130 (330), or Grad standing. Not open to students with credit for 630.02.</td>
<td>Principles of nonruminant nutrition: nutrients, metabolism and physiology. Includes practical feeding strategies for nonruminant animals.</td>
</tr>
<tr>
<td>5033</td>
<td>Feeding Management and Records Analysis for Dairy Cattle</td>
<td>3</td>
<td>Stimulates student awareness of unique nutrient metabolism systems and strategies that have evolved to meet nutrient requirements to support various animal production situations.</td>
<td>Prereq: 3130 (330), or Grad standing, or permission of instructor. Not open to students with credit for 630.03.</td>
<td>Stimulates student awareness of unique nutrient metabolism systems and strategies that have evolved to meet nutrient requirements to support various animal production situations.</td>
</tr>
<tr>
<td>5067</td>
<td>Physiology of Lactation</td>
<td>2</td>
<td>The physiological, endocrine, nutritional, and environmental factors influencing the synthesis and ejection of milk.</td>
<td>Prereq: 3147 (317), or Grad standing, or permission of instructor. Not open to students with credit for 617.</td>
<td>The physiological, endocrine, nutritional, and environmental factors influencing the synthesis and ejection of milk.</td>
</tr>
<tr>
<td>5070</td>
<td>Nutritional Immunology in Animal Systems</td>
<td>3</td>
<td>Principles of the role of nutrients in modifying the immune responses of animals and nutrient contributions toward animal health and well-being.</td>
<td>Prereq: 3130 (330) or HumnNtr 2310 (310), or Grad standing. Not open to students with credit for 638.</td>
<td>Principles of the role of nutrients in modifying the immune responses of animals and nutrient contributions toward animal health and well-being.</td>
</tr>
<tr>
<td>5100</td>
<td>Advanced Growth and Development</td>
<td>3</td>
<td>A molecular developmental approach to the study of tissue growth, structure, and function in animals and humans.</td>
<td>Prereq: 3100 or 3105, or Grad standing. Not open to students with credit for 400 or 618.</td>
<td>A molecular developmental approach to the study of tissue growth, structure, and function in animals and humans.</td>
</tr>
<tr>
<td>5131</td>
<td>Application of Nutritional Principles to Ruminant Production Systems</td>
<td>3</td>
<td>Principles of ruminant production, health, ruminant digestion, metabolism, physiology, nutrient requirements, behavior, growth and lactation in the production of meat and milk from ruminants.</td>
<td>Prereq: 4002, 4004, or 4007; or Grad standing; or permission of instructor.</td>
<td>Principles of ruminant production, health, ruminant digestion, metabolism, physiology, nutrient requirements, behavior, growth and lactation in the production of meat and milk from ruminants.</td>
</tr>
</tbody>
</table>
5310 Auditing Animal Production and Processing Facilities  U  G  2

Introduces multiple types of auditing tools currently used by the industry to evaluate best management practices and animal welfare in the production and processing of various food animal species.

5410 Food Animal Production and Processing Industry Tour  U  G  2

Includes travel to food animal production and processing facilities for students to gain first hand knowledge in commercial food animal production and processing.

5530 Comparative Animal Nutrient Metabolism  U  G  3

Principles of nutrient metabolism as influenced by anatomical evolution and diet selection. Includes comprehensive discussions of nutrient handling in domesticated, captive and wild animal populations.
Prereq: 3130 (330) or HumnNtr 2310 (310), and Biochem 4511 (511).

5551 Equine Assisted Activities and Therapies  U  G  2

A variety of approaches, therapeutic settings and client populations will be addressed with an emphasis on equine behavior and body language. Students will gain experience in the development and practical application of an equine assisted therapy program.

5797.01 Welfare of Agricultural and Recreational Animals  U  G  3

This course is part of the long-term study abroad program in Australia. It investigates the role of animal welfare in production and recreational animals and how animal welfare issues will impact the future of global food animal agriculture.
Prereq: 3130 (330), and 3140 (310) or 3140H (310H), and 3150 (320), and permission of instructor. Not open to students with credit for 697.01.

5797.02 Animal Production Systems in Diverse Environments  U  G  3

Part of the long-term study abroad program in Australia. It will investigate animal production systems including: comparing production practices, economic issues and environmental constraints between Australia and the United States.
Prereq: 3130 (330), and 3140 (310) or 3140H (310H), and 3150 (320), and permission of instructor. Not open to students with credit for 697.02.

5797.03 History, Culture and Economies of Australia  U  G  3

Introduces students to key social, political and economic issues that have shaped Australia to its contemporary identity and to investigate issues of exploration, economic development, social and community standards and processes.
Prereq: Permission of instructor.

5797.05 Exotic Animal Behavior and Welfare  U  G  3

Exposes students to behavior, welfare, and health conditions of food production and exotic animals found in South Africa. This is a short-term study abroad course that will include visits to a range of animal systems: intensive production, open-range, semi-contained, sanctuaries, and zoo settings. The class activities take place primarily in field settings.
Prereq: 2400.05.

5810 Branded Meat Products  U  G  4

Integration of multiple factors influencing value-added product development including: raw material quality and procurement, processing, packaging, distribution, and complexity of market development and current consumer trends in niche marketing.
Prereq: 3110, 355.01, or MeatSci 3110; and completion of a second writing course. Not open to students with credit for 555.03 or MeatSci 5810. Cross-listed in MeatSci.

6000 Introduction to Graduate Studies in Animal Sciences  G  1

An introduction to the Animal Sciences discipline and the scholarly activities required to pursue a graduate studies in the field.
Prereq: Grad standing.

6060 Advanced Reproductive Physiology  G  3

Recent advances in research in mammalian reproduction.
Prereq: 3160 (318), or Grad standing, or permission of instructor. Not open to students with credit for 610 or 710.

6090 Anaerobic Microbiology  G  3

Provides an understanding of fundamentals of anaerobic microbiology and applications to animal and human nutrition and bioenergy production.
Prereq: Microb 4100 or 4000, and Biochem 4511; or permission of instructor. Not open to students with credit for 690.

6100 Research Methods and Writing in Animal Sciences  G  1

Emphasis on the literature of science, design of a problem, methods and techniques for investigation and scientific writing.
Prereq: Grad standing.

6193 Individual Studies  G  1 - 6

Special assignments and advanced research problems assigned. Repeatable to a maximum of 10 or 12 credits or 6 completions. This course is graded S/U.

6194 Group Studies  G  1 - 3

Special topics area group studies. Repeatable to a maximum of 6 or 8 credits or 3 completions. This course is graded S/U.

7000 Applied Biometrics  G  3

Study methods used in the quantification of biological processes and the integration of research results and knowledge into quantitative methods.
Prereq: Stat 5301 (528 and 529), or equiv. Not open to students with credit for 668.

7030 Advanced Topics in Ruminant Nutrition  G  3

Advanced aspects of ruminant digestion, microbial fermentation, absorption, metabolism, physiology and the integration of these processes into rationing approaches will be emphasized, building on principles of ruminant nutrition from past courses.
Prereq: 5031 (630.01) or equiv, or Biochem 4511 (511), or permission of instructor. Not open to students with credit for 730.

7100 Animal Growth and Development  G  3

Addresses the advanced principles of animal growth and development as the food animal industries continue to emphasize more efficient growth rates and acceptable meat quality. Specific information will be focused on the structure and function of muscle, bone, and adipose tissues, and the interaction among nutrition, hormones, exercise, heredity and disease.
Prereq: 3100, 3105, or permission of instructor.

7160 Food and Nutritional Toxicology  G  2

Overview of absorption, metabolism and excretion of xenobiotics, allergic and toxic constituents, role of diet in mutagenesis and carcinogenesis, food processing induced toxins and procedures, and laws and regulation of safety assessment of foods.
Prereq: 7761 and 7762, or HumnNtr 7761 and 7762, or FdScTe 7761 and 7762, and 6 or 12 hrs taken at the Grad level in Physiology; or permission of instructor. Not open to students with credit for 830.09, HumnNtr 7620 (830.09), or FdScTe 7620 (830.09).

7160 Food Carbohydrates and Proteins  G  3

Chemical, physical, biological and functional properties of food carbohydrates and proteins and their interactions with other food components.
Prereq: FdScTe 5600 (605) and Biochem 4511 (511), or permission of instructor. Not open to students with credit for FdScTe 822 or 823. Cross-listed in FdScTe.

7730 Endocrinology  G  4

Functional principles of the major endocrine systems in vertebrates and preparation for research in this area.
Prereq: Biochem 4511 (511), or permission of instructor. Not open to students with credit for VetBios 730. Cross-listed in VetBios.

7761 Macronutrient Metabolism  G  4

In-depth treatment of digestion, absorption, transport, and utilization of dietary carbohydrates and fat for energy production and fat deposition in humans and other higher animals.
Prereq: 3130 (330), HumnNtr 2310 (310), or Biochem 4511 (511). Not open to students with credit for 761, 762, HumnNtr 7761 (761 and 762), or FdScTe 7761 (761 and 762). Cross-listed in FdScTe and HumnNtr.

7762 Vitamin and Mineral Metabolism  G  4

Biochemical functions, absorptions, transport, utilization, interrelationships and nutritional requirements of selective vitamins and minerals in higher-vertebrates and humans.
Prereq: Coursework in Biochemistry or Vertebrate Physiology. Not open to students with credit for FdScTe 7762 or HumnNtr 7762. Cross-listed in FdScTe or HumnNtr.

7789 Nutrition Research Design  G  1

Aspects of research design including both ethical considerations as well as how to select appropriate experimental models.
Prereq: Grad standing. Not open to students with credit for HumnNtr 7789. Cross-listed in HumnNtr.

7799 Oral Research Communication  G  1

Critical analysis of the scientific literature and demonstration of effective oral presentation skills tailored to the target audience, with use of information technologies as needed.
Prereq: Grad standing. Not open to students with credit for FdScTe 7799 or HumnNtr 7799 (895). Cross-listed in FdScTe and HumnNtr.

8000 Scientific Philosophy and the Work of Scientists  G  1

Historical and future perspectives of research in the animal sciences, role of theory and evidence in developing scientific knowledge, presentations and reports.
Prereq: Not open to students with credit for 860.

8100 Advances in Physiology of Domestic Animals  G  3

Gain a greater understanding of the research techniques used in the field of domestic animal physiology.
Prereq: Grad standing, and permission of instructor. Not open to students with credit for 810.

8193 Individual Studies  G  1 - 10

Exploratory research and advanced assignments. Prereq: Grad standing, and permission of instructor. This course is graded S/U.

8780 Molecular Biology Techniques  G  3

Demonstrates the applications of molecular biology by involving the students in a real-time research project. Students will perform experiments using molecular biology techniques in the context of a muscle protein functionality study.
Prereq: Biochem 521 or 613, or equiv. Not open to students with credit for 868 and FdScTe 868. Cross-listed in FdScTe.
## Animal Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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</tr>
</thead>
<tbody>
<tr>
<td>8801</td>
<td>Macronutrients - Lipids and Energy Balance</td>
<td>G 3</td>
<td>Discussion of lipids as storage molecules used for energy and metabolism modulation as well as how they influence energy balance conditions such as obesity, cachexia, weight loss and weight gain. Prereq: 7761 (761), FdScTe 7761 (761), or HumnNtr 7761 (761). Not open to students with credit for 830.01, FdScTe 8801 (830.01), or HumnNtr 8801 (830.01). Cross-listed in FdScTe and HumnNtr.</td>
</tr>
<tr>
<td>8802</td>
<td>Advanced Micronutrient Metabolism</td>
<td>G 3</td>
<td>Comparative study of the regulation of micronutrient status and its influence on physiological and molecular events, including nuclear receptor activity and transcription. Prereq: 7762 (762), FdScTe 7762 (762), or HumnNtr 7762 (762). Not open to students with credit for 830.02, FdScTe 8802 (830.02), or HumnNtr 8802 (830.02). Cross-listed in FdScTe and HumnNtr.</td>
</tr>
<tr>
<td>8833</td>
<td>Diet, Nutrition and Cancer</td>
<td>G 3</td>
<td>Epidemiological, clinical and basic perspective of how diet and nutrition practices predict for cancer risk. Prereq: 7761 (761), FoodSoc 7761 (761), or HumnNtr 7761 (761). Not open to students with credit for 830.12, HumnNtr 8833 (830.12), or FdScTe 8833 (830.12). Cross-listed in FdScTe and HumnNtr.</td>
</tr>
<tr>
<td>8834</td>
<td>Comprehensive Approach to Food Safety</td>
<td>G 2</td>
<td>A comprehensive overview of food safety challenges and solutions as experienced through the food chain from farm to consumers. Demonstration of food safety system from cellular aspects though public policy. Prereq: Microbiol 509 or equiv. Not open to students with credit for 830.10, FdScTe 8834 (830.10), or HumnNtr 8834 (830.10). Cross-listed in FdScTe and HumnNtr.</td>
</tr>
<tr>
<td>8835</td>
<td>Grantsmanship</td>
<td>G 1</td>
<td>Capstone course for the OSU PhD program will train students on grantmanship skills. Prereq: Grad standing. Not open to students with credit for FdScTe 8835 or HumnNtr 8835. Cross-listed in FdScTe and HumnNtr.</td>
</tr>
<tr>
<td>8836</td>
<td>Advanced Nutritional Genomics</td>
<td>G 3</td>
<td>The primary goal of the course is to stimulate critical thinking and discussion among graduate students about current research findings in the areas of genomics, proteomics and metabolomics as they apply to studies in the nutritional sciences. Prereq: 7761 and 7762, or HumnNtr 7761 and 7762. Cross-listed in HumnNtr.</td>
</tr>
<tr>
<td>8880</td>
<td>Interdisciplinary Seminar</td>
<td>G 1</td>
<td>Discussions of current animal science research. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8881</td>
<td>General Seminar</td>
<td>G 1</td>
<td>Discussions of current animal science research. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8882</td>
<td>Nutrition Seminar</td>
<td>G 1</td>
<td>Discussions of current nutrition research. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is progress graded (S/U).</td>
</tr>
<tr>
<td>8883</td>
<td>Physiology Seminar</td>
<td>G 1</td>
<td>Discussion of current animal physiology research. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8884</td>
<td>Genetics Seminar</td>
<td>G 1</td>
<td>Discussions of current genetic research. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8885</td>
<td>Animal Products Seminar</td>
<td>G 1</td>
<td>Discussions of current animal production and animal products research. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8888</td>
<td>OSUN Research Seminar</td>
<td>G 1</td>
<td>Recent advances in nutrition science are presented by locally, nationally and internationally recognized scientists. Prereq: Grad standing. Not open to students with credit for FdScTe 8888 or HumnNtr 8888. Repeatable to a maximum of 5 cr hrs. This course is graded S/U. Cross-listed in FdScTe and HumnNtr.</td>
</tr>
<tr>
<td>8997</td>
<td>Graduate Writing Experience in Animal Sciences: Non-Thesis</td>
<td>G 3</td>
<td>Writing for non-thesis MS students in Animal Sciences. Prereq: Grad standing, and permission of instructor. Only available to students obtaining a non-thesis MAS in Animal Sciences. This course is graded S/U.</td>
</tr>
<tr>
<td>8998</td>
<td>Thesis Research</td>
<td>G 1 - 15</td>
<td>Research for thesis purposes only. Prereq: Grad standing, and permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8999</td>
<td>Research</td>
<td>G 1 - 15</td>
<td>Research for dissertation purposes only. Prereq: Grad standing, and permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
</tbody>
</table>

### Animal Sciences Technology

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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>1201.01T</td>
<td>Exploring Equine Careers and Industry</td>
<td>U ½</td>
<td>Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.</td>
</tr>
<tr>
<td>1201.02T</td>
<td>Exploring Livestock Careers and Industry</td>
<td>U ½</td>
<td>Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.</td>
</tr>
<tr>
<td>1201.07T</td>
<td>Exploring Dairy Careers and Industry</td>
<td>U ½</td>
<td>Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.</td>
</tr>
<tr>
<td>2100T</td>
<td>Appreciation of Companion and Production Animals</td>
<td>U 3</td>
<td>Exploration of domestic companion and production animal systems, the interactions between these two systems and each other, the environment, human health, and the economic impact of these animal industries on human behavior. This course is available for EM credit.</td>
</tr>
<tr>
<td>2189.01T</td>
<td>Horse Practicum</td>
<td>U 1</td>
<td>Practical experience in supervised equine laboratories with emphasis on developing and improving competencies related to classroom objectives and horse industry standards. A grade of C or better required to meet graduation requirements. Repeatable to a maximum of 4 cr hrs.</td>
</tr>
<tr>
<td>2189.07T</td>
<td>Practicum in Dairy Cattle Production</td>
<td>U 1 - 2</td>
<td>Supervised practical experience in dairy cattle production at the Ohio State ATI dairy farm with emphasis on developing and improving dairy cattle production skills and competencies. A grade of C or better required to meet graduation requirements. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>2189.08T</td>
<td>Practicum in Livestock Production and Management</td>
<td>U 1 - 2</td>
<td>Supervised practical experience in livestock production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving livestock production skills and competency. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>2190.01T</td>
<td>Leadership in Equine Operations Management</td>
<td>U 1</td>
<td>Practical, supervised leadership experience in equine facility management with emphasis on herd and facility operations and personnel supervision. A grade of C or better required to meet graduation requirements. Prerequisite: Completion of tractor/mobile equipment safety certification process required. Prereq: 2189.01T (289.04T) with a grade of C or above; 2201T (211T). Repeatable to a maximum of 2 cr hrs.</td>
</tr>
<tr>
<td>2193T</td>
<td>Individual Studies</td>
<td>U 1 - 3</td>
<td>Designed to give an individual student an opportunity to pursue special studies not offered in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>2194T</td>
<td>Group Studies</td>
<td>U 1 - 3</td>
<td>Designed to give groups of students an opportunity to pursue special studies not offered in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
</tr>
<tr>
<td>2200T</td>
<td>Introduction to Animal Sciences</td>
<td>U 3</td>
<td>Introduction to animal agriculture, its purpose, terms, products, problems, and basic management principles. Prereq: Not open to students with credit for 210T or AnimSci 200. This course is available for EM credit.</td>
</tr>
<tr>
<td>2201T</td>
<td>Introduction to Horse Science</td>
<td>U 3</td>
<td>Fundamental survey of the development of domestic horses and breeds, terminology, behavior, uses, conformation, management and safe horse handling. Prereq: Not open to students with credit for 211T. This course is available for EM credit.</td>
</tr>
<tr>
<td>2202T</td>
<td>Introduction to Beef and Small Ruminant Production</td>
<td>U 3</td>
<td>Overview of beef cattle, sheep, goat, and other small ruminant species industries with regard to production and marketing; focus on ruminant livestock needs and the opportunities involved in their production. Prereq: Not open to students with credit for 222.01T. This course is available for EM credit.</td>
</tr>
<tr>
<td>2300T</td>
<td>Introduction to Animal Sciences Laboratory</td>
<td>U 1</td>
<td>Laboratory application of basic animal husbandry practices in the various livestock and related industries. Prereq or concur: 2200T. Not open to students with credit for 210T or AnimSci 200. This course is available for EM credit.</td>
</tr>
</tbody>
</table>
2400T Sustainable Animal Systems and Marketing U 3
Introduction to principles, practices, and marketing of animal products in a sustainable management system.
PreReq: CrPr:Soil 220T (207T). This course is available for EM credit.

2510.02T Food Animal Resource Management I - Beef U 1
Supervised practical experience in beef production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving beef production and management skills and competency. A grade of C or better required to meet graduation requirements. Repeatable to a maximum of 4 cr hrs.

2510.03T Food Animal Resource Management I - Swine U 1
Supervised laboratory experience in swine production at the Ohio State ATI swine farm with emphasis on developing and improving competency in swine production skills. A grade of C or better required to meet graduation requirements. Repeatable to a maximum of 4 cr hrs.

2510.04T Food Animal Resource Management I - Small Ruminants U 1
Supervised practical experience in small ruminant production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving small ruminant production and management skills and competency. A grade of C or better required to meet graduation requirements. Repeatable to a maximum of 4 cr hrs.

2582.02T Food Animal Resource Management II - Beef U 1
Supervised practical experience in beef production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving leadership characteristics, beef production and management skills and competency. A grade of C or better required to meet graduation requirements. PreReq: 2510.02T. Repeatable to a maximum of 4 cr hrs.

2582.03T Food Animal Resource Management II - Swine U 1
Supervised practical experience in swine production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving leadership characteristics, swine production and management skills and competency. A grade of C or better required to meet graduation requirements. PreReq: 2510.03T. Repeatable to a maximum of 4 cr hrs.

2582.04T Food Animal Resource Management II - Small Ruminants U 1
Supervised practical experience in small ruminant production and management at the Grace Drake Learning Laboratory with emphasis on developing and improving leadership characteristics, small ruminant production and management skills and competency. A grade of C or better required to meet graduation requirements. PreReq: 2510.04T. Repeatable to a maximum of 4 cr hrs.

2603T Swine Production and Management I U 3
A study of the basic principles of production and management for contemporary commercial swine production enterprises. 1 to 3 day field trips, including weekends, may be required. Students will pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition and fees. PreReq: Not open to students with credit for 222.02T. This course is available for EM credit.

2613T Swine Production and Management II U 3
An advanced study of the principles of managing a commercial swine enterprise. Coordination of production programs, evaluating economic performance, and a survey of contemporary swine housing and equipment options. 1 to 3 day field trips, including weekends, may be required. Students will pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition & fees. PreReq: 2603T (222.02T), 3140T (221T), 3170T (225T), 3130T (240T). PreReq or concur: 3133T, 3150T (205.01T or 245T). Not open to students with credit for 2777. This course is available for EM credit.

2707T Dairy Cattle Presentation U 1
Principles and skills practiced in fitting, presenting, and merchandising dairy cattle. Course offered in even numbered years. Field trips, including weekends, may be required. Students will pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition and fees. PreReq: Not open to students with credit for 206T. This course is available for EM credit.

2787.01T Applied Dairy Herd Practices and Management - Milking U 1
Experience in applying, directing, and evaluating dairy herd management procedures and practices at the Ohio State ATI dairy farm; emphasis on milking practices and management. A grade of C or better required to meet graduation requirements. PreReq: Completion of tractor/mobile equipment safety certification process. PreReq: 3167T (201T), 3177T (252T), 3207T (201T); Soph standing; permission of instructor. PreReq or concur: 3407T (201T). Not open to students with credit for 257T.

2787.02T Applied Dairy Herd Practices and Management - Health and Reproduction U 1
Experience in applying, directing, and evaluating dairy herd management procedures and practices at the Ohio State ATI dairy farm; emphasis on health and reproduction practices and management. A grade of C or better required to meet graduation requirements. PreReq: Completion of tractor/mobile equipment safety certification process. PreReq: 3167T (203T), 3177T (252T), 3207T (201T); Soph standing; permission of instructor. Not open to students with credit for 257T.

2787.03T Applied Dairy Herd Practices and Management - Nutrition and Feeding U 1
Experience in applying, directing, and evaluating dairy herd management procedures and practices at the Ohio State ATI dairy farm; emphasis on nutrition and feeding practices and management. A grade of C or better required to meet graduation requirements. PreReq: Completion of tractor/mobile equipment safety certification process. PreReq: 3207T (201T), 3167T (201T and 203T), 3177T (252T); Soph standing; permission of instructor. PreReq or concur: 3130T (240T), 3137T (254T), and 3407T (255T). Not open to students with credit for 257T.

2797T Dairy Industry Seminar and Experience U 1
Current trends, issues, technology, and developments in the dairy industry; emphasis on developing lifelong learning skills through evaluation of science/trade journals, participation in professional meetings, and visits to innovative businesses. 1 to 3 day field trips, including weekends, may be required. Students pay field trip costs of lodging, meals, etc. above Ohio State tuition and fees. PreReq: Permission of instructor. Concur: 2189.01T or 2190.01T. Not open to students with credit for 213T. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

2801T Horsemanship and Equitation U 3
Intermediate course in equitation with emphasis on continued development of balanced seat riding skills that incorporate natural horsemanship concepts into mounted work. Students should have riding proficiency at walk, trot, and canter. PreReq: Permission of instructor. Concur: 2189.01T or 2190.01T. Not open to students with credit for 288.01T.

3101T Equine Marketing and Facility Management U 4
A study of the principles of safe and efficient equine facility design and the basic factors of managing and marketing horses and horse facilities. PreReq: 2201T and 2189.01T. This course is available for EM credit.

3130T Principles of Animal Nutrition U 2
A study of the nutrients and the basic principles involved in the feeding of domestic animals, including the characteristics/composition of feeds and factors that affect feed utilization. Recommended preqs: 2201T and 3140T; GenBio1 1201T (122T) or Biology 1113 (113). PreReq: Not open to students with credit for 214T or 240T. This course is available for EM credit.

3131T Equine Feeding and Nutrition U 2
A study of the nutritional needs of equine and of the principles and practices involved in providing balanced rations to different nutritional classes of equine. PreReq: 3130T; GenMath 1040T or Math 1050 or Math placement level R or higher. This course is available for EM credit.

3132T Principles in Ruminant Nutrition U 2
Principles of beef cattle and small ruminant nutrient requirements and feeding management with emphasis on the critical evaluation and formulation of rations in current management situations. PreReq: 2202T, 3130T; GenMath 1040T or Math 1050 or Math placement level R or higher. This course is available for EM credit.

3133T Principles of Swine Nutrition U 2
A study of the basic nutritional requirements of swine, common feedstuffs and ration balancing. PreReq: 3130T (240T). This course is available for EM credit.

3157T Dairy Cattle Feeding Management U 2
Principles of dairy cattle feeding management with emphasis on the critical evaluation and formulation of rations in current management situations. PreReq: GenMath 1040T or Math 1050 or Math placement level R or higher. PreReq or concur: 3130T. This course is available for EM credit.

3140T Animal Anatomy and Physiology U 4
An introductory study of the structure and functions of the various organ systems of domestic animals. Recommended preq: GenBio1 1201T (122T) or Biology 1113 (113). PreReq: Not open to students with credit for 221T. This course is available for EM credit.
24 Animal Sciences Technology

3141T Racehorse Training and Conditioning U 3
The study of the horse as an athlete, including biomechanics, physiological systems response to exercise, applied principles of conditioning and training methods, and the use of current horse rehabilitation therapeutic modalities. Recommended prereq: 3140T (221T). Prereq: 2201T (211T), 3130T (214T). Concur: 2189.01T or 2190.01T. Not open to students with credit for 262T. This course is available for EM credit.

3150T Livestock Genetic Improvement U 3
Principles of inheritance and the genetic improvement of livestock through cellular, qualitative, and population genetics; emphasizing breeding values, selection, and mating systems. Prereq: GenBiol 1200T or Biology 1112; GenMath 1040T or Math 1050 or Math placement level R or higher. This course is available for EM credit.

3151T Horse Breeding and Selection U 3
Principles of equine breeding management with emphasis on applied equine reproductive physiology, breeding methods, breeding stock management and basic genetics and selection. Recommended prereq: 3140T (221T) or GenBiol 1200T (120T). Prereq: 2201T (211T). Not open to students with credit for 262T. This course is available for EM credit.

3157T Dairy Cattle Genetic Improvement U 3
Principles of inheritance and the genetic improvement of dairy cattle through cellular, qualitative, and population genetics; emphasizing breeding values, selection, and mating systems. Prereq: GenBiol 1200T or Biology 1113; GenMath 1040T or Math 1050 or Math placement level R or higher. This course is available for EM credit.

3161T Applied Equine Reproductive Management U 2
Advanced course in equine reproductive management with emphasis on understanding and improving equine infertility; applications of current research; and development of technical skills. Prereq: 2201T (211T), Prereq or concur: 3151T (266T), Concur: 2189.01T or 2190.01T. Not open to students with credit for 269T.

3167T Dairy Cattle Milking and Reproductive Management U 4
A study of recommended dairy cattle milking and reproductive management practices, based on the anatomy and physiology of the systems. Prereq: Not open to students with credit for 201T and 203T. This course is available for EM credit.

3170T Principles of Livestock Health U 3
A basic introduction to the relationship between animal health and performance. Topics include: immunology, sanitation, disease etiology, and disease prevention, symptoms, and treatment. Prereq or concur: 3140T (221T). Not open to students with credit for 225T. This course is available for EM credit.

3171T Horse Health and Disease U 3
Study of equine disease, lameness and emergency first aid with emphasis on preventative health care and the manager's role with the veterinary professional. Recommended prereq: 3140T (221T). Prereq: 2201T (211T). Not open to students with credit for 264T. This course is available for EM credit.

3177T Dairy Cattle Health Management U 4
A study of immunology and dairy cattle health management, including disease prevention, identification, and treatment of common diseases influencing the performance of dairy cattle. Prereq: Not open to students with credit for 201T, 203T, and 252T. This course is available for EM credit.

3191.01T Equine Industry Internship Experience U 1 - 3
Employment in the equine industry structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty; written comprehensive report required. A grade of C or better required to meet graduation requirements. Prereq: 2189.01T (289.04T), 2201T (211T), CPRH 2.0 or above, Soph standing, and permission of instructor. Not open to students with credit for 290.04T. Repeatable to a maximum of 4 cr hrs or 2 completions.

3191.02T Beef Industry Internship U 2 - 3
Employment in the beef industry structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty; written comprehensive report required. A grade of C or better is required to meet graduation requirements. Prereq: 2202T, 2510.02T; CPRH 2.0 or above; permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

3191.03T Swine Industry Internship U 2 - 3
Employment in swine industry structured to provide varied occupational experiences; supervised by an industry employer & coordinated by faculty; written comprehensive report required. A grade of C or better is required to meet graduation requirements. Prereq: 2603T, 2510.03T; CPRH 2.0 or above; permission of instructor. Not open to students with credit for 290.02T. Repeatable to a maximum of 6 cr hrs or 3 completions.

3191.04T Small Ruminant Industry Internship U 2 - 3
Employment in a small ruminant industry structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty; comprehensive report required. A grade of C or better is required to meet graduation requirements. Prereq: 2202T, 2510.04T; CPRH 2.0 or above; permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

3191.07T Dairy Industry Internship U 2 - 3
Employment in the dairy industry structured to provide varied occupational experiences; supervised by an industry employer and coordinated by faculty; comprehensive report required. A grade of C or better is required to meet graduation requirements. Prereq: 3167T (201T and 203T), 2307T (220T), 3177T (225T); CPRH 2.0 or above; permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions.

3200T Livestock Selection and Evaluation U 2
Principles of live animal selection and carcass evaluation of livestock. Prereq: 2200T (210T) or 2202T (222.01T) or 2603T (220.02T) or 3140T (221T). Not open to students with credit for 223T.

3201T Horse Judging and Evaluation U 2
Comparative evaluation of horse conformation by breed, assessment of performance in a variety of performance disciplines; development of tools for assessing and placing show horse classes. Prereq: Not open to students with credit for 212T. This course is available for EM credit.

3202T Dairy Cattle Evaluation and Record Keeping U 2
Comparative evaluation of dairy cattle conformation and introduction to herd performance records; emphasis on breed characteristics, functional type, lifetime profitability, and record data collection, analysis, and use. Prereq: Not open to students with credit for 210T and 212T. This course is available for EM credit.

3402T Beef Production and Management U 3
The application of science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of beef cattle in breeding and feeding production programs. 1 to 3 day field trips, including weekends, may be required. Students will pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition and fees. Recommended prerequisites: 2582.02T, 3130T, 3132T, 3140T, 3150T, and 3170T.

3402T Dairy Production and Management U 3
The application of science and basic principles of nutrition, genetics, physiology, and marketing to the production and management of sheep, goats, and other small ruminants. One to 3 day field trips, including weekends, may be required. Students will pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition and fees. Recommended prerequisites: 2582.04T, 3130T, 3132T, 3140T, 3150T, and 3170T.

3403T Beef and Beef Production Systems U 3
Design and management of agricultural and sideline enterprises; emphasis on feeding systems, and utilities. 1 to 3 day field trips, including weekends, may be required. Students pay costs associated with field trips (lodging, transportation, meals, etc.) above Ohio State tuition and fees. Prereq: GenBiol 1040T or Math 1050 or Math placement level R or higher. Prereq or concour: 3167T. This course is available for EM credit.

3800T Principles of Farm Business Management U 4
A study of economic and management principles involved in planning, organizing, operating, and administering a farm business; emphasis placed on developing a business plan and problem solving. Prereq: AEDEcon 2105 (BusRuc 101T or 102T). Prereq or concur: BusRuc 1151T (151T) or AEDEcon 2001 (200). Not open to students with credit for BusRuc 240T. This course is available for EM credit. Cross-listed in CrpSoil.

3887T Integrated Dairy Farm Business Management U 4
A study of dairy farm business management combining business, financial, and animal management principles, practices, and strategies; emphasis placed on developing a business plan and problem solving. Prereq: AEDEcon 2105 (BusRuc 101T or 102T); BusRuc 1151T (151T) or AEDEcon 2001 (200); Soph standing; minimum of 10 cr hrs in AnmlTec. Not open to students with credit for 201T and 258T. This course is available for EM credit.

Anthropology

1100 Introduction to Anthropology U 3
Introductory exploration of what it means to be human. Course highlights the anthropological sub disciplines of archaeology, biological anthropology, cultural anthropology, and linguistic anthropology. GE cultures and ideas and soc sci orgs and polities and diversity global studies course.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>219</td>
<td>Group Studies</td>
<td>1 - 3</td>
<td>Repeetable.</td>
</tr>
<tr>
<td>220</td>
<td>Introduction to Physical Anthropology</td>
<td>4</td>
<td>A scientific examination of humans as a biological and cultural organism based on primate evolution from living and fossil evidence; evolutionary theory and population adaptability. This course includes laboratory activities. Prereq: Biology 1101 (101) or equiv. Not open to students with credit for 220. GE nat sci bio course.</td>
</tr>
<tr>
<td>220H</td>
<td>Introduction to Physical Anthropology</td>
<td>4</td>
<td>A scientific examination of humans as a biological and cultural organism based on primate evolution from living and fossil evidence; evolutionary theory and population adaptability. This course includes laboratory activities. Prereq: Honors standing, and Biology 1101 (101) or equiv; or Honors standing, and permission of department or instructor; or Biology 1101 (101) or equiv, and permission of department of instructor. Not open to students with credit for 2200 (200) or 200H. GE nat sci bio course.</td>
</tr>
<tr>
<td>2201</td>
<td>Introduction to Archaeology</td>
<td>3</td>
<td>World prehistory from the origin of human culture through the development of civilization illustrated by selected examples; archaeological field method; concepts of analysis and interpretation. Prereq: Not open to students with credit for 2201H (201H) or 201. GE soc sci indivs and groups and diversity global studies course.</td>
</tr>
<tr>
<td>2201H</td>
<td>Introduction to Archaeology</td>
<td>3</td>
<td>World prehistory from the origin of human culture through the development of civilization illustrated by selected examples; archaeological field method; concepts of analysis and interpretation. Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for 2201 (201) or 201H. GE soc sci indivs and groups and diversity global studies course.</td>
</tr>
<tr>
<td>2202</td>
<td>Peoples and Cultures: An Introduction to Cultural Anthropology</td>
<td>3</td>
<td>Comparative survey of traditional and contemporary peoples in the several world culture regions; culture concepts; study of selected topics. Prereq: Not open to students with credit for 202. GE soc sci indivs and groups and diversity global studies course.</td>
</tr>
<tr>
<td>2202H</td>
<td>Peoples and Cultures: An Introduction to Cultural Anthropology</td>
<td>3</td>
<td>Comparative survey of traditional and contemporary peoples in the several world culture regions; culture concepts; study of selected topics. Prereq: Honors standing, or permission of instructor or department. Not open to students with credit for 2202 (202) or 202H. GE soc sci indivs and groups and diversity global studies courses.</td>
</tr>
<tr>
<td>2241</td>
<td>The Middle East Close-Up: People, Cultures, Societies</td>
<td>3</td>
<td>Introduction to the culture of the Middle East as lived in its villages, towns, and cities. Prereq: Not open to students with credit for 241 or NELC 2241 (241). GE cultures and ideas and diversity global studies course. Cross-listed in NELC.</td>
</tr>
<tr>
<td>3191</td>
<td>Internship in Anthropology</td>
<td>1 - 6</td>
<td>An opportunity for work experience and on-the-job learning in anthropology-related employment. Prereq: 2.5 CPRH or above, and Soph, Jr, or Sr standing, and enrollment in Anthropology major. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>3211</td>
<td>Introduction to Forensic Science</td>
<td>3</td>
<td>This team-taught interdisciplinary course will give students an introduction to the major concepts, issues and techniques used in forensic science. It is designed to expose students to different disciplines and career paths within forensic science. Prereq: Not open to students with credit for ArtsSci 211.</td>
</tr>
<tr>
<td>3300</td>
<td>Human Origins</td>
<td>3</td>
<td>The search for human origins through a reconstruction of the human and non-human primate fossil records of the last 60 million years; emphasis on human skeletal, behavioral, and social patterns. Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 300.</td>
</tr>
<tr>
<td>3301</td>
<td>Modern Human Physical Variation</td>
<td>3</td>
<td>Survey of modern human biological diversity; examination of the underlying evolutionary and adaptive mechanisms responsible; exploration of the interplay between biology and behavior in adaptation. Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 301.</td>
</tr>
<tr>
<td>3302</td>
<td>Introduction to Medical Anthropology</td>
<td>3</td>
<td>Relationship of anthropology to the art and science of medicine. Prereq: 2220 (201) and 2202 (202), or permission of instructor. Not open to students with credit for 302.</td>
</tr>
<tr>
<td>3304</td>
<td>The Living Primates</td>
<td>3</td>
<td>Survey of the behavior, morphology and conservation of living primates; particular emphasis given to field studies and the position of humans within the Order Primates. Prereq: Not open to students with credit for 304. GE nat sci bio course.</td>
</tr>
<tr>
<td>3305</td>
<td>Introduction to Forensic Anthropology</td>
<td>3</td>
<td>An introduction to the field of forensic anthropology in which students will be introduced to basic methods used to analyze unidentified human skeletal remains. Prereq: Not open to students with credit for 305.</td>
</tr>
<tr>
<td>3315</td>
<td>Evolution: Contemporary and Interdisciplinary Perspectives</td>
<td>3</td>
<td>Develop an understanding of the interplay among different disciplinary approaches to evolutionary studies. Prereq: One Biology, Anthrop, or EarthSc course. Not open to students with credit for 315 or EarthSc 3315 (315). Cross-listed in EarthSc 3315 (315).</td>
</tr>
<tr>
<td>3334</td>
<td>Zombies: The Anthropology of the Undead</td>
<td>3</td>
<td>Students will understand how culture and social organization help us define the living, the dead and the undead in the contemporary and archaeological record, and how we create social categories that organize our world and its place.</td>
</tr>
<tr>
<td>3350</td>
<td>Prehistoric Indians of the Ohio Valley</td>
<td>3</td>
<td>The archaeology and cultural history of the Ohio Valley from the first human settlement to European colonization, emphasizing the Adena, Hopewell, and Ft Ancient traditions. Prereq: 2201 (201), or permission of instructor. Not open to students with credit for 350.</td>
</tr>
<tr>
<td>3400</td>
<td>Contemporary Views of the Ancient Near East</td>
<td>3</td>
<td>An examination of the intrinsic and extrinsic factors putting lemurs, lorises, monkeys and apes at risk, and a critical evaluation of conservation strategies throughout their habitats.</td>
</tr>
<tr>
<td>3401</td>
<td>Fundamentals of Archaeology</td>
<td>3</td>
<td>Pre- and post-Holocene, Neolithic, and Chalcolithic traditions. Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 402.01.</td>
</tr>
<tr>
<td>3403</td>
<td>Polynesia and the South Pacific</td>
<td>3</td>
<td>The archaeology and cultural history of Polynesia and the South Pacific. Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 402.02.</td>
</tr>
<tr>
<td>3409</td>
<td>Primate Evolution</td>
<td>3</td>
<td>Examination of the origin, radiation, and (in some cases) extinction of each primate clade including prosimians, New World monkeys, Old World monkeys, apes, and humans. Prereq: Not open to students with credit for 409.</td>
</tr>
<tr>
<td>3410</td>
<td>Primate Conservation</td>
<td>3</td>
<td>The archaeology and cultural history of Polynesia and the South Pacific. Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 411.</td>
</tr>
<tr>
<td>3416</td>
<td>Latin American Peoples and Cultures</td>
<td>3</td>
<td>Latin American peoples and cultures. Prereq: Not open to students with credit for 416.</td>
</tr>
<tr>
<td>3417</td>
<td>Anthropology of China</td>
<td>3</td>
<td>A general survey of the traditional Chinese culture and society; family, kinship, and socio-political organizations; their transformations during the last century. Prereq: Not open to students with credit for 421.01.</td>
</tr>
<tr>
<td>3418</td>
<td>Regional Survey of the Anthropology of Africa</td>
<td>3</td>
<td>Overview of anthropological studies of traditional African societies, with themes of European colonialism, kinship, social organization, economics, and politics. Prereq: Not open to students with credit for 421.05.</td>
</tr>
<tr>
<td>3419</td>
<td>Regional Survey of Latin American Cultures and Migration in Global Perspectives</td>
<td>3</td>
<td>An intensive ethnographic investigation of Latin American and Caribbean migration (Mexico, Ecuador, The Dominican Republic) including the history of migration; contemporary movement; and transnationalism. Prereq: Not open to students with credit for 421.06.</td>
</tr>
</tbody>
</table>
Indians of North America

Challenges students to evaluate the cultural phenomena that are Bible and Qur'an in their historical context by studying a broad range of archaeological cultures in the periods during which the Bible and Qur'an came to be written texts. The course provides an introduction to the archaeology of periods and cultures 3500 BCE-700 CE in the Holy Land and its neighbors. GE cultures and ideas course.

Archaeology of the Levant, Mesopotamia and Egypt from human origins through the age of pyramids and ziggurats.

Prereq: Not open to students with credit for 451.

Introduces the prehistory of the Pacific Islands from an archaeological perspective. It emphasizes voyaging, colonization, and the emergence of cultural complexity.

Prereq: Not open to students with credit for 452.

An evolutionary approach to the diversity of mating systems, morphologies, processes, and behaviors among prosimians, monkeys, apes, and humans.

Prereq: 2200 (200). Not open to students with credit for 500.

Introduction to the Methods of Archaeological Science

Introduces students to the myriad of interdisciplinary techniques that allow us to understand the human condition. Reviewed methods and case studies include ancient DNA analysis, stable and radiogenic isotopes, zooarchaeology, paleoethnobotany, material science, remote sensing, etc. This course is taught at an introductory level for non-science majors. Anthrop 2201 is suggested.

History of modern biotic communities, biological evidence of climatic change during the late glacial and Holocene, and exploration of the responses of terrestrial ecosystems to climatic functions.

Prereq: Honors standing, and Jr or Sr standing. Not open to students with credit for 597.03. GE cross-disciplinary seminar course.

The Prehistory of Environment and Climate

History of modern biotic communities, biological evidence of climatic change during the late glacial and Holocene, and exploration of the responses of terrestrial ecosystems to climatic functions.

Prereq: Honors standing, and Jr or Sr standing. Not open to students with credit for 597.03. GE cross-disciplinary seminar course.

The Molecular Revolution: Genes, Genomes, and Genomania

Interface of genetic technology, genome project, and health against background of societal tensions, genomania, and dilemmas of genetic testing, and repercussions of molecular revolution.

Prereq: Jr or Sr standing. Not open to students with credit for 597.04. GE cross-disciplinary seminar course.

The Global Food Crisis

This multidisciplinary course explores the causes, consequences and potential solutions to the global food crisis.

Prereq: Honors standing, and Jr or Sr standing. Not open to students with credit for 597.05H. GE cross-disciplinary seminar course.

Research Design and Ethnographic Methods

Students learn to study anthropological problems through hands on experience with ethnographic methods, critical discussion of issues in ethnographic research, and design of an ethnographic study.

Prereq: Honors standing. Not open to students with credit for 650H.

Undergraduate Research in Anthropology

Undergraduate research in variable topics.

Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

Undergraduate Thesis Research

Undergraduate thesis research.

Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

Honors Thesis Research

Honors Thesis Research.

Prereq: Honors standing, and a grade of A in at least half of Anthrop courses taken, and an average of B in the remainder, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

Individual Studies: Theory

An analysis of cultural conflict in developing nations resulting from rapid and extensive technological and social change.

Prereq: Not open to students with credit for 4993.01 or 597.01. GE soc sci indivs and groups course.

Individual Studies: History

History.

Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Individual Studies: Anthropological Linguistics

Anthropological Linguistics.

Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Individual Studies: Research Methodology

Research Methodology.

Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Individual Studies: Prehistory

Prehistory.

Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Individual Studies: Ethnography

Ethnography.

Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Individual Studies: Physical Anthropology

Physical Anthropology.

Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Individual Studies: Unclassified

Unclassified.

Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Group Studies

Designed to give groups of students an opportunity to pursue special studies in topics not otherwise offered.

Prereq: Permission of instructor. Repeatable.

Evolutionary Medicine

Biomedical and biosocial influences on problems of human health throughout the world, focusing upon the evolutionary implications of those problems.

Prereq: Not open to students with credit for 601.01.

The Anthropology of Sex, Drugs, and HIV

Biocultural and sociocultural aspects of health in modern and prehistoric populations.

Prereq: Not open to students with credit for 601.02.

Women's Health in Global Perspective

A cross-cultural comparison of the political, economic, social, and biological issues surrounding women's health.

Prereq: 2200 (200), or permission of instructor. Not open to students with credit for 601.04.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>UG</th>
<th>Credits</th>
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<td>5603</td>
<td>Strategy of Archaeological Field Research</td>
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<td>5604</td>
<td>Archaeological Laboratory Methods</td>
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<td>Environmental Archaeology</td>
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<td>5606</td>
<td>Who Owns the Past?</td>
<td>U  G</td>
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<td>5607</td>
<td>Human Osteology</td>
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<td>5608</td>
<td>Skeletal Biology</td>
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<td>Dental Anthropology</td>
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<td>Bioarchaeology</td>
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<td>5611</td>
<td>Comparative Morphology of Mammals</td>
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<td>Ethnobotany</td>
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<td>5615</td>
<td>Evolutionary Perspectives on Human Behavior</td>
<td>U  G</td>
<td>3</td>
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<tr>
<td>5620</td>
<td>Hunters and Gatherers</td>
<td>U  G</td>
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<td>5621</td>
<td>The Anthropology of Women</td>
<td>U  G</td>
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<td>Peasant Society and Culture</td>
<td>U  G</td>
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<td>Environmental Anthropology</td>
<td>U  G</td>
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<tr>
<td>5624</td>
<td>The Anthropology of Food: Culture, Society and Eating</td>
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**Anthropology 27**

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<th>Course Code</th>
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<td>Anthropology of Religion</td>
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<td>More: Culture and Economic Life</td>
<td>U  G</td>
<td>3</td>
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<td>5630</td>
<td>Language and Culture in Education</td>
<td>U  G</td>
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<td>Primate Behavior</td>
<td>U  G</td>
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<tr>
<td>5644</td>
<td>Forensic Anthropology</td>
<td>U  G</td>
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<td>5645</td>
<td>Biology of Senescence</td>
<td>U  G</td>
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<td>Research Design and Ethnographic Methods</td>
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<td>5651</td>
<td>Spatial Analysis for Anthropologists</td>
<td>U  G</td>
<td>3</td>
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<td>Summer Field School in Archaeology</td>
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<td>2 - 15</td>
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<td>5686</td>
<td>Forensic Science, Forensic Anthropology and Forensic Archaeology Summer Field School</td>
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<td>Study at a Foreign Institution</td>
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<tr>
<td>7194</td>
<td>Group Studies</td>
<td>G</td>
<td>2 - 80</td>
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Anthropology

7701 Advanced Topics in Physical Anthropology: Modern Human Physical Variation G 3
Discussion of advanced topics in human variation and hominin evolution; emphasis on critical analysis and evolution of theoretical topics in research design. Survey of modern human biological diversity; underlying evolution and adaptability. Prereq: Not open to students with credit for 701.01.

7702 Advanced Topics in Physical Anthropology: Homo G 3
Paleoanthropology
Advanced topics in human variation and hominin evolution; emphasis on critical analysis and evolution of theoretical topics in research design. Prereq: Not open to students with credit for 701.02.

7703 Theories in Cultural Anthropology G 3
Major theoretical orientations in cultural anthropology; the developmental histories of the major theoretical schools and examination of their respective philosophical foundations. Prereq: Not open to students with credit for 702.

7704 Culture and Language G 3
Development and range of anthropological concerns with language; emphasis on utility of linguistic approaches, methods, and theories to other subdisciplines of anthropology. Prereq: Grad standing in Anthrop. Not open to students with credit for 703.

7720 Teaching In Anthropology G 3
Focuses on skills and pedagogy involved in teaching introductory anthropology. Prereq: Grad standing in Anthrop. Not open to students with credit for 720.

7747 Foundations of Anthropology G 3
The foundations of anthropological theory in all subdisciplines is explored in an historical and interdisciplinary context. Prereq: Not open to students with credit for 747.

7750 Osteology and Odontology Methods G 4
Advanced theoretical and practical study of an osteological or odontological problem from data collection through data analysis to the presentation of results. Prereq: 5610 (603.01), 5608 (603.02), or 5609 (603.03), and 5610 (803.04); or permission of instructor. Repeatable.

7801 Archaeology of Hunter-Gatherer Societies G 3
Advanced study of hunter-gatherer band society from theoretical, ethnographic, and archaeological perspectives. Prereq: Grad standing. Not open to students with credit for 801.01.

7802 Origins of Food Production G 3
Advanced theoretical and comparative study of the origins of food production in the Old and New Worlds. Prereq: Admission to Grad program. Not open to students with credit for 801.02.

7803 The Archaeology of Complex Societies G 3
Advanced theoretical and comparative study of the rise and fall of complex societies in antiquity in the Old and New Worlds. Prereq: Admission to Grad program. Not open to students with credit for 801.03.

7804 Issues in Archaeological Theory G 3
Examination of the assumptions and concepts underlying analysis of archaeological data; methods of reconstructing cultural history, past lifeways, and explaining cultural change. Prereq: Admission to Grad program. Not open to students with credit for 802.

7805 Seminars in Ethnology G 2 - 27
Seminars in Ethnology.
Repeatable to a maximum of 27 cr hrs or 14 completions.

7805.01 North America G 2 - 27
North America. Repeatable to a maximum of 27 cr hrs or 14 completions.

7805.02 East Asia G 2 - 6
East Asia. Repeatable to a maximum of 6 cr hrs or 3 completions.

7999 Research in Anthropology: Thesis G 1 - 18
Research for thesis purposes only. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.

8193 Individual Studies G 1 - 80
Individual Studies. Prereq: Written permission of instructor. Repeatable. This course is graded S/U.

8193.01 Individual Studies: Theory G 1 - 99
Theory. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

8193.02 Individual Studies: History G 1 - 80
History. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

8193.03 Individual Studies: Anthropological Linguistics G 1 - 80
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

8193.04 Individual Studies: Research Methods G 1 - 27
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

8193.05 Individual Studies: Prehistory G 1 - 27
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

8193.06 Individual Studies: Ethnology G 1 - 27
Ethnology. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

8193.07 Individual Studies: Physical Anthropology G 1 - 27
Physical anthropology. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

8193.08 Individual Studies: Unclassified G 1 - 27
Unclassified. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

8193.09 Individual Studies: Cultural Anthropology G 1 - 80
Cultural anthropology. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

8194 Group Studies G 1 - 20
Group studies. Repeatable.

8227 Writing and Publishing in Anthropology G 3
Advanced seminar in production and publication of professional literature in anthropology. Prereq: Grad standing in Anthrop. Not open to students with credit for 827.

8228 Writing Research Proposals in Anthropology G 3
Advanced seminar in constructing and submitting proposals for funded research in anthropology. Prereq: Grad standing in Anthrop. Not open to students with credit for 828.

8889 Case Studies in Forensic Anthropology G 1
Discussion of actual forensic cases by students who have worked on them; application of theoretical forensic anthropology to practical situations. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs.

8886 Interdepartment Seminar G 1 - 2
Interdepartmental seminar. Repeatable to a maximum of 12 cr hrs or 6 completions.

8889 Interdepartment Seminar G 1 - 3
Interdepartmental Seminar. Prereq: Not open to students with credit for 889. Repeatable to a maximum of 12 cr hrs or 4 completions.

8891 Seminars in Cultural Anthropology G 2 - 27
Seminars in Cultural Anthropology.
Repeatable to a maximum of 27 cr hrs or 14 completions.

8891.01 Seminars in Cultural Anthropology: Nature of Culture G 2 - 6
Nature of culture. Repeatable to a maximum of 6 cr hrs or 3 completions.

8891.02 Seminars in Cultural Anthropology: Acculturation, Change and Stability G 2 - 6
Acculturation, change and stability. Repeatable to a maximum of 6 cr hrs or 3 completions.

8891.03 Seminars in Cultural Anthropology: Peasant Cultures G 2 - 27
Peasant cultures. Repeatable to a maximum of 27 cr hrs or 14 completions.

8891.04 Seminars in Cultural Anthropology: Human Ecology G 2 - 27
Human ecology. Repeatable to a maximum of 27 cr hrs or 14 completions.

8891.05 Graduate Seminar in Research Design and Ethnographic Methods G 2 - 6
Study design and data analysis. Repeatable to a maximum of 6 cr hrs or 3 completions.

8891.06 Seminars in Cultural Anthropology: Theory and Problems in Cultural Anthropology G 2 - 6
Theory and problems in cultural anthropology. Repeatable to a maximum of 6 cr hrs or 3 completions.
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8891.07  Seminar in Cultural Anthropology: Ethnographic Field Experience  G  2 - 6  
Ethnographic field experience. Repeatable to a maximum of 6 cr hrs or 3 completions.

8892  Seminar in Physical Anthropology  G  2 - 27  
Seminars in physical anthropology. Repeatable to a maximum of 27 cr hrs or 14 completions.

8892.01  Seminar in Physical Anthropology: Evolutionary Theory  G  2 - 6  
Evolutionary theory. Prereq: Grad standing in Anthrop. Repeatable to a maximum of 6 cr hrs or 3 completions.

8892.02  Seminar in Physical Anthropology: Non-human Primate Behavior  G  2 - 6  
Non-human primate behavior. Repeatable to a maximum of 6 cr hrs or 3 completions.

8892.03  Seminar in Physical Anthropology: Human Growth and Development  G  2 - 6  
Human growth and development. Repeatable to a maximum of 6 cr hrs or 3 completions.

8892.04  Seminar in Physical Anthropology: Population Genetics  G  2 - 27  
Population genetics. Repeatable to a maximum of 27 cr hrs or 14 completions.

8892.05  Seminar in Physical Anthropology: Biological Distance  G  2 - 27  
Biological distance. Repeatable to a maximum of 27 cr hrs or 14 completions.

8892.06  Seminar in Physical Anthropology: Biocultural Adaptations  G  2 - 27  
Biocultural adaptations. Repeatable to a maximum of 27 cr hrs or 14 completions.

8892.07  Seminar in Physical Anthropology: Primate Anatomy  G  2 - 27  
Primate anatomy. Repeatable to a maximum of 27 cr hrs or 14 completions.

8892.08  Seminar in Physical Anthropology: Biomedical Anthropology  G  2 - 27  
Biomedical anthropology. Repeatable to a maximum of 27 cr hrs or 14 completions.

8892.09  Seminar in Physical Anthropology: Biocultural Medical Anthropology  G  3  
Explores human reproduction from a biocultural and ecological perspective. Repeatable to a maximum of 27 cr hrs.

8892.10  Seminar in Physical Anthropology: Research Issues in Gerontology  G  3  
Explores the interface between research and practice issues in gerontology and geriatrics. One course in research design or statistics is recommended. Prereq: Grad standing. Repeatable to a maximum of 27 cr hrs.

8892.11  Seminar in Physical Anthropology: Quantitative Methods  G  2 - 6  
Quantitative methods. Repeatable to a maximum of 6 cr hrs or 3 completions.

8892.12  Seminar in Physical Anthropology: Quantitative Methods II: Advanced  G  2 - 27  
Quantitative Methods II: Advanced. Repeatable to a maximum of 27 cr hrs or 14 completions.

8892.13  Seminar in Physical Anthropology: Bioarchaeology  G  3  
Seminar on the study of human remains from archaeological contexts; focus on health, disease, injury, biomechanics, diet, and population history. Repeatable to a maximum of 27 cr hrs.

8893  Seminar in Prehistory  G  2 - 27  
Seminars in Prehistory. Repeatable to a maximum of 27 cr hrs or 14 completions.

8893.01  Seminar in Prehistory: Archeology of High Civilizations  G  2 - 6  
Archeology of high civilizations. Repeatable to a maximum of 6 cr hrs or 3 completions.

8893.02  Seminar in Prehistory: Old World History  G  2 - 6  
Old World History. Repeatable to a maximum of 6 cr hrs or 3 completions.

8893.03  Seminar in Prehistory: North American Archaeology  G  2 - 6  
North American archaeology. Repeatable to a maximum of 6 cr hrs or 3 completions.

8893.04  Seminar in Prehistory: Seminar in the Archaeology of the Ancient Near East  G  3  
Examines anthropological approaches to archaeological remains of 50,000 years of diverse cultures in the Near East from the first humans to the first empires. Prereq: Not open to students with credit for 830.04.

8893.05  Seminar in Prehistory: Landscape in Anthropology  G  2 - 12  
Landscape in anthropology. Repeatable to a maximum of 12 cr hrs or 6 completions.

8893.06  Seminar in Prehistory: Paleodiet  G  3  
Advanced survey of current archaeological research on past human diet, with emphasis on methods. Provides graduate-level advanced study of human diet as revealed through the archaeological record. Prereq: Not open to students with credit for 830.06.

8899  Research in Anthropology: Dissertation  G  1 - 80  
Research for dissertation purposes only. Repeatable. This course is graded S/U.

Arabic

1101.01  Elementary Modern Standard Arabic I  U  4  
Developing the ability to use Arabic functionally and communicatively in context; intensive oral interaction with instructor and fellow students; the basics of the writing system. Classroom track. Not open to native speakers of Arabic. Prereq: Not open to students credit for 101.02 or 4 cr hrs of 1101.51. This course is available for EM credit. GE for lang course.

1101.02  Elementary Modern Standard Arabic I: Intensive  U  4  
Developing the ability to use Arabic functionally and communicatively in context; intensive oral interaction with instructor and fellow students; the basics of the writing system. Intensive classroom track. Not open to native speakers of Arabic. Prereq: Permission of department. Concurs: 1102.02. Not open to students with credit for 1101.01, 1102.01, or 4 cr credit hours of 1101.51. This course is available for EM credit. GE for lang course.

1101.51  Elementary Modern Standard Arabic I: Individual Instruction  U  1 - 4  
Developing the ability to use Arabic functionally and communicatively in context; intensive oral interaction with instructor and fellow students; the basics of the writing system. Independent track. Closed to native speakers of this language. Prereq: Not open to students with credit for 1101.01. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course.

1102.01  Elementary Modern Standard Arabic II  U  4  
Developing further language ability through learning how to perform certain functions orally and using them with fellow students; reading and writing passages reflecting their abilities. Classroom track. Not open to native speakers of Arabic. Prereq: 1101.01 or 4 cr hrs of 1101.51. Not open to students with credit for 1102.02 or 4 cr hrs of 1102.51. This course is available for EM credit. GE for lang course.

1102.02  Elementary Modern Standard Arabic II: Intensive  U  4  
Developing further language ability through learning how to perform certain functions orally and using them with fellow students; reading and writing passages reflecting their abilities. Intensive classroom track. Not open to native speakers of Arabic through regular course enrollment, transfer, or EM credit. Prereq: Permission of department. Concurs: 1102.01. Not open to students with credit for 1102.01 or 4 cr hrs of 1102.51. This course is available for EM credit. GE for lang course.

1102.51  Elementary Modern Standard Arabic II  U  1 - 4  
Developing further language ability through learning how to perform certain functions orally and using them with fellow students; reading and writing passages reflecting their abilities. Independent track. Closed to native speakers of this language. Prereq: 1101.01, or permission of instructor. This course is available for EM credit. GE for lang course.

1103.01  Intermediate Modern Standard Arabic I  U  4  
Building on previously acquired functional abilities; using Arabic to express opinion and feelings; oral interaction in the classroom; reading simplified original texts. Classroom track. Not open to native speakers of Arabic. Prereq: 1102.01, 1102.02, or 4 cr hrs of 1102.51. Not open to students with credit for 1103.02 or 4 cr hrs of 1103.51. This course is available for EM credit. GE for lang course.

1103.02  Intermediate Modern Standard Arabic I: Intensive  U  4  
Building on previously acquired functional abilities; using Arabic to express opinion and feelings; increased oral interaction in the classroom; reading simplified original texts. Intensive classroom track. Not open to native speakers of Arabic through regular course enrollment, transfer, or EM credit. Prereq: Permission of department. Concurs: 2104.02. Not open to students with credit for 1103.01 or 4 cr hrs of 1103.51. This course is available for EM credit. GE for lang course.
30 Arabic

1103.51 Intermediate Modern Standard Arabic I: Individual U 1 - 4
Instruction

Building on previously acquired functional abilities; using Arabic to express opinion and feelings; oral interaction in the classroom; reading authentic texts or various genres. Independent track. Closed to native speakers of this language. Prereq: 1102, or permission of instructor. Not open to students with credit for 103 or 104. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course.

2101 Arabic Grammar I U 3
Accelerated introduction to the structure of modern standard and classical Arabic; phonology, morphology, and syntax, with emphasis on development of reading comprehension skills. Closed to native speakers of this language. Prereq: 1103. Not open to students with credit for 200.01.

2104.01 Intermediate Modern Standard Arabic II U 4
Initiating and sustaining communication, reading and understanding short authentic passages, and writing to express many language functions. Regular classroom track. Not open to native speakers of Arabic. Prereq: 1103.01 or 4 credit hours of 1103.51. Not open to students with credit for 2104.02.

2104.02 Intermediate Modern Standard Arabic II: Intensive U 4
Initiating and sustaining communication; reading and understanding short original texts and passages; writing to express many language functions. Intensive classroom track. Not open to native speakers of Arabic. Prereq: Permission of department. Concur: 1103.02. Not open to students with credit for 2104.01.

2193 Individual Studies U 1 - 10
Individual Studies
Prereq: Permission of department or instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

2194 Group Studies U 1 - 10
Group Studies
Prereq: Permission of department or instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

2241 Culture of the Contemporary Arab World U 3
A general survey and examination of the socio-cultural structure of the modern Arab world. Taught in English. Prereq: Not open to students with credit for 241. GE culture and ideas and diversity global studies course.

2241H Culture of the Contemporary Arab World U 3
A general survey and examination of the socio-cultural structure of the modern Arab world. Taught in English. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 241 or 241H. GE culture and ideas and diversity global studies course.

2367 Issues in Arab-American Society, Culture, and Literature U 3
Discussion, analysis, and writing about issues relating to Arab-American culture, society, and literature within the context of social diversity in the United States. Prereq: English 1110 (110) or equiv, and Soph standing or above. Not open to students with credit for 367. GE writing and comm course: level 2 and cultures and ideas and diversity soc div in the US course.

2701 Classical and Medieval Arabic Literature in Translation U 3
Reading and analysis of major works of Arabic literature from the 8th to the 17th centuries including classical poetry, the Qur’an, and the Arabian Nights. Prereq: English 1110 (110). Not open to students with credit for 371. GE lit and diversity global studies course.

2702 Modern Arabic Literature in Translation U 3
Reading and analysis of representative works of the 19th and 20th centuries; by contemporary women authors. Prereq: English 1110 (110). Not open to students with credit for 2702 (372), 2702H (372H), 372, or WGSSt 2702H (372H). GE lit and diversity global studies course. Cross-listed in WGSSt.

2702H Modern Arabic Literature in Translation U 3
Reading and analysis of representative works of the 19th and 20th centuries by contemporary women authors. Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 372H, 2702 (372), WGSSt 2702 (372), or 2702H (372H). GE lit and diversity global studies course. Cross-listed in WGSSt.

2705 The Arabian Nights U 3
Readings from The Arabian Nights; the history of the text, translations and literary and cinematic adaptations. Prereq: English 1110 (110). Not open to students with credit for 375. GE lit course.

2798.01 Morocco May Tour: The Arab World Up Close; History, Religion, Culture and Politics U 3
Introduces students to 19th- and 20th-Century as well as contemporary history, politics, literature and culture of Morocco, through conversations with major political, civil, and intellectual figures in visits to such places as the Royal Library, The Royal Academy for Amazigh Studies, Parliament, NGOs premises, as well as to Fez, Meknes, and Marrakesh.

3105 Intermediate Literary Arabic Reading I U 4
Developing reading skills through reading adapted and authentic Arabic texts; selections reflect cultural and literary aspects of Arabic culture. Prereq: 2104. Not open to students with credit for 401.

3301 Contemporary Folklore in the Arab World U 3
Study of contemporary folklore of the Arab World including verbal art, material culture, visual self-presentation, and performance. Prereq: Not open to students with credit for 377. GE culture and ideas and diversity global studies course. Cross-listed in CompStd 3657.

3501 Middle Eastern Literature and Post Colonial Theory U 3
Surveying and examining literary texts, theories, and films that explore the relationship between cultural power, colonialisms and different forms of representation.

3601 Introduction to Arabic Philosophy U 3
Surveying the development and major subjects and thinkers of the most vivid period of Arab philosophy.

4106 Intermediate Literary Arabic Reading II U 4
Continued development of language skills through reading and evaluating a variety of authentic Arabic texts and genres; writing compositions on various aspects of Arabic culture. Prereq: 3105. Not open to students with credit for 603.

4108 Advanced Arabic Grammar and Stylistics U 3
Advanced discussion of Arabic morphology and syntax with readings from both modern and classical texts from various genres. Prereq: 4106. Not open to students with credit for 608.

4111 Colloquial Arabic I U 3
Introduction to the phonology and grammar of the everyday spoken language used in the Eastern Arab world. Prereq: 2104.01 or 2104.02. Not open to students with credit for 411.

4112 Colloquial Arabic II U 3
Continued study of the phonology and grammar of the everyday spoken language used in the Eastern Arab world. Prereq: 4111. Not open to students with credit for 412.

4120 Arabic Media U 3
Reading/Learning to contemporary media in Arabic--youth culture, politics, contemporary issues. Prereq: 2104.01 or 2104.02. Not open to students with credit for 420.

4626 Introduction to the Arabic Qur’an U 3
A linguistic, literary, and cultural analysis of selected chapters from the Qur’an. Prereq: 2104. Not open to students with credit for 626.

4998 Undergraduate Research in Arabic U 1 - 3
Offers undergraduates with special aptitudes a greater opportunity to do more independent study and research than is possible in normal course work. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

4999H Undergraduate Honors Research in Arabic U 1 - 3
Offers undergraduate honors students a rigorous opportunity to do more independent study and research than is possible in normal coursework. Prereq: Honors standing, and permission of instructor. Not open to students with credit for 783H. This course is graded S/U.

4999H Undergraduate Honors Thesis U 1 - 3
Offers undergraduates with special aptitudes and advanced skills the opportunity to do independent study leading to a thesis. Prereq: Sr standing, B average in Arabic coursework, permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

5162 Origin and Development of Arabic-Islamic Concepts U G 3
An examination of Arabic-Islamic terminology. Prereq: 4101 (401), or permission of instructor. Not open to students with credit for 621.
5192 Workshop  
Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it. Requires teaching experience. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

5193 Individual Studies  
Individual Studies. Prereq: Permission of department. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

5194 Group Studies  
Group Studies Prereq: Permission of department. Repeatable to a maximum of 20 cr hrs or 5 completions.

5401 Translation: Theory and Practice  
Examination of some general guidelines for translating from Arabic to English or from English to Arabic, depending on the first language of the student. Requires advanced reading proficiency. Prereq: Permission of instructor. Not open to students with credit for 615.

5611 History of the Arabic Language  
Survey of the evolution of the Arabic language in its cultural and historical setting. Prereq: Not open to students with credit for 611.

5627 Classical Arabic Poetry  
Selected readings from classical and medieval Arabic poetry; Arabic metrics and literary theory. Prereq: 3105 (401), or permission of instructor. Not open to students with credit for 627.

5628 Classical Arabic Prose  
Selected readings reflecting the evolution of Arabic prose literature from its origins to the late Abbasid period. Prereq: 3105 (401), or permission of instructor. Not open to students with credit for 628.

5651 Contemporary Arabic Prose Fiction  
Reading and analysis of short stories and novels representative of major developments and trends of the 20th century. Prereq: 3105 (401), or permission of instructor. Not open to students with credit for 651.

5652 Contemporary Arabic Poetry and Drama  
Reading and analysis of plays and poems representative of major developments and trends of the 20th century. Prereq: 3105 (401), or permission of instructor. Not open to students with credit for 652.

5701 The Qur'an in Translation  
An introduction, in English, to the literary, religious, and cultural implications of the fundamental book of Islam. Prereq: Not open to students with credit for 671.

5702 Arabic Folk Narrative in Translation  
Literary and cultural aspects of 1001 Nights and other popular narratives (epics, legends, folktales) in the Arab world. Prereq: Not open to students with credit for 672.

5703 Common Heritage: Biblical Figures in the Qur'an  
Examining and comparing the images of important prophets in the Bible and the Qur'an. Repeatable to a maximum of 9 cr hrs or 5 completions.

5797 Study at a Foreign Institution  
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Repeatable to a maximum of 30 cr hrs or 5 completions. This course is progress graded.

6401 The Experience of Modernity and Its Aesthetic  
Experiencing and comparing the cultural travel and translations of the modern experience in the Middle East and Europe in the 19th and 20th centuries. Repeatable to a maximum of 9 cr hrs.

6501 Modern Arab-Muslim Thought  
Examining critically contemporary responses and revisions of Arab and Muslim classical Humanism. Repeatable to a maximum of 9 cr hrs.

6701 Major Issues of Arabic Philosophy  
Analyzing important texts dealing with God, man, knowledge, society, religion and politics; discussing modern approaches and interpretations. Prereq: 6 cr hrs of Arabic Literature at the 5000 level or equiv. Repeatable to a maximum of 9 cr hrs.

7601 Studies in Arabic Poetry  
Advanced study of specific poetic periods, figures, and/or topics involving extensive reading and discussion of appropriate primary and secondary source materials. Prereq: 6 cr hrs of Arabic Literature at the 5000 level or equiv. Repeatable to a maximum of 9 cr hrs.

7602 Studies in Arabic Prose  
Advanced study of specific periods, authors and/or genres of prose writing (literary or non-literary) involving extensive reading and discussion of primary and secondary materials. Prereq: 6 cr hrs of Arabic Literature at the 5000 level or equiv. Repeatable to a maximum of 12 cr hrs.

7603 The Arabic Detective: Classical and Modern Crime Narratives  
Narratives of crime and detection in classical and modern Arabic literature. Prereq: 4106 (603).

7604 The Poetics of Arabic Narrative  
Introduction to the strategies and features of prose narrative in Arabic. Prereq: 4106 (603).

7891 Seminar in Arabic Studies  
Intensive investigation of a selected topic or problem in Arabic linguistics, philology, literature, or literary culture. Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs.

7892 Studies in Arabic Philosophy  
Study of important selections of Arabic philosophy in the source language; students will explore a major issue or phenomenon in the larger context of Arabic philosophy.

1100 Architecture Survey  
Introduction to the University, the Knowlton School of Architecture, and the disciplines of architecture, landscape architecture, and city and regional planning. Prereq: Not open to students with credit for 1100E, 100, 100H, CRPlan 1100 (100), 1100E, Arch 1100 (100), 1100E, or any survey course. Cross-listed in LArch and CRPlan.

1100E Architecture Survey Honors  
Introduction to the University, the Knowlton School of Architecture and the professions of architecture, city and regional planning and landscape architecture. Honors section. Prereq: Honors standing. Not open to students with credit for 1100, 100H, CRPlan 1100 (100), 1100E, LArch 1100 (100), 1100E, or any survey course. Cross-listed in LArch and CRPlan.

2220 Sustainability and the Built Environment  
Introduction to sustainability and the built environment, emphasis on cultural context, including contributing geographic, political, social, and economic factors which influence the form of the constructed world. Prereq: Not open to students with credit for 201 or 3rd and 4th year Arch majors. GE soc sci human, nat, and econ resources course.

2220E Sustainability and the Built Environment  
Introduction to sustainability and the built environment, emphasis on cultural context, including contributing geographic, political, social, and economic factors which influence the form of the constructed world. Prereq: Honors standing. Not open to students with credit for 201, or 3rd and 4th year Arch majors. GE soc sci human, nat, and econ resources course.

2300 Outlines of the Built Environment  
Introduction to architecture, landscape architecture, and planning as cultural practices that shape the physical environment. Prereq: Not open to students with credit for 200, 1210, 2300E, LArch 1210 (200), 2300, or 2300E. GE cultures and ideas course. Cross-listed in LArch.

2300E Outlines of the Built Environment  
Introduction to the discipline of architecture and landscape architecture and planning with an emphasis on the physical artifact and its formal and cultural context. Honors section. Prereq: Honors standing. Not open to students with credit for 200, 1210, 2300, LArch 1210 (200), 2300, or 2300E. GE cultures and ideas course. Cross-listed in LArch.

2410 Architectural Design I  
Architectural design with an emphasis on techniques. Continuation of Arch 2410. Prereq: 2410, or both 241 and 242. Concur: 5610 (only for students pursuing a B.S. in Arch). Not open to students with credit for 243.
| 3194 | Group Studies in Architecture | U | 1 - 15 |
| 3410 | Architectural Design III | U | 6 |
| 3420 | Architectural Design IV | U | 6 |
| 3420.01 | Architectural Design V | U | 3 |
| 3420.02 | Architectural Design VI | U | 3 |
| 4193 | Independent Studies in Architecture | U | 1 - 15 |
| 4194 | Group Studies in Architecture | U | 1 - 15 |
| 4410 | Architectural Design VII | U | 6 |
| 4420 | Architectural Design VIII | U | 6 |
| 4780H | Undergraduate Research Methods | U | 3 |
| 4798 | Study Tour | U | 1 - 15 |
| 4798E | Study Tour | U | 1 - 15 |
| 4880 | Interdepartmental Seminar | U | 1 - 15 |
| 4999 | Design Studio for Thesis | U | 6 |
| 4999H | Architecture Honors Design Studio | U | 6 |
| 5110 | History of Architecture I | U | 4 |
| 5110E | History of Architecture I | U | 4 |
| 5120 | History of Architecture II | U | 4 |
| 5120E | History of Architecture II | U | 4 |
| 5190 | Topics in Architectural History | U | 3 |
| 5194 | Group Studies in Architecture | U | 1 - 15 |
| 5210 | Forms of Architectural Theory | U | 3 |
| 5290 | Topics in Architectural Theory | U | 3 |
| 5290.01 | Topics in Architectural Theory | U | 1½ |
| 5290.02 | Topics in Architectural Theory | U | 1½ |
| 5390 | Topics in Social and Economic Factors in Architecture | U | 3 |
| 5510 | Building Construction I | U | 3 |
| 5520 | Building Construction II | U | 3 |
| 5520.01 | Building Construction II | U | 2 |
| 5590 | Topics in Building Technology | U | 3 |
| 5590.01 | Topics in Building Technology | U | 1½ |
| 5590.02 | Topics in Building Technology | U | 1½ |
| 5610 | Architectural Representation I | U | 3 |
| 5620 | Architectural Representation II | U | 3 |
| 5690 | Topics in Architectural Description | U | 3 |
| 5710 | Introduction to Architectural Structures I | U | 4 |
| 5788 | Study Tour | U | 1 - 15 |

**Prerequisites and Notes:**
- **5194:** Group Studies in Architecture
- **5390:** Topics in Social and Economic Factors in Architecture
- **5520:** Building Construction II
- **5590:** Topics in Building Technology
- **5610:** Architectural Representation I
- **5690:** Topics in Architectural Description
- **5710:** Introduction to Architectural Structures I
- **5788:** Study Tour

**Course Descriptions:**
- **Architectural Design III:** Architectural design with an emphasis on materiality. Prerequisite: 2420 (243). Not open to students with credit for 341 or 342.
- **Architectural Design IV:** Architectural design with an emphasis on materiality. Continuation of Arch 3410. Prerequisite: 3410, or both 341 and 342. Not open to students with credit for 343.
- **Architectural Design V:** Architectural design with an emphasis on organization. Prerequisite: 3420 (343). Not open to students with credit for 441 or 442.
- **Architectural Design VI:** Architectural design with an emphasis on organization. Continuation of Arch 4410. Prerequisite: 4410 (441 and 442). Not open to students with credit for 443.
- **Architectural Design VII:** Architectural design with an emphasis on organization. Continuation of Arch 4410. Prerequisite: 4410 (441 and 442). Not open to students with credit for 443.
- **Undergraduate Research Methods:** Focuses on a broad scope of research methods and the development of architectural design and planning research techniques and skills. Honors section. Prerequisite: Honors standing, and major within the Knowlton School of Architecture. Not open to students with credit for 738H.
- **Study Tour:** Group international and domestic travel programs. Opportunities tailored to complement the classroom experience. Repeatable to a maximum of 45 or hrs or 3 completions.
- **Interdepartmental Seminar:** Group international and domestic travel programs. Opportunities tailored to complement the classroom experience. Repeatable to a maximum of 45 or hrs or 3 completions.
- **Design Studio for Thesis:** Topical research/design projects in architecture. Prerequisite: Permission of instructor.
- **Architecture Honors Design Studio:** Topical research/design projects in architecture. Honors section. Prerequisite: Honors standing, and major within the Knowlton School of Architecture. Not open to students with credit for 784H.
- **History of Architecture I:** History of architecture from ancient to contemporary: historical inquiry, physical and cultural influences, theories, and analytical techniques. Continues as 5120E. Prerequisite: Honors standing. Not open to students with credit for 600 and 601.
- **History of Architecture II:** History of architecture from ancient to contemporary: historical inquiry, physical and cultural influences, theories, and analytical techniques. Continuation of 5110. Prerequisite: Not open to students with credit for 602.
5810 Introduction to Environmental, Mechanical, and Electrical Systems in Architecture  U G 3
Introduction to environmental issues and building service systems for architecture. Prereq: Math 1118 (117) or 1151 (151), and Physics 1200 (111); or Grad standing in Arch, or permission of instructor. Not open to students with credit for 661 or 662.

5880 Interdepartmental Seminar  U G 1 - 15
Interdepartmental seminar; topics to be announced. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in LArch and CRPlan.

5960 Design Competition  U G 1 - 6
Learn how to work in interdisciplinary teams to develop design proposals to solve problems in the natural or built environment. Prereq: Jr, Sr, or Grad standing. Repeatable to a maximum of 9 cr hrs or 3 completions. Cross-listed in CRPlan and LArch.

6090 Topics in Urban Design  G 3
Investigation of topics in urban design. Prereq: Grad standing, or permission of instructor. Repeatable.

6194 Graduate Group Studies in Architecture  G 1 - 15
For group-based special studies in architecture within the frame of an instructor guided course. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

6410 Accelerated Architectural Design I  G 6
Architectural design with an emphasis on form and technique. Continues as 6420. Prereq: Acceptance in the Master of Architecture Graduate Program. Not open to students with credit for 641 or 642.

6420 Accelerated Architectural Design II  G 6
Architectural design with an emphasis on form and technique. Continuation of 6410. Prereq: 6410, or 641 and 642. Not open to students with credit for 643.

6710 Architectural Structures II  G 3
Statics, strength of materials, and structural systems: principles, elements, systems. Prereq: Grad standing. Not open to students with credit for 618 or 724.

6810 Environmental, Mechanical, and Electrical Systems in Architecture II  G 3
Qualitative and quantitative aspects of environmental issues and building service systems for architecture. Prereq: Grad standing. Not open to students with credit for 663.

6880 Interdepartmental Seminar  G 1 - 15
Interdepartmental seminar; topics to be announced. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in CRPlan and LArch.

7193 Graduate Independent Studies in Architecture  G 1 - 15
For students who wish to pursue special independent studies in architecture with the guidance of an advisor/instructor. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

7194 Graduate Group Studies in Architecture  G 1 - 15
For group-based special studies in architecture within the frame of an instructor guided course. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

7210 Architectural Theory I  G 3
Investigations in architectural theory. Continues as 7220. Prereq: Grad standing. Concur: 7410. Not open to students with credit for 801 or 802.

7220 Architectural Theory II  G 3
Investigations in architectural theory. Continuation of 7210. Prereq: Grad standing. Concur: 7420. Not open to students with credit for 803.01.

7310 Practice of the Design Professions  G 3
Legal, financial, technical, and ethical issues in architectural practice. Prereq: Enrollment in Master of Architecture Program. Not open to students with credit for 751 or 752.

7410 Advanced Architectural Design I  G 6
Architectural design with an emphasis on materiality and organization. Prereq: 6420 (643), or Enrollment in the Master of Architecture Graduate Program with advanced standing. Not open to students with credit for 841 or 842.

7420 Advanced Architectural Design II  G 8
Architectural design with an emphasis on materiality and organization. Continuation of Arch 7410. Prereq: 7410 (841). Not open to students with credit for 844.01.

7798 Graduate Study Abroad  G 6
International study abroad including guided travel, projects, student exchange and immersion experiences. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

8210 Master Practitioner Seminar  G 3
Contemporary strategies in architectural practice and criticism as articulated by contemporary architects, theorists, and historians. Prereq: Master of Architecture student in third year of program. Not open to students with credit for 810. Repeatable to a maximum of 6 cr hrs.

8220 Exit Review Seminar  G 3
Articulation of an architectural position that accounts for design production, disciplinary concerns, and cultural forces. Concur: 8420. Not open to students with credit for 844.04.

8410 Advanced Architectural Design III  G 8
Advanced topics in architectural design. Prereq: 7420 or 844.01. Not open to students with credit for 844.02 or 844.03.

8420 Advanced Architectural Design IV  G 8
Advanced topics in architectural design. Prereq: 8410 or 844.02. Not open to students with credit for 844.04.

Art

2000 Encountering Contemporary Art  U 3
Readings, lectures, discussions and field trips will introduce students to a diverse range of ideas, processes and contexts shaping the experience of visual art today. Prereq: Not open to students with credit for 162 or 200.

2100 Visual Studies: Beginning Drawing  U 3
An introduction to basic freehand drawing, exploration of a range of drawing methods, media, concepts; emphasis on drawing from observation. Prereq: Not open to students with credit for 170, 205, or 205H. This course is available for EM credit. GE VPA course.

2100E Visual Studies: Beginning Drawing  U 3
An introduction to basic freehand drawing, exploration of a range of drawing methods, media, concepts; emphasis on drawing from observation. Prereq: Not open to students with credit for 170, 205, or 205H. GE VPA course.

2200 Visual Studies: Expanded Media  U 3
Introduction to basic concepts of real time and recorded time-based artworks using a variety of processes and media. Prereq: 2000 (203). Not open to students with credit for 208 or 260.

2300 Visual Studies: Two Dimensional  U 3
Basic concepts of two-dimensional art dealing with visual structure, process, content, and invention. Prereq: Not open to students with credit for 172, 206, or 206H. This course is available for EM credit. GE VPA course.

2300E Visual Studies: Two Dimensional  U 3
Basic concepts of two-dimensional art dealing with visual structure, process, content, and invention. Prereq: Not open to students with credit for 172, 206, or 206H. GE VPA course.

2400 Visual Studies: Three-Dimensional  U 3
Basic concepts of three-dimensional art dealing with the organization of space and form, using a variety of materials, processes, tools. Prereq: 2000 (201) or 2100 (205). Not open to students with credit for 182 or 207. This course is available for EM credit.

2500 Visual Studies: Digital Image Manipulation  U 3
Introduction to the creation, manipulation and critical interpretation of graphic and photographic artwork. Includes input and output of digital work as it applies to artists. Prereq: Not open to students with credit for 350.

2502 Intro to Ceramics - High Fire Techniques  U 3
Introduction to the art practices of high fire temp ceramics; lab practices with various modeling and potter's wheel techniques with lectures covering a broad survey of the field of ceramics. Prereq: Not open to students with credit for 340 or 342. GE VPA course.

2502E Intro to Ceramics - High Fire Techniques  U 3
Introduction to the art phases of high-fire-temperature ceramics; lab practices with various modeling and potter's wheel techniques with lectures covering a broad survey of the field of ceramics. Prereq: Not open to students with credit for 340 or 342. GE VPA course.

2503 Glass Basics (Blowing & Construction)  U 3
Introduction to glass as material for artistic expression, with emphasis on the development of original artworks made from molten glass utilizing glassblowing and glass kiln-working techniques. Prereq: 2000 (201) and 2100 or 2200, or permission of instructor. Not open to students with credit for 330 or 332, without permission of instructor.
2504 Life Studio Drawing I U 3
Drawing from the human figure; discussion of drawing as related to significant traditions, lectures and demonstrations.
Prereq: 2100 (205) and 2200 (206). Not open to students with credit for 270 and 370. Repeatable to a maximum of 6 cr hrs.

2507 Introduction to Sculpture U 3
An introduction to the principles of sculpture, emphasizing basic forming processes and materials.
Prereq: 2000 (200), 2100 (205), and 2400 (207), or permission of instructor. Not open to students with credit for 307.

2514 Visual Studies: Color U 3
An introduction to seeing and using color for all disciplines; projects deal with color organization, phenomena, and interaction.
Prereq: 2000 (200), or 2000E; and HistArt 201 or 202. Not open to students with credit for 372.

2516 Introduction to Relief and Intaglio Printmaking U 3
Introductory experiences in the traditional processes of relief and intaglio and their application to non-traditional approaches.
Prereq: 3 of the following: 2000 (200), 2001, 2200, 2300 (206), 205, or 207. Not open to students with credit for 2 or more of the following: 375, 376, 377, 378, or 379.

2516E Introduction to Relief and Intaglio Printmaking U 3
Introductory experiences in the traditional processes of relief and intaglio and their application to non-traditional approaches.
Prereq: Honors standing, and 3 of the following: 2000 (200), 2001, 2200, 2300 (206), 205, or 207; or permission of instructor. Not open to students with credit for 2 or more of the following: 375, 376, 377, 378, or 379.

2524 Painting I U 3
Introductory painting emphasizing fundamentals and their utilization as a basis for individual development; student initially works from still life; subsequent projects increase in complexity.
Prereq: 2000 (200), or 2514 (372); and HistArt 201 or 202. Not open to students with credit for 373.

2526 Introduction to Lithography and Silkscreen Printmaking U 3
Introductory experiences in the traditional processes of lithography and screenprinting and their application to non-traditional approaches.
Prereq: 3 of the following: 2000 (200), 2001, 2200, 2300 (206), 205, or 207; or permission of instructor. Not open to students with credit for 2 or more of the following: 375, 376, 377, 378, or 379.

2526E Introduction to Lithography and Silkscreen Printmaking U 3
Introductory experiences in the traditional processes of lithography and screenprinting and their application to non-traditional approaches.
Prereq: Honors standing, and 3 of the following: 2000 (200), 2001, 2200, 2300 (206), 205, or 207; or permission of instructor. Not open to students with credit for 2 or more of the following: 375, 376, 377, 378, or 379.

2553 Glass Basics (Blowing & Kilnworking) U 3
Introduction to glass as material for artistic expression, with emphasis on the development of original artworks made from molten glass utilizing glassblowing and glass construction techniques.
Prereq: 2000 and 2100 or 2200, or permission of instructor. Not open to students with credit for 330 and 331, without permission of instructor.

2555 Photography I - Digital Camera U 3
Introduces photographic theory, practice, and aesthetics with image production, commercial lab prints and critiques. Student provides digital camera, minimum 6 mp, with full manual controls and exposure compensation available.
Prereq: Not open to students with credit for 300.01, 300.02, or 300.02H. GE VPA course. VSP Admins Cond course.

2555H Photography I - Digital Camera U 3
Introduces photographic theory, practice, and aesthetics with image production, commercial lab prints and critiques. Student provides digital camera, minimum 6 mp, with full manual controls and exposure compensation available.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 300.01, 300.02, or 300.02H. GE VPA course. VSP Admins Cond course.

2601 Podcasting U 3
Introduction to the concepts and techniques of producing, editing, publishing and critiquing personal and artistic video/audio for the context of mobile devices.
Prereq: Not open to students with credit for 353.

2602 Intro to Ceramics - Low Fire Techniques U 3
Introduction to the art phases of low fire temp ceramics; laboratory practice with various modeling and potter's wheel techniques with lectures covering a broad survey of the field of ceramics.
Prereq: Not open to students with credit for 340 or 342.

2990 BFA Portfolio Review U 0
Successful BFA portfolio review.
Prereq: 2000 (200), 2100 (205), 2200 (206), 2300 (206), 2400 (207), and one core course in student's proposed area of concentration. Repeatable to a maximum of 2 completions. This course is graded S/U.
3191.40 Internship: Painting U 1 - 3
A cooperative education or internship assignment conducted under the supervision of a faculty member.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions.

3191.60 Internship: Printmaking U 1 - 3
A cooperative education or internship assignment conducted under the supervision of a faculty member.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions.

3191.70 Internship: Sculpture U 1 - 3
A cooperative education or internship assignment conducted under the supervision of a faculty member.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions.

3194 Group Studies U 3
Group studies for students in specialized programs.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.

3201 Holography I U 3
The basic technique of three-dimensional image making; construction of a diode laser and use of this device to make holograms.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

3201H Holography I U 3
The basic technique of three-dimensional image making; construction of a diode laser and use of this device to make holograms.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 or 10 hrs. GE VPA course. Cross-listed in Physics.

3207 Sculpture: Metal Fabrication U 3
The use of metal in developing concepts of sculpture including casting, forging, and other metal fabrication processes.
Prereq: 2300 and 3507, or 207 and 307. Not open to students with credit for 481.

3502 Intermediate Ceramics - High Fire Techniques U 3
Intermediate level studio refining the ceramic skill base; a high fire temp lab practice with various modeling and potter's wheel techniques, lectures covering related critical theory and methods within the field of ceramics.
Prereq: 2502 (340) or 2602 (342), or permission of instructor. Not open to students with credit for 440 or 442.

3503 Intermediate Glass Methods U 3
Molten glass as an artistic material; emphasis on the evolution of a personal aesthetic through series studies.
Prereq: 2503 and 2513, or permission of instructor. Repeatable to a maximum of 6 cr hrs. Limited to 1 completion for students with credit for 630.

3602 Intermediate Ceramics - Low Fire Techniques U 3
Intermediate level studio refining ceramic skill base; a low fire temp lab practice with various modeling and potter's wheel techniques, lectures covering related critical theory and methods within the field of ceramics.
Prereq: 2502 (340) or 2602 (342), or permission of instructor. Not open to students with credit for 440 or 442.

4004 Special Topics: Drawing U 3
Special topics in intermediate to advanced drawing materials and processes for personal expression with emphasis on development of analytical and critical skills.
Prereq: 3104, or Art 470 (after Au Qtr 2003), or Art 370 (prior to Au Qtr 2003). Repeatable to a maximum of 6 cr hrs.

4007 Intermediate Sculpture I U 3
Group studio with conceptual and material emphasis led by rotating area faculty. Course may have special topic focus.
Prereq: 3507 (480), 3207 (481), and 3307 (482). Not open to students with credit for 587.01, 587.02, or 587.03. Repeatable to a maximum of 9 cr hrs.

4101 Moving Image Art U 3
Creation, manipulation and animation of digital imagery, including the integration of multiple media elements, such as video, drawings and audio into artistic projects.
Prereq: 2500 or 350, and 3101 (452) or 4001 or 553. Repeatable to a maximum of 6 cr hrs.

4104 Life Drawing Studio II U 3
Intermediate to advanced level course focusing on issues of the figure.
Prereq: 3104, or Art 470 (Au Qtr 2003 and after), or Art 370 (prior to Au Qtr 2003). Repeatable to a maximum of 6 cr hrs.

4106 Studio Practice - Printmaking U 3
Intermediate studio practice, following and continuing the basic program of courses undertaken in the first two years.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

4107 Intermediate Sculpture I U 3
Group studio with conceptual and material emphasis led by rotating area faculty. Course may have special topic focus.
Prereq: 3207 (481), 3307, and 3507, or 480, 481, and 482. Not open to students with credit for 587.01, 587.02, and 587.03. Repeatable to a maximum of 12 cr hrs.

4191.50 Undergraduate Internship Photography U 1 - 3
Open to advanced photo majors with appropriate coursework for the internship content. May be NFP gallery / museum work, commercial studio work (by application to the studio), or intern teaching.
Prereq: Permission of instructor. Not open to student with credit for 589.

4201 New Media Art U 3
Approaches to new media, interactivity, digital control of objects, projections, and sound in installation events, performances, and exhibitions.
Repeatable to a maximum of 6 cr hrs.

4254 Multi-Level Painting U 3
Intermediate painting; traditional subject matter such as the figure, still life, and concepts relative to contemporary directions in painting.
Prereq: 473. Repeatable to a maximum of 6 cr hrs.

4301 Holography II U 3
Expanding the students' knowledge of holographic techniques, including computer generated holography in traditional and experimental artworks.
Prereq: 3201 (455), or permission of instructor. Repeatable to a maximum of 9 cr hrs.

4401 Computer Animation U 3
Focus on the concepts, aesthetics, processes, and practice of designing and producing 3D computer animation. Theory and techniques of cinematography, video production and sound as related to 3D computer animation will be covered. Repeatable to a maximum of 6 cr hrs.

4503 Intermediate Glass Topics U 3
Glass as an artistic material; emphasis on the evolution of a personal aesthetic through series studies. Focus on kiln-forming, flame working, and cutting.
Prereq: 2503 and 2513, or permission of instructor. Limited to 1 completion to students with credit for 631. Repeatable to a maximum of 6 cr hrs.

4901 Studio Practice: Art and Technology U 3
Intermediate studio practice for majors in Art & Technology, following and continuing the basic program of courses undertaken in the first two years.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.

4902 Advanced Studio Ceramics I U 3
Advanced Ceramic studio work developed in consultation with and under close supervision of the instructor.
Prereq: Permission of instructor. Not open to students with 20 cr hrs for 591.03. Repeatable to a maximum of 9 cr hrs.

4903 Studio Practice I: Glass U 3
Upper level studio technique and series study, following and continuing the basic program of courses taken in the first two years.
Prereq: 4503, or permission of instructor. Not open to students with 20 qr cr hrs for 591.04. Repeatable to a maximum of 12 cr hrs.

4913 Studio Practice II - Glass U 3
Upper level studio technique and series study, following and continuing the basic program of courses taken in the first two years.
Prereq: 4503, or permission of instructor. Not open to students with 20 qr cr hrs for 591.04. Repeatable to a maximum of 12 cr hrs.

4950 Senior Seminar in Studio Art U 3
Presentations of studio work by students, faculty and visiting artists. Accompanied by critical discussion emphasizing contemporary issues and selected readings.
Prereq: Permission of instructor. Not open to students with credit for 595.

4998 UG Scholarship Research / Creative Activity U 3
Undergraduate research or creative activities in varying topics.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4998H UG Scholarship Research / Creative Activity U 3
Undergraduate research or creative activities in varying topics.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs.

4999.10 Senior Project - Art & Tech U 3
Required exhibition of studio work by seniors in BFA programs, accompanied by development of a portfolio of work and an artist's statement.
Prereq: 595, and enrollment in BFA in Art, and Sr standing, or permission of instructor. Not open to students with credit for 696.

4999.20 Senior Project - Ceramics U 3
Required exhibition of studio work by seniors in BFA programs, accompanied by development of a portfolio of work and an artist's statement.
Prereq: 595, and Sr standing, and BFA in Art, or permission of instructor. Not open to students with credit for 696.
Art

4999.40 Senior Project - Painting & Drawing U 3
Required exhibition of studio work by seniors in BFA programs, accompanied by development of a portfolio of work and an artist's statement; independent study tutorial. Prereq: 2502 (340), 2602 (342), 3502 (440), and 3602, or Art 340, 342, and 440; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

4999.50 Senior Project - Photography U 3
Advanced group investigation of individual photographic projects with weekly critique sessions and exit exhibition preparations. Prereq: 5225 (695.07) and 5235 (695.08). Concur: 5245 (695.06). Not open to student with credit for 690 or 698.

4999.60 Senior Project - Printmaking U 3
Required exhibition of studio work by seniors in BFA programs, accompanied by development of a portfolio of work and an artist's statement; independent study tutorial. Prereq: 595, and enrollment in BFA in Art, and Sr standing, or permission of instructor. Not open to students with credit for 696.

4999.70 Senior Project - Sculpture U 3
Final project determined and executed by BFA sculpture majors. Prereq: 595, and enrollment in BFA in Art, and Sr standing, or permission of instructor. Not open to students with credit for 696.

4999H Honors Thesis Research U 1 - 3
Senior Honors Thesis. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

5001 Aspects of Art and Technology I U G 3
Creative and conceptual explorations into technical, aesthetic, and theoretical topics in the field of Art and Technology. Includes interactive installation, biological, surveillance/telepresence, narrative, algorithmic, and performative art. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

5004 Advanced Drawing U G 3
Special problems in drawing, utilizing a wide range of media and methods and exploring a variety of materials in experimental approaches to drawing. Prereq: 570, 570.01, or 570.02. Repeatable to a maximum of 12 cr hrs.

5006 Alternative Printmaking U G 3
Intensive exploration of reproduction technologies including digital, mechanical, and photographic approaches. Emphasis will be placed on the aesthetic of these methods as tools for creative production. Prereq: 4006, 4016, 4026, 4036, 377, 378, or 379, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5007 Advanced Sculpture I U G 3
Group studio with conceptual and material emphasis led by rotating area faculty. Course may have special topic focus. Prereq: 3207 (481), 3307, and 3507, or 480, 481, and 482. Repeatable to a maximum of 9 cr hrs.

5101 Aspects of Art and Technology II U G 3
Creative and conceptual explorations into technical, aesthetic, and theoretical topics in the field of Art & Technology. Includes interactive installation, biological, surveillance/telepresence, digital narratives, algorithmic, and performance art. Prereq: Permission of instructor. Not open to students with credit for 690.1. Repeatable to a maximum of 9 cr hrs.

5102 Klin Building U G 3
Advanced studies in the design, fabrication, and uses of gas and electric fueled kilns. Practice in welding and electric wiring skills and the various types of firing methods. Prereq: 2502 (340), 2602 (342), 3502 (440), and 3602, or Art 340, 342, and 440; or permission of instructor. Not open to students with credit for 640.

5105 Color Photography U G 3
Introduction to digital color printing from scanned film negatives and RAW digital capture; photography history, color theory, and current aesthetic issues. Prereq: 3004 or 5275, or permission of instructor. Concur: 5115 (401). Not open to students with credit for 531.

5107 Advanced Sculpture II U G 3
Group studio with conceptual and material emphasis led by rotating area faculty. Courses may have special topic focus. Prereq: 3207 (481), 3307, and 3507, or Art 480, 481, and 482. Repeatable to a maximum of 6 cr hrs.

5108 Professional Practice - Career Preparation in Art U G 3
Information to help graduating seniors and graduate students in the department of art to meet the professional expectations involved in exhibiting and promoting their creative work and to develop strategies to function as an independent artist. Prereq: Sr or Grad standing in Art.

5115 Photography Studio Lighting U G 3
Introduction to lighting equipment, principles, and techniques as applied to constructed/directed photography done predominantly in the studio environment. &lab with limited digital printing. Prereq: 3005 (405) and 5275, or Art 400 and 695.10, or permission of instructor. Concur: 5105. Not open to students with credit for 695.03.

5126 Advanced Printmaking - Relief and Intaglio U G 3
An intensive exploration of the relief and intaglio processes as a means for individual expression. Prereq: 4006 (476) and 4026 (478), or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.

5154 Advanced Painting U G 3
Special topics in painting with a wide emphasis upon current directions, new media, and techniques; lectures, discussions, and field trips. Prereq: 4254 (573). Not open to students with 20 qtr hrs for 673. Repeatable to a maximum of 12 cr hrs.

5175 History of Photography U G 3
Covers the history of photography from its inception to today, and also introduce historic and contemporary theories of the medium. Concur: 3005 (405), or permission of instructor. Not open to students with credit for 695.10.

5193.10 Individual Studies - Art and Technology U G 3
Advanced study for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5193.20 Individual Studies - Ceramics U G 3
Advanced study for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5193.30 Individual Studies - Glass U G 3
Advanced study for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5193.40 Individual Studies - Painting U G 3
Advanced study for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5193.50 Individual Studies - Photography U G 3
Advanced study for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5193.60 Individual Studies - Printmaking U G 3
Advanced study for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5193.70 Individual Studies - Sculpture U G 3
Advanced study for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5194.10 Group Studies - Art and Technology U G 3
Group studies for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5194.20 Group Studies - Ceramics U G 3
Advanced ceramic studio work developed in consultation with and under close supervision of the instructor. Prereq: Permission of instructor. Not open to students with credit for 691.03. Repeatable to a maximum of 9 cr hrs or 3 completions.

5194.40 Group Studies - Painting U G 3
Group studies for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.

5194.70 Group Studies - Sculpture U G 3
Group studies for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.

5201 Aspects of Art and Technology III U G 3
Creative and conceptual explorations into technical, aesthetic, and theoretical topics in the field of Art and Technology. Includes interactive installation, biological, surveillance/telepresence, digital narratives, algorithmic, and performance art. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5202</td>
<td>Mold Making</td>
<td>U G 3</td>
<td>Advanced studies in the design, fabrication, and uses of models and molds. Utilizing plaster casting, rubber, and other alternative mold making material to explore the process of prototyping and generating multiples. Prereq: 2502 (340), 2602 (342), and 3502 and 3602, or 440 and 442; or permission of instructor. Not open to students with credit for 641.</td>
</tr>
<tr>
<td>5205</td>
<td>Large Format Photography</td>
<td>U G 3</td>
<td>Advanced photography projects with emphasis on aesthetics, mechanics, and psychology of large format photography, including zone system controls. Advanced B&amp;W wet lab experience. Prereq: 5105 and 5115; or permission of instructor. Concur: 5215. Not open to students with credit for 524.</td>
</tr>
<tr>
<td>5215</td>
<td>Social / Documentary Photography</td>
<td>U G 3</td>
<td>Advanced production course with emphasis on the conceptual framework underpinning the documentary tradition in historical and contemporary photography. Prereq: 5105 (331) and 5115 (695.03), or permission of instructor. Concur: 5205 (524). Not open to students with credit for 695.04.</td>
</tr>
<tr>
<td>5254</td>
<td>Special Topics - Painting</td>
<td>U G 3</td>
<td>Special topics in painting with a wide emphasis upon current directions, new media, and techniques; lectures, discussions, and field trips. Prereq: 4254 (573). Not open to students with 20 qtr hrs in 673. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>5275</td>
<td>Photography Theory</td>
<td>U G 3</td>
<td>Introduction to historic and contemporary theories pertaining to photography. Prereq: 3005 (400). Not open to students with credit for 695.11.</td>
</tr>
<tr>
<td>5302</td>
<td>Material Science for Artists</td>
<td>U G 3</td>
<td>Advanced studio focused on geological and chemical earth science as it pertains to art. Safe and efficient testing habits will explore applications such as clay and glaze formulation. Parallels will be drawn in metals, glass, paper, and paint. Prereq: 2502 (340), 2602 (342), and 3502 and 3602, or 440 and 442; or permission of instructor. Not open to students with credit for 640 and 644.</td>
</tr>
<tr>
<td>5335</td>
<td>Digital Imaging: Input/Output</td>
<td>U G 3</td>
<td>Exploration of the use of digital technologies in creating and printing images with emphasis on aesthetic content and excellent craft. Prereq: 5205 (524) and 5215 (695.04), or permission of instructor. Concur: 5225. Not open to students with credit for 695.07.</td>
</tr>
<tr>
<td>5338</td>
<td>Digital Input/Output for Photographers</td>
<td>U G 3</td>
<td>Learning to control means of input, manipulation while in and output from the computer and encourage the creation of new work. Prereq: Jr standing, and enrollment in Art major. Not open to students with credit for 695.07.</td>
</tr>
<tr>
<td>5345</td>
<td>Alternative Camera Systems</td>
<td>U G 3</td>
<td>Advanced production course exploring alternative imaging systems such as pinhole cameras, plastic lens cameras, low end digital still and video cameras, instant film cameras, etc. Wet lab with limited digital lab access. Prereq: 5205 (524) and 5215 (695.04), or permission of instructor. Concur: 5235. Not open to students with credit for 695.08.</td>
</tr>
<tr>
<td>5346</td>
<td>Advanced Printmaking - Lithography and Screenprinting</td>
<td>U G 3</td>
<td>An intensive exploration of the lithographic and screening processes as means for individual expression. Prereq: 4016 (477) and 4036 (479), or permission of instructor. Repeatable to a maximum of 12 or hrs or 4 completions.</td>
</tr>
<tr>
<td>5402</td>
<td>Ceramic Art History</td>
<td>U G 3</td>
<td>Advanced ceramic course designed specifically to give the student an understanding of historical forms and technical processes. Prereq: 2502 (340), 2602 (342), 3502 (440), or 3602 (442), or permission of instructor. Not open to students with credit for 647.</td>
</tr>
<tr>
<td>5445</td>
<td>Alternative Processes in Photography</td>
<td>U G 3</td>
<td>Advanced production and study of antique and alternative processes in photography such as non-silver emulsions, through the creation of a cohesive body of work. Prereq: 5225, 5325, 695.07, or 695.08; or written permission of instructor. Concur: 4995 or 690. Not open to students with credit for 695.06.</td>
</tr>
<tr>
<td>5454</td>
<td>Special Problems in Abstraction</td>
<td>U G 3</td>
<td>Research problems in abstract painting with a wide emphasis upon abstract and/or non-representational printing; lectures, discussions, and field trips. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>5501</td>
<td>Video Art I</td>
<td>U G 3</td>
<td>Introduction to the creation and analysis of video artwork; including techniques of video capture, post production, manipulation and critique within the context of art. Prereq: 2000, 2400, 2555, 2501, 200, 218, or 300.02, or HistArt 260, or Dance 357, or Theatre 100. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>5502</td>
<td>Special Projects - Ceramics</td>
<td>U G 3</td>
<td>Advanced ceramic studio work developed in consultation with and under close supervision of the instructor. Prereq: 2502, 2602, 3602, 340, 342, 440, or 442; or permission of instructor. Not open to students with 20 qtr cr hrs for 645. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>5511</td>
<td>Video Art II</td>
<td>U G 3</td>
<td>Intermediate theory and practice of creating video artwork. Emphasis on personal expression and experimental approaches. Prereq: 4011, or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>5558</td>
<td>Book Arts</td>
<td>U G 3</td>
<td>Exploration of the history and aesthetics of handmade artist books with emphasis on structure, sequence, and the relationship of image to text. Prereq: Sr standing in Art, or written permission of instructor. Not open to students with credit for 695.03.</td>
</tr>
<tr>
<td>5591</td>
<td>Independent Studio - Art and Technology</td>
<td>U G 3</td>
<td>Advanced studio practice in art and technology. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>5592</td>
<td>Independent Studio - Ceramics</td>
<td>U G 3</td>
<td>Advanced ceramic studio work developed in consultation with and under close supervision of the instructor. Prereq: Permission of instructor. Not open to students with credit for 691.03. Repeatable to a maximum of 9 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>5593</td>
<td>Independent Studio - Glass</td>
<td>U G 3</td>
<td>Advanced studio practice in glass art making. Prereq: Permission of instructor. Not open to students with max credit for 691.04. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>5595</td>
<td>Independent Studio - Photography</td>
<td>U G 3</td>
<td>Advanced studio practice in photography. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>5596</td>
<td>Independent Studio - Printmaking</td>
<td>U G 3</td>
<td>Advanced studio practice in printmaking. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>5597</td>
<td>Independent Studio - Sculpture</td>
<td>U G 3</td>
<td>Advanced studio practice in sculpture. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>5754</td>
<td>Special Problems in Painting: Conceptual Approaches</td>
<td>U G 3</td>
<td>Conceptual and theoretical approaches to painting will be emphasized; lectures, discussions, and field trips. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>5797</td>
<td>Study Tour Foreign</td>
<td>U G 3</td>
<td>Specific content, location, semester offering, and prerequisites vary; contact department office for details. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>5798</td>
<td>Study Tour Domestic</td>
<td>U G 3</td>
<td>Specific content, location, semester offering, and prerequisites vary; contact department office for details. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>5808</td>
<td>Art Critical Practices</td>
<td>U G 3</td>
<td>Advanced studio practice in art critical practices; work developed through sustained contact with independent study advisor. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>5811</td>
<td>Odysseus in the Oculus Rift</td>
<td>U G 3</td>
<td>Team taught with faculty from Classics Dept. Students evaluate intersections of ancient and modern technologies that transform mythical experiences of the future. Use Oculus Rift and other new media technologies to create novel interactions of words, perception and the limits of reality. Create virtual worlds and stories that remix traditional narrative patterns through the technologies of tomorrow. Prereq: Permission of instructor. Not open to students with credit for Clas 5881. Cross-listed in Clas.</td>
</tr>
<tr>
<td>5890</td>
<td>Special Topics in Art</td>
<td>U G 3</td>
<td>Open topic that takes into consideration the research interests of current faculty or visiting artists. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>5895</td>
<td>Special Topics</td>
<td>U G 3</td>
<td>Open topic course that takes into consideration the research interests of current faculty or visiting artists. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Name</td>
<td>Credits</td>
<td>Description</td>
</tr>
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</tr>
<tr>
<td>5903</td>
<td>Advanced Glass Studio Practice</td>
<td>U</td>
<td>Individual studies in glass art. Prereq: Permission of instructor. Not open to students with credit for 691.04 (to repeat limit). Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>5904</td>
<td>Studio Practice - Drawing</td>
<td>U</td>
<td>Advanced studio practice in drawing. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>5913</td>
<td>Advanced Studio Practice - Glass</td>
<td>U</td>
<td>Advanced studio practice. Prereq: Permission of Instructor. Not open to students with 12 cr hrs for 691.04. Repeatable to a maximum of 12 cr hrs or 6 completions.</td>
</tr>
<tr>
<td>5954</td>
<td>Studio Practice - Painting</td>
<td>U</td>
<td>Advanced studio practice in painting. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>5995</td>
<td>Imagemakers' Seminar</td>
<td>U</td>
<td>Advanced group investigation of individual photographic projects with weekly critique sessions. Prereq: Grad standing in photography, or permission of instructor. Not open to students with credit for 690.</td>
</tr>
<tr>
<td>6008</td>
<td>Directed Studies in Studio Art</td>
<td>G</td>
<td>Independent advanced studio practice. Prereq: Grad standing in Art. Repeatable to a maximum of 21 cr hrs or 12 completions.</td>
</tr>
<tr>
<td>6018</td>
<td>Interdisciplinary Seminar - Practices in Contemporary Art</td>
<td>G</td>
<td>An exploration of a broad range of critical, theoretical and professional models for developing an emergent practice of contemporary visual art. Prereq: Grad standing in Art.</td>
</tr>
<tr>
<td>6108</td>
<td>Graduate Teaching Seminar</td>
<td>G</td>
<td>Exercises and discussions exploring techniques used in organizing, presenting, and evaluating materials taught in studio art classes with special focus on the process of developing a teaching portfolio, best teaching practices and pedagogy. Prereq: First year Grad standing in Studio Art, or permission of instructor. Not open to students with credit for 696.</td>
</tr>
<tr>
<td>6691</td>
<td>Foundational Studio Practice - Art and Technology</td>
<td>G</td>
<td>Studio practice in Art and Technology. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>6692</td>
<td>Foundational Studio Practice - Ceramics</td>
<td>G</td>
<td>Advanced studio practice in ceramics. Prereq: Permission of instructor. Not open to students with 12 cr hrs for 691.03. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>6693</td>
<td>Foundational Studio Practice - Glass</td>
<td>G</td>
<td>Advanced studio practice in glass. Prereq: Permission of Instructor. Not open to students with 12 cr hrs for 691.04. Repeatable to a maximum of 12 cr hrs or 6 completions.</td>
</tr>
<tr>
<td>6694</td>
<td>Foundational Studio Practice - Painting</td>
<td>G</td>
<td>Advanced studio practice in painting. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>6695</td>
<td>Foundational Studio Practice - Photography</td>
<td>G</td>
<td>Advanced studio practice in photography. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>6696</td>
<td>Foundational Studio Practice - Printmaking</td>
<td>G</td>
<td>Advanced studio practice in printmaking. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>6697</td>
<td>Foundational Studio Practice - Sculpture</td>
<td>G</td>
<td>Advanced studio practice in sculpture. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>6891</td>
<td>MFA Studio Critique: Art and Tech</td>
<td>G</td>
<td>Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>6892</td>
<td>MFA Studio Critique: Ceramics</td>
<td>G</td>
<td>Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>6893</td>
<td>MFA Studio Critique: Glass</td>
<td>G</td>
<td>Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>6894</td>
<td>MFA Studio Critique: Painting / Drawing</td>
<td>G</td>
<td>Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>6895</td>
<td>MFA Studio Critique: Photography</td>
<td>G</td>
<td>Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>6896</td>
<td>MFA Studio Critique: Printmaking</td>
<td>G</td>
<td>Interdisciplinary forum where students develop research skills, learn how to best articulate their artistic production, discuss materials related to their research interests, and critique the work of their peers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>7018</td>
<td>Seminar in Studio Art</td>
<td>G</td>
<td>Presentations by students, faculty, and visiting artists, with critical discussion emphasizing contemporary issues. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7194</td>
<td>Intermediate Group Studies - Art</td>
<td>G</td>
<td>Group studies for students in specialized programs. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.</td>
</tr>
<tr>
<td>7208</td>
<td>Research and Writing for Artists</td>
<td>G</td>
<td>A graduate-level seminar emphasizing research and writing strategies for the required MFA thesis as well as other writing that artists may have to undertake. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>7791</td>
<td>Intermediate Studio Practice - Art and Technology</td>
<td>G</td>
<td>Graduate level studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>7792</td>
<td>Intermediate Studio Practice - Ceramics</td>
<td>G</td>
<td>Graduate level studio practice. Prereq: Permission of instructor. Not open to students with 12 cr hrs for 691.03. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>7793</td>
<td>Intermediate Studio Practice - Glass</td>
<td>G</td>
<td>Graduate level studio practice. Prereq: Permission of instructor. Not open to students with 12 cr hrs for 691.04. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>7794</td>
<td>Intermediate Studio Practice - Painting</td>
<td>G</td>
<td>Graduate level studio practice. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>7795</td>
<td>Intermediate Studio Practice - Photography</td>
<td>G</td>
<td>Graduate level studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>7796</td>
<td>Intermediate Studio Practice - Printmaking</td>
<td>G</td>
<td>Graduate level studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>7797</td>
<td>Intermediate Studio Practice - Sculpture</td>
<td>G</td>
<td>Graduate level studio practice. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>7999.01</td>
<td>Research in Art - Thesis Advising</td>
<td>G</td>
<td>Research for thesis purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>7999.02</td>
<td>Research in Art - Thesis Exhibition</td>
<td>G</td>
<td>Research in preparation for Thesis Exhibition. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.</td>
</tr>
</tbody>
</table>
Research in Art - Thesis Writing  
Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.  

Advanced Group Studies - Art  
Group studies for students in specialized programs.  
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.  

Advanced Video Art I  
Creation and analysis of video artwork; including techniques of video capture, post production, manipulation and critique within the context of the art.  
Prereq: 2000 (200), 2400, 2501, 2556, 2501, 208, 300.02, Dance 357, HistArt 260, or Theatre 100. Repeatable to a maximum of 6 cr hrs.  

Advanced Video Art II  
Prereq: 4001, or permission of instructor. Repeatable to a maximum of 6 cr hrs.  

Advanced Studio Practice Art and Technology  
Advanced graduate studio practice.  
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.  

Advanced Studio Practice - Ceramics  
Advanced graduate studio practice.  
Prereq: Permission of instructor. Not open to students with credit for 691.03. Repeatable to a maximum of 12 cr hrs or 4 completions.  

Advanced Studio Practice - Glass  
Advanced graduate studio practice.  
Prereq: Permission of instructor. Not open to students with credit for 691.04. Repeatable to a maximum of 12 cr hrs or 4 completions.  

Advanced Studio Practice - Painting  
Advanced graduate studio practice.  
Repeatable to a maximum of 12 cr hrs or 4 completions.  

Advanced Studio Practice - Photography  
Advanced graduate studio practice.  
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.  

Advanced Studio Practice - Printmaking  
Advanced graduate studio practice.  
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.  

Advanced Studio Practice - Sculpture  
Advanced graduate studio practice.  
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.  

Art Education  
A survey of the visual arts and music in the western world since 1945, based on live and recorded performances and exhibitions.  
Prereq: Not open to students with credit for 160. GE VPA course.  

Introduction to Art Education  
Ideas, issues, and career possibilities in art education explored through readings, dialogue, and site visitation.  
Prereq: Not open to students with credit for 225.  

Visual Culture: Investigating Diversity & Social Justice  
A study of the artists, the artworks, and art worlds from diverse ethnic cultures in North America.  
Prereq: English 110. Not open to students with credit for 367.01 or 367.01H. GE writing and comm: level 2 and VPA and diversity soci div in the US course.  

Visual Culture: Investigating Diversity & Social Justice  
A study of the artists, the artworks, and art worlds from diverse ethnic cultures in North America.  
Prereq: Honors standing, and English 110. Not open to students with credit for 367.01 or 367.01H. GE writing and comm: level 2 and VPA and diversity soci div in the US course.  

Writing Art Criticism  
Focuses on critical literacy and writing about contemporary American art by a variety of artists with diverse points of view.  
Prereq: English 110. Not open to students with credit for 367.02. GE writing and comm course: level 2.  

Writing Art Criticism  
A critical analysis of a wide variety of television programs through viewing, discussing, reading, and writing.  
Prereq: English 110. Not open to students with credit for 367.03 or Theatre 367.03. GE writing and comm: level 2 and diversity soci div in the US course. Cross-listed in Theatre.  

Digital Artmaking  
Introductory study of digital artmaking through interpreting contemporary artists, constructing a language of art critique, and producing images using graphic design software.  
Prereq: Not open to students with credit for 252. GE VPA course.  

Digital Artmaking  
Introductory study of digital artmaking through interpreting contemporary artists, constructing a language of arts critique, and producing images using graphic design software.  
Prereq: Not open to students with credit for 252. GE VPA course.  

Introduction to Visual Culture: Seeing and Being Seen  
An introduction to issues of representation, spectacle, surveillance, and voyeurism, explored through a range of visual images and sites.  
Prereq: Not open to students with credit for 255. GE cultures and ideas and diversity soc div in the US course.  

Exploring the creative sector: Art issues in the 21st century  
Explores the relationships within the creative sector: Artistic workforce, contemporary art trends, organizational structure and variety within the industries.  
Prereq: Not open to students with credit for 480.  

Managing Arts Organizations: Balancing stability & change  
Introduces the purposes of non-profit organizations and their functions such as governance, program planning, marketing, and fundraising; encourages critical thinking in managerial decision making through practical assignments.  
Pre req: Not open to students with credit for 481.  

Art & Curriculum Concepts for Teachers  
Problems of teaching in terms of personal knowledge about art, insight into children's art work, and understanding of elementary school curriculum.  
Prereq: Not open to students with credit for 600. Not open to art education teacher-candidates. Admis Cond course.  

Pedagogies of Critical Multiculturalism in Teaching Visual Culture  
Investigating the interrelationship of social and visual cultural issues and their impact on the curriculum and teaching practice.  
Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 601 or 605. Admis Cond course.  

Processes of Making and Responding to Art  
Interpreting and writing critically about contemporary art, methods, and strategies that enhance student artmaking.  
Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 604 or 640. Admis Cond course.  

Teaching Practicum: Pre K-12  
Field-based teaching practicum at the prekindergarten through Grade 12 levels.  
Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 788 or 787. Admis Cond course.  

Internship  
Students intern at non-public school sites to synthesize and apply what they have learned in the classroom through concentrated practice in the field.  
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.  

Individual Studies  
Individual studies and project work in specified problems in the field of art education.  
Prereq: Written permission. Not open to students with credit for 493. This course is graded S/U.  

Group Studies  
Group studies and project work in specified problems of the field of art education.  
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.  

Concepts for Planning Art Education Curricula  
Planning for and management of the social and physical environment of art education.  
Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 607. Admis Cond course.  

History & Philosophy of Art Education, Schools, and Society  
History of the field with an emphasis on major ideas in philosophy and learning theory that affect current trends.  
Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 603. Admis Cond course.  

Art Education for Children with Special Needs  
Strategies that can be used in teaching art to students with special needs and lesson planning for inclusion.  
Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 608. Admis Cond course.
## Art Education

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4491</td>
<td>Applied Research</td>
<td>U 1-6</td>
<td>Studies in empirical, philosophical, curriculum, and studio problems in art education. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.</td>
</tr>
<tr>
<td>4495</td>
<td>Seminar on Topical Issues in Art Education</td>
<td>U 1-9</td>
<td>Seminar on topical issues in art education. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4500</td>
<td>Clinical Experience</td>
<td>U 3</td>
<td>Contact with practicum sites and collaborative work with cooperating teachers to plan and deliver instruction. Prereq: Art Education Licensure students, or permission of instructor. Not open to students with credit for 689. Admis Cond course.</td>
</tr>
<tr>
<td>4715</td>
<td>Art Education as a Community Act Developing Pedagogy for School-Community Collaboration through Art.</td>
<td>U 3</td>
<td>Introduces the relationship between art education and community contexts. Students will be introduced to collaboration processes and pedagogy for community-based art education. Prereq: Not open to students with credit for 595.</td>
</tr>
<tr>
<td>4740</td>
<td>Docent Training</td>
<td>U 3</td>
<td>Introduces students to theory and techniques of teaching in museum galleries at the Wexner Center for the Arts. Students are trained to lead tours by studying contemporary art, touring planning strategies and interactive techniques. Prereq: Permission of instructor.</td>
</tr>
<tr>
<td>4763</td>
<td>African American Women Artists from Slavery to Present</td>
<td>U 3</td>
<td>Articulates ways black women have been represented in historic and contemporary visual culture through the work of women artists from the time of slavery to the present.</td>
</tr>
<tr>
<td>4786</td>
<td>Arts Policy &amp; Administration Mentorships</td>
<td>U 1-9</td>
<td>Provides an opportunity to connect academic studies of nonprofit organizations, their missions, and their targeted audiences and stakeholders to everyday management practices. Prereq: 4480 and 4481. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4797</td>
<td>Foreign Tour</td>
<td>U 1-3</td>
<td>Foreign travel. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4798</td>
<td>Domestic Tour</td>
<td>U 1-6</td>
<td>Domestic travel. Prereq: Not open to students with credit for 698.01. This course is graded S/U.</td>
</tr>
<tr>
<td>4900</td>
<td>Teaching Seminar</td>
<td>U 3</td>
<td>Concurrent to teaching practicum. Prereq: Art Education Licensure students, or permission of instructor. Admis Cond course.</td>
</tr>
<tr>
<td>4998</td>
<td>Creative Activity in Art Education: Undergraduate Scholarship</td>
<td>U 1-9</td>
<td>Undergraduate scholarship. Repeatable to a maximum of 9 or hrs or 2 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4998H</td>
<td>Creative activity in art education: Undergraduate Scholarship</td>
<td>U 1-9</td>
<td>Honors undergraduate scholarship. Prereq: Honors standing, and permission of instructor. Not open to students with credit for 699H. Repeatable to a maximum of 9 cr hrs or 2 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999</td>
<td>Thesis Research</td>
<td>U 1-9</td>
<td>A program of reading and research arranged for each student, with individual conferences and reports and thesis. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 2 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999H</td>
<td>Honors Thesis Research</td>
<td>U 1-9</td>
<td>A program of reading and research arranged for each student, with individual conferences and reports and honors thesis. Prereq: Honors standing, and permission of instructor. Not open to students with credit for 789H. Repeatable to a maximum of 9 cr hrs or 2 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5367</td>
<td>Reel Injuns: Identity and Representation</td>
<td>U 3</td>
<td>Introduces broad range of issues, theories, and practices of visual culture within the gaze of American Indians and how reaction to or rejection shapes indigenous identities, as well as non-Native understandings of American Indians. This course will explore action research practices, historical research methodologies, and critical readings. Prereq: Not open to students with credit for 3367.</td>
</tr>
<tr>
<td>5670</td>
<td>Public Policy and the Arts</td>
<td>U 3</td>
<td>Introduction to the purposes, rationales, interests, issues, political dynamics, and performance of agency/programs in the U.S. cultural policy system. Prereq: Not open to students with credit for 670.</td>
</tr>
<tr>
<td>5671</td>
<td>Organizational Leadership in the Nonprofit Arts</td>
<td>U G 3</td>
<td>Students will be assisted in enhancing their knowledge and ability to take responsible leadership roles in non-profit arts organizations and as a major constituent of public arts agencies. Prereq: Not open to students with credit for 671.</td>
</tr>
<tr>
<td>5672</td>
<td>Managing Cultural Policy Change</td>
<td>U G 3</td>
<td>Planning and executing strategic change in public arts agencies. Explores implications of shifting from a supply/demand to a value-based cultural policy paradigm. Prereq: Not open to student with credit for 672.</td>
</tr>
<tr>
<td>5673</td>
<td>Symposium Issues</td>
<td>U G 3</td>
<td>Explores new ideas or changing arts policy issues through readings and visiting experts to prepare students for participation in biennial scholarly symposium. This is a spring course plus a symposium in May. Repeatable to a maximum of 9 cr hrs</td>
</tr>
<tr>
<td>5674</td>
<td>The Creative Sector and Creative Cities</td>
<td>U G 3</td>
<td>Examines policy experiences of U.S. and other countries pertaining to the composition, workforce, and support systems of the creative industries across non-profit, commercial, community, and embedded settings.</td>
</tr>
<tr>
<td>5675</td>
<td>International Cultural Relations</td>
<td>U G 3</td>
<td>Explores cultural exchange as a policy tool of international cultural engagement, nation branding, and cultural diplomacy. Also considers international festival and exhibitions, cultural trade, and international collaboration.</td>
</tr>
<tr>
<td>5676</td>
<td>Arts Advocacy and Interest Groups</td>
<td>U G 3</td>
<td>Survey of organized interest groups and their activities in the arts and culture sector, of advocacy techniques and practices, coalition formation, and policy communities.</td>
</tr>
<tr>
<td>5682</td>
<td>Nonprofit Arts Institution Governance and Board Leadership</td>
<td>U G 3</td>
<td>Research-based, practical exploration of nonprofit boards critically examines governance policies and practices; specifically focusing on management, board and staff relations and issues of accountability. Prereq: Not open to students with credit for 782.</td>
</tr>
<tr>
<td>5683</td>
<td>Developing Arts Careers: Positioning Passion</td>
<td>U G 3</td>
<td>Prepares students as entrepreneurs to enter nonprofit, commercial, public, and/or academic careers through independent investigation, dossier development, research proposals, and grant writing. Prereq: Not open to students with credit for 683.</td>
</tr>
<tr>
<td>5684</td>
<td>Arts Participation, Cultural Literacy, and Audience Development</td>
<td>U G 3</td>
<td>Building on empirical and theoretical research, this course constructs a framework to understand audience participation, understanding and reception of specific art forms.</td>
</tr>
<tr>
<td>5685</td>
<td>Arts/Cultural Organizations: Resource Management &amp; Revenue Streams</td>
<td>U G 3</td>
<td>An analysis of current issues in resource management and revenue streams available to arts &amp; cultural organizations, and its application to marketing and development practice.</td>
</tr>
<tr>
<td>5686</td>
<td>Cultural Program Design, Implementation, and Evaluation</td>
<td>U G 3</td>
<td>Research of program theory, design, and their application implementation.</td>
</tr>
<tr>
<td>5708</td>
<td>Disability and Visual Culture: Issues of Representation in Art and Popular Culture</td>
<td>U G 3</td>
<td>An examination of representational issues surrounding disability including popular culture, art, and artistic self-representation.</td>
</tr>
<tr>
<td>5715</td>
<td>Art Education as a Community Act: Developing Pedagogy for School-Community Collaboration through Art</td>
<td>U G 3</td>
<td>Explores the process of connecting art education and community contexts. Students will investigate and envision collaborative practices and create pedagogy for community-based art education. Prereq: Not open to students with credit for 715.</td>
</tr>
<tr>
<td>5795</td>
<td>Seminar on Topical Issues in Art Education</td>
<td>U G 3</td>
<td>Seminar on topical issues in Art Education. Repeatable to a maximum of 30 cr hrs.</td>
</tr>
<tr>
<td>5797.01</td>
<td>Study at a Foreign Institution</td>
<td>U G 1-9</td>
<td>An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees in excess of Ohio State tuition, as well as all travel and subsistence costs. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>5797.02</td>
<td>Exploring Jamaican Arts and Culture</td>
<td>U G 3</td>
<td>Focuses on arts and cultural practices in schools, colleges, museums, and cultural institutions in Jamaica. Students explore and analyze policies, practices, content, and pedagogy of the arts in Jamaica in comparison and contrast with our understandings of such in the United States.</td>
</tr>
</tbody>
</table>
5835 Visual Representations of LGBT Subjects  U G  3
Survey of social standpoints on visual culture and cinematic representations of (homo)sexualities through readings, film viewings, class discussions and presentations of independent research.
Prereq: Not open to students with credit for 835.

6998 Research for Non-thesis  G  1 - 9
Research for non-thesis purposes only. Repeatable to a maximum of 27 cr hrs. This course is graded S/U.

6999 Research for Thesis  G  1 - 9
Research for thesis purposes only. Repeatable to a maximum of 27 cr hrs. This course is graded S/U.

7000.10 Concepts, Theories, and Issues in Art Education  G  3
Review of analytical reading and writing; overview of topics for art education research; graduate faculty research; national and international issues; research resources. Must be taken during the first year of graduate study.
Prereq: Not open to students with credit for 700.

7000.20 Concepts, Theories, and Issues in Arts/Culture Policy  G  3
Review of analytical reading and writing; overview of topics for arts policy & admin. research; graduate faculty research; national and international issues; research resources. Must be taken during the first year of graduate study.

7100 Histories and Policies of Arts Education  G  3
Students explore arts/education history while developing skills in researching cultural practices, programs and protocols, and analyzing the impact of arts programs/initiatives and social interventions on citizens and communities.
Prereq: Not open to students with credit for 701 or 704.

7200.10 Introduction to Research Methodologies, Methods and Proposal Writing  G  3
Introduction to research philosophies, methodologies, methods and proposal writing in arts education, policy, and administration.
Prereq: Not open to students with credit for 705 or 809.

7200.20 Overview of Research Planning for Arts Policy & Administration  G  3
Introduction to a range of research resources and methods applicable to APA students including historical, case studies, surveys & interviews. Using the literature to frame research questions, build a conceptual framework and inform research plan.
Prereq: Not open to students with credit for 705 or 809.

7300 Introduction to Teaching Arts Education at the College Level  G  2
An introduction to theories, methods and issues related to teaching arts education at the college level.
Prereq: New or recently reassigned ARTEDEUC GTAs, or permission of instructor. Not open to students with credit for 707.

7604 Teaching of Studio Activities  G  3
Exploration of instructional application of various art materials for educational settings.
Prereq: Not open to students with credit for 604.

7606 Technology and Digital Texts  G  3
Theory and practice of engaging others in technologies and digital texts relative to art education practice.
Prereq: Not open to students with credit for 606.

7607 Curriculum Development: Artmaking  G  3
Introduction to curriculum development including artmaking practices and assessment strategies.
Prereq: Not open to students with credit for 604, 607 or 731.

7640 Critical Dialogue about Contemporary Art and Visual Cultures  G  3
Theory and practice of engaging others in informed discussion of works of contemporary art and visual culture.
Prereq: Not open to students with credit for 640.

7652 Computer Graphics and New Media in the Arts and Education  G  3
Exploration of new media technologies that impact contemporary arts and art education practices.
Prereq: Not open to students with credit for 651 or 652.

7681 Arts/Cultural Institutions, Organizational Theories & Management Practice  G  3
Building on organizational theories, this course examines the purpose and function of arts and cultural institutions and current management practices in the creative sector.
Prereq: Not open to students with credit for 681.

7701 Contemporary Theory and Art Education  G  3
Investigation of contemporary theory from an interdisciplinary perspective and the implications for art education.

7706 Practicing Qualitative Research in Art Education  G  3
Practice in designing qualitative research projects with emphasis on correlating epistemology with methods of data collection, analysis, interpretation, and re-presentation; foregrounding in ethics,audience, research applications.
Prereq: 7200.

7707 Action Research Theory and Practice  G  3
Exploration of action research theories and practices in school, community, and organizational settings.

7709 Arts-Based Education Research Approaches  G  3
Survey a range of arts-based research methods in the multiple arts and education fields. Explore/develop and analyze innovations in data gathering, analyses, performance/presentation and publication.
Prereq: 7200.

7710 Experimental Writing in Qualitative Research  G  3
Offers readings, discussion, and practice in writing new texts that expand the conception of qualitative research. Students engage in workshops with peers and established arts-informed writers. Completion of one qualitative research course is recommended but not required for enrollment.

7716 Theories and Philosophies of Community Arts Education  G  3
Explores theories and philosophies of community arts education, a growing field of scholarly and pragmatic interest in the United States with Historic and international roots.

7731 Evaluation and Assessment in Arts Education  G  3
Evaluation of student progress and performance in the art classroom; collecting and analyzing data in program evaluation.
Prereq: Not open to students with credit for 731.

7735 Museum History  G  3
Critical examination of the historic and theoretical foundations of art and other museums as an institution, drawing on multiple disciplinary perspectives. Counts toward Museum Education specialization.
Prereq: Not open to students with credit for 735.

7736 Museums and Teaching  G  3
A theoretical and practical study of teaching and learning in and through museums. Counts toward Museum Education specialization.
Prereq: Not open to students with credit for 736.

7740 Docent Training  G  3
Introduces students to theory and techniques of teaching in museum galleries at the Wexner Center for the Arts. Students are trained to lead tours by studying contemporary art, tour planning strategies and interactive techniques.
Prereq: Permission of instructor.

7744 Indigenous Perspectives of Arts Education Policies and Practice  G  3
Explores arts/education history while developing skills in researching cultural practices, programs and protocols, and analyzing the impact of arts programs/initiatives and social interventions on indigenous citizens and communities.

7745 Indigenous Readings of Museum History  G  3
Indigenous examination of the historic development of art and other museums as institutions, drawing on multiple disciplinary perspectives. Counts toward Museum Education specialization.

7746 Museum of the Native American Indian Field Study  G  3
Sited at the Washington, D.C. Museum of the Native American Indian, this course examines self-determined representation and living museum protocols of North & South American indigenous populations. Counts toward the Museum Education specialization.

7747 Museum Practicum Across Indigenous Institutions  G  3
An examination of the professional roles operating in indigenous art, history and anthropology museums through podcast presentations by scholars across the globe working in museum settings. Counts toward Museum Education specialization.

7748 Museum Education Practicum  G  3
An examination of the role of education in art museums through an in-depth experience in a museum setting. Counts toward Museum Education specialization.
Prereq: Not open to students with credit for 748.

7753 Information and Communication Technologies in Art Education  G  3
Practice and theories of digital technology integration in art education and arts administration.
Prereq: Not open to students with credit for 753.

7755 History, Politics and Practices of Visual Culture in Art Education  G  3
An examination of the antecedents, history, politics and practices of visual culture, with a specific focus on the literature in art education.
Prereq: Not open to students with credit for 755.
42 Art Education

7756 Semiotics and Visual Culture G 3
Traditional and contemporary theories of semiotics applicable to visual culture.
Understanding how cultural meanings are created, maintained and habits are shifted.

7757 Identity, Desire, and Fantasy in Visual Culture Education G 3
A general introduction to Lacanian theory and why it matters for visual culture education.

7764 Investigating Material Culture G 3
Investigates the relationship between people and objects including scientific analysis of materials, skill of maker, use, cultural importance and meaning. Core course for graduate interdisciplinary specialization in the Analysis of Material Culture.
Prereq: Not open to students with credit for 764.

7765 Critical Dialogue about Visual Culture and Contemporary Art G 3
Theory and practice of engaging others in informed discussion of works of art.
Prereq: Not open to students with credit for 651 or 652.

7766 Exploring Practices of Meaning Making and Artmaking G 3
Exploring meaning making practices and artmaking through materiality, play, and affect.
Theoretical perspectives derive from Deleuzian philosophy, semiotics, and poststructuralist theory.

7767 Critical Analysis of Multicultural Art Education G 3
Investigation and analysis of multicultural theories, issues, and practices for art education.
Prereq: Not open to students with credit for 756.

7768 Indigenous People and Visual Culture G 3
Critically investigate images of indigenous people as portrayed through visual culture (i.e. television, films, advertising, art, and historic references).
Prereq: Not open to students with credit for 768.

7775 Social and Cultural Theories in Art and Art Education G 3
Critical investigation of theoretical, artistic, and pedagogical concepts related to diversity.
Prereq: Not open to students with credit for 775.

7775 Research, Analysis, and Writing in Art Education G 3
Research processes, analysis, and writing practices in Art Education.

7795 Seminar on Topical Issues in Art Education G 3
Seminar on Topical Issues in Art Education.
Repeatable to a maximum of 30 cr hrs.

7803 Critical Theory and Cultural Studies of Policy Research and Practice G 3
Traces the development of critical theories from 19th-20th centuries, tracing historic developments and their value/importance to arts education policy research and practice.
Prereq: Not open to students with credit for 803.

7807 Overview of Curriculum in Art Education G 3
Investigation of curriculum theory and practice in art education from the perspective of contemporary culture.

7808 The Arts and Integrated Curriculum G 3
Explores literature and theory that deals with the role of arts in integrated curriculum, how theory is translated into practice, and how teachers develop learning communities and work with each other in the area of arts in integrated curriculum.

7831 Historical Research Approaches in Art Education G 3
Students explore approaches to metaphysics, while developing skills in researching the socially constructed nature of reality. Its languages and metrical structures in images, film, artifacts, and documents.

7841 Philosophies of Art, Culture, and Pedagogy G 3
Philosophies of art and culture through time and geography. Divisions of power, the nature of identity, forms of agency and rationality, the experiences of people as visual participants in cultures.

7842 Semiotics and Feminist Aesthetics G 3
Deconstructing and constructing material culture related to girls and women; critically viewing, discussing, and writing semiotic analyses of these images and deciphering social implications of material culture related to girls and women.

7843 Writing for Publication G 3
Emphasis is practical over theoretical. Students develop plans for scholarly writing and publication, including topics, genre, style, audiences, and dynamics of submission to various forums.
Prereq: 7200.

7875 Social and Cultural Research Methods for Art Education G 3
Socially- and culturally-based research methods for studying the art of diverse groups of people.
Prereq: 7200. Not open to students with credit for 875.

7890 Colloquium G 1½
An interdisciplinary forum of students and faculty for discussing themes selected by graduate students in "Art of the Department of Art Education." Repeatable to a maximum of 3 cr hrs or 2 completions. This course is graded S/U.

7891.01 Internship in Arts Management G 1 - 9
Supervised professional experience in performing arts, visual arts, literary arts, or museum/historical organization.
Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7891.02 Art and Cultural Policy Internship G 1 - 9
Supervised professional experience in government arts or a cultural agency at any level - local, state, regional, national, or international - or within a trade or professional association engaged in arts advocacy.
Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7891.03 Internship in Museum Education G 1 - 9
Supervised professional experience within a museum or public gallery that provides educational services.
Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7891.04 Community Arts Internship G 1 - 9
Supervised professional experience in a community setting that provides programs addressing arts education.
Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7893 Individual Studies G 1 - 9
Individual Studies.
Repeatable to a maximum of 27 cr hrs or 5 completions. This course is graded S/U.

7894 Group Studies G 3
Group studies for students in specialized programs.
Repeatable to a maximum of 9 cr hrs or 3 completions.

7898.01 Study Tour Domestic G 1 - 9
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Domestic. Repeatable for different study tours only.
Repeatable to a maximum of 12 cr hrs.

7898.02 Study Tour Foreign G 1 - 9
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Foreign. Repeatable for different study tours only.
Repeatable to a maximum of 12 cr hrs.

7911 Research Problems in Art Education G 1 - 9
Research problems in Art Education.
Repeatable to a maximum of 27 cr hrs or 3 completions.

7998 Research for Candidacy Examination G 1 - 9
Research for candidacy examination.
Repeatable to a maximum of 27 cr hrs or 9 completions. This course is graded S/U.

7999 Research for Dissertation G 1 - 9
Research for dissertation purposes only.
Repeatable to a maximum of 27 cr hrs or 9 completions. This course is graded S/U.

Arts and Sciences

1100.01 Arts and Sciences Survey: General U 1
Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services.
Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.

1100.01H Arts and Sciences Survey: General (Honors) U 1
Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services.
Prereq: Honors standing, or permission of instructor or department. Not open to students with credit for any College Survey 100.XX course. This course is graded S/U.

1100.02 Arts and Sciences Survey: Special U 1
Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services.
Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.

1100.03 Arts and Sciences Survey: PASS U 1
Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services.
Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.
<table>
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<tbody>
<tr>
<td>1100.04</td>
<td>Arts and Sciences Survey: Transfer</td>
<td>U</td>
<td>Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services. Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.</td>
</tr>
<tr>
<td>1100.05</td>
<td>Arts and Sciences Survey: Art</td>
<td>U</td>
<td>Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services. Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.</td>
</tr>
<tr>
<td>1100.06</td>
<td>Arts and Sciences Survey: Arts and Humanities</td>
<td>U</td>
<td>Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services. Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.</td>
</tr>
<tr>
<td>1100.07</td>
<td>Arts and Sciences Survey: Biological Sciences</td>
<td>U</td>
<td>Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services. Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.</td>
</tr>
<tr>
<td>1100.08</td>
<td>Arts and Sciences Survey: Dance</td>
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<td>Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services. Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.</td>
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<tr>
<td>1100.09</td>
<td>Arts and Sciences Survey: Design</td>
<td>U</td>
<td>Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services. Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.</td>
</tr>
<tr>
<td>1100.10</td>
<td>Arts and Sciences Survey: Mathematical and Physical Sciences</td>
<td>U</td>
<td>Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services. Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.</td>
</tr>
<tr>
<td>1100.11</td>
<td>Arts and Sciences Survey: Music</td>
<td>U</td>
<td>Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services. Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.</td>
</tr>
<tr>
<td>1100.12</td>
<td>Arts and Sciences Survey: Middle Childhood Education</td>
<td>U</td>
<td>Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services. Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.</td>
</tr>
<tr>
<td>1100.13</td>
<td>Arts and Sciences Survey: Social and Behavioral Sciences BA</td>
<td>U</td>
<td>Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services. Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.</td>
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<tr>
<td>1100.14</td>
<td>Arts and Sciences Survey: Social and Behavioral Sciences BA/BS</td>
<td>U</td>
<td>Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of Arts and Sciences academic areas of study and services. Prereq: Permission of department or instructor. Not open to students with credit for any College Survey 100.xx course. This course is graded S/U.</td>
</tr>
<tr>
<td>1101</td>
<td>First or Second Year Seminar</td>
<td>U</td>
<td>Seminars on topics taught by University faculty. Prereq: Fresh or Soph standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>1102H</td>
<td>Regional Honors Seminar</td>
<td>U</td>
<td>Seminars on topics taught by University faculty on regional campuses and intended to provide a common experience for Honors students. Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>1137.01</td>
<td>Freshman Seminar</td>
<td>U</td>
<td>Affords first-year students opportunities for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit. Prereq: Fresh standing, or permission of instructor. Only one Fresh seminar per semester allowed. Repeatable to a maximum of 2 cr hrs.</td>
</tr>
<tr>
<td>1137.02</td>
<td>Freshman Seminar</td>
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<td>Affords first-year students opportunities for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit. Prereq: Fresh standing, or permission of instructor. Only one Fresh seminar per semester allowed. Repeatable to a maximum of 2 cr hrs.</td>
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<td>1137.03</td>
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<td>Affords first-year students opportunities for contact with faculty in small group settings; introduction to academic areas, research, and frontier areas of scholarly pursuit. Prereq: Fresh standing, or permission of instructor. Only one Fresh seminar per semester allowed. Repeatable to a maximum of 2 cr hrs.</td>
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<td>1137.06</td>
<td>Freshman Seminar</td>
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<td>Freshman Seminar</td>
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<td>Freshman Seminar</td>
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<td>Freshman Seminar</td>
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<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credit Hours</th>
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<tbody>
<tr>
<td>1138.15</td>
<td>Freshman Seminar</td>
<td>U 1</td>
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<tr>
<td>1138.16</td>
<td>Freshman Seminar</td>
<td>U 1</td>
</tr>
<tr>
<td>1138.17</td>
<td>Freshman Seminar</td>
<td>U 1</td>
</tr>
<tr>
<td>1138.18</td>
<td>Freshman Seminar</td>
<td>U 1</td>
</tr>
<tr>
<td>1138.19</td>
<td>Freshman Seminar</td>
<td>U 1</td>
</tr>
<tr>
<td>1138.20</td>
<td>Freshman Seminar</td>
<td>U 1</td>
</tr>
<tr>
<td>1191</td>
<td>Non-Credit Internship</td>
<td>U 0</td>
</tr>
<tr>
<td>2000.01</td>
<td>Arts Scholars Seminar</td>
<td>U 1</td>
</tr>
<tr>
<td>2000.02</td>
<td>Humanities Scholars Seminar</td>
<td>U 1</td>
</tr>
<tr>
<td>2120</td>
<td>Information Search, Evaluation and Use</td>
<td>U 2</td>
</tr>
<tr>
<td>2121</td>
<td>Academic Online Research</td>
<td>U 2</td>
</tr>
<tr>
<td>2193</td>
<td>Individual Studies</td>
<td>U 1 - 3</td>
</tr>
<tr>
<td>2194</td>
<td>Interdisciplinary Group Studies</td>
<td>U 1 - 3</td>
</tr>
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<td>2194H</td>
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<td>U 1 - 3</td>
</tr>
<tr>
<td>2400</td>
<td>Conversations on Morality, Politics, and Society</td>
<td>U 3</td>
</tr>
<tr>
<td>2400E</td>
<td>Conversations on Morality, Politics, and Society</td>
<td>U 3</td>
</tr>
<tr>
<td>2797.01</td>
<td>Study at a Foreign Institution</td>
<td>U 1 - 6</td>
</tr>
<tr>
<td>2797.02</td>
<td>Contemporary India</td>
<td>U 3</td>
</tr>
<tr>
<td>2798.01</td>
<td>Study Tour: Domestic</td>
<td>U 1 - 10</td>
</tr>
<tr>
<td>2798.02</td>
<td>Study Tour: Foreign</td>
<td>U 1 - 10</td>
</tr>
<tr>
<td>3142.01</td>
<td>Online Research and the Science Literature</td>
<td>U 2</td>
</tr>
<tr>
<td>3191.01</td>
<td>For-Credit Internship</td>
<td>U 1 - 12</td>
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<tr>
<td>3191.02</td>
<td>Internship &amp; Career Exploration</td>
<td>U 1 - 2</td>
</tr>
<tr>
<td>3200</td>
<td>Exploring Careers in the Information Professions</td>
<td>U 2</td>
</tr>
<tr>
<td>4194</td>
<td>Interdisciplinary Group Studies</td>
<td>U 1 - 3</td>
</tr>
</tbody>
</table>
46  Arts and Sciences

4194H Interdisciplinary Group Studies  U  1 - 3
Study of special or interdisciplinary topics at the upper division level. Prereq: Honors standing, Jr or Sr standing; or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4531 Theorizing Your Academic Experience  U  3
Study of principles underlying knowledge organizations and curricula in higher education as well as students experience of the structures of academia at OSU and elsewhere. Prereq: English 1110 or equiv. Not open to students with credit for 531.

4570 The Ohio State University: Its History and Its World  U  3
An introduction to the past and present of OSU, its importance, its disciplines, the interrelations of the academic and other components of the institution, and the contributions over the years of OSU to the wider world. Prereq: Not open to students with credit for 511.

4998 Undergraduate Research in the Arts and Sciences  U  0 - 10
Undergraduate research or creative activities in variable topics. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

5194 Group Studies  U G  1 - 3
Study of special or interdisciplinary studies. 5194H (honors) may be available. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5194H Group Studies  U G  1 - 3
Study of special or interdisciplinary studies. Prereq: Honors standing, or permission of department or instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

5797 Study at a Foreign Institution  U G  1 - 18
An opportunity for students to study at a foreign institution and receive OSU credit for work completed there. Students will pay OSU fees and any fees in excess of OSU tuition, as well as all travel and subsistence costs. Prereq: Permission of department chairperson. Repeatable to a maximum of 54 cr hrs or 3 completions.

6110 Health Literacy  G  2
Examine and analyze issues of low health literacy, including populations at risk, research, measurement tools, writing in plain language; health communication techniques; and organizational approaches. Prereq: Grad standing. Not open to students with credit for 709, Nursing 6110 (710), P170 (Pharmacy 709), AllMed 7101 (710), or MedColl 7110 (710). Cross-listed in P170, Nursing 6110, AllMed 7101, and MedColl 7110.

6750 Multidisciplinary Seminar for Artists  G  3
A multidisciplinary seminar for graduate students in the arts throughout the university, in which we will look at the process of art-making through the lens of each medium as well as the wider lens we can provide as a group. Prereq: Not open to students with credit for 750.

7200 Graduate Seminar in Scientific Literacy  G  3
Explores nature of scientific literacy, scientific thought, roots of western science and technology and the relationship between scientific and other forms of literacy. Prereq: Not open to students with credit for 720.

8194 Group Studies  G  1 - 3
Study of special or interdisciplinary topics at the graduate level. Repeatable to a maximum of 9 cr hrs or 3 completions.

Asian American Studies

4998 Undergraduate Research  U  1 - 4
Undergraduate research in variable topics related to Asian American Studies. Student-initiated projects. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4998H Undergraduate Honors Research  U  1 - 4
Undergraduate honors research in variable topics related to Asian American Studies. Student-initiated projects. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4999 Undergraduate Research: Thesis  U  1 - 4
A program of reading, research, writing, and/or creative work arranged for each student, with individual conferences, progress reports, and thesis. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

4999H Honors Thesis Research  U  1 - 4
A program of reading, research, writing, and/or creative work arranged for each student, with individual conferences, progress reports, and honors thesis. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

5191 Internship  U G  1 - 3
Workplace experience requiring writing and/or research. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5193 Individual Studies  U G  1 - 3
Individual directed study for work not typically offered in courses. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5194 Group Studies  U G  1 - 3
Directed study of an Asian American topic not regularly offered in classes. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

5700 Asian American Studies Workshop  U G  1 - 3
Structured participation in seminar or event organized for that semester. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

Astronomy

1101 From Planets to the Cosmos  U  4
Overview of the Copernican revolution, the discovery of the nature of our solar system, light, gravity, and planets around other stars; the nature and evolution of stars and origin of the chemical elements; the history of galaxies and the expanding universe. Weekly laboratory. Not recommended for students who plan to major in astronomy or physics. Prereq: Math 1050 (075) or 105 (070), or an ACT math subscore of 22 or higher that is less than two years old, or Math Placement R or higher; or permission of instructor. Not open to students with credit for 1140, 1141, 1161H (H161), 1162H (H162), 2161H, 2162H, 2291 (291), or 2292 (292). GE nat sci phys course.

1140 Planets and The Solar System  U  3
Physical nature of the sun and its family of planets, satellites, comets and minor bodies; gravitation, light, and telescopes. Not recommended for students who plan to continue in astronomy or physics. Prereq: ACT Math Subscore of 22 or higher, or Math Placement Level R or better, or Math 1050 (075) or 105 (070), or permission of instructor. Not open to students with credit for 1161 (161), 1161H (161H), 2291 (291), or 171. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1141 Life in the Universe  U  3
Potential for life elsewhere in the universe, based on discovery of extra-solar planets and nature of life on Earth; search strategies for such life. Prereq: Not open to students with credit for 141. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1142 Black Holes  U  3
The nature, formation, and discovery of black holes in the universe. Prereq: ACT Math Subscore of 22 or higher, or Math Placement Level R or better, or Math 1050 (075), or permission of instructor. Not open to students with credit for 142. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1143 Cosmology: History of the Universe  U  3
Description of the history of the universe from Big Bang to present; how observations led to discovery of this history. Prereq: Not open to students with credit for 2292 (292) or 1162 (162) or 143 or 172. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1144 Stars, Galaxies, and the Universe  U  3
Structure, motions, and evolution of stars, interstellar material, galaxies, and the universe as a whole. Not recommended for students who plan to continue in astronomy or physics. Prereq: ACT Math Subscore of 22 or higher, or Math Placement Level R or better, or Math 1050 (075), 105 (070), 102, or permission of instructor. Not open to students with credit for 2292 (292), 1162 (162), 1162H (162H), or 172. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

2161H Solar System Astronomy  U  3
Physical nature of the sun and its family of planets, satellites, comets and minor bodies; gravitation, light, and telescopes. Not recommended for students who plan to continue in astronomy or physics. Prereq: Honors standing, and Math 1116 (116) or 1148 (148); or permission of instructor. Not open to students with credit for 1140, 1161 (161), 1161H (161H), 2291 (291), or 171. GE nat sci phys course. NS Admis Cond course.

2162H Stellar, Galactic, and Extragalactic Astronomy  U  3
Structure, motions, and evolution of stars, interstellar material, galaxies, and the universe as a whole. Not recommended for students who plan to continue in Astronomy or Physics. Prereq: Honors standing, and 2161H or 1161H (161H); or permission of instructor. Not open to students with credit for 1162 (162), 1162H (162H), or 2292 (292) or 172. GE nat sci phys course. NS Admis Cond course.
2163H Relativity and Cosmology  U  3
Origin and evolution of the Universe, based on the Theory of Relativity, including the Big Bang, cosmic microwave background, formation of cosmic structure, dark matter. Not recommended for students who plan to continue in Astron or Physics.
Prereq: Honors standing, and 1162 (162) or 1162H (162H); or permission of department. Not open to students with credit for 2292 (292) or 163H. GE nat sci phys course. NS Admis Cond course.

2193 Individual Studies  U  1 - 10
Independent library or laboratory work on a special problem or topic in observational or theoretical astronomy.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 3 completions. This course is graded S/U.

2194 Group Studies  U  1 - 10
Special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U.

2291 Basic Astrophysics and Planetary Astronomy  U  3
Motions and physical nature of objects in the solar system; electromagnetic radiation, telescopes, and astronomical detectors.
Prereq: Physics 1251 (133), or permission of instructor. Not open to students with credit for 291. This course is available for EM credit. GE nat sci phys course.

2292 Stellar, Galactic, and Extragalactic Astronomy and Astrophysics  U  3
Observational and physical properties of the sun and stars; stellar structure and evolution; interstellar medium; galaxies and cosmology.
Prereq: 2291 (291), or permission of instructor. Not open to students with credit for 292. This course is available for EM credit. GE nat sci phys course.

2895 Topics in Astrophysics  U  1
Prospective astronomy majors will meet weekly with different astronomy faculty to learn about current research topics, facilities, and opportunities available in the undergraduate astronomy program.
Prereq: Not open to students with credit for two sections of 295. This course is graded S/U.

3350 Methods of Astronomical Observation and Data Analysis  U  3
Astronomical observational techniques and quantitative analysis of astronomical data; practical experience with modern astronomical instrumentation and computer-based reduction, analysis, and interpretation of astronomical data.
Prereq: 1162 (162), 1162H (162H), or 2292 (292), and Math 1152 (153), and Physics 1251 (133). Not open to students with credit for 350. GE data analy course.

4193 Individual Studies  U  1 - 10
Independent library or laboratory work on a special problem or topic in observational or theoretical astronomy.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 3 completions. This course is graded S/U.

4194 Group Studies  U  1 - 10
Special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U.

4998 Non-Thesis Research  U  1 - 10
Directed undergraduate research (non-thesis).
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.

4998H Honors Non-Thesis Research  U  1 - 10
Directed undergraduate research (non-thesis).
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 30 cr hrs or 4 completions. This course is graded S/U.

4999 Thesis Research  U  1 - 10
Directed undergraduate research for thesis.
Prereq: Permission of department and instructor. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

4999H Honors Thesis Research  U  1 - 10
Directed undergraduate research (thesis).
Prereq: Permission of department and instructor. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

5681 Principles of Stellar Evolution and Nucleosynthesis  U G  3
Physics of stellar structure, evolution, and nucleosynthesis.
Prereq: Math 2174 or 2255 (255) or 2415 (415); and Physics 2301 (263); or permission of instructor. Prereq or concurs: Physics 5600 (521). Not open to students with credit for 505 or Physics 681.

5682 Introduction to Cosmology  U G  3
Structure and evolution of the Universe.
Prereq: Math 2174 or 2255 (255) or 2415 (415); and Physics 2301 (263); or permission of instructor. Prereq or concurs: Physics 5600 (521). Not open to students with credit for 682 or Physics 682.

5830 Observed Properties of Astronomical Systems  U G  5
Observed properties of planets (including extrasolar planets), the solar system, stars, and both active and quiescent galaxies.
Prereq: Permission of instructor. Not open to students with credit for 830.

6891 Astronomy Seminar I  G  2
First and second year graduate students will participate in weekly departmental colloquia and journal club.
Prereq: Grad standing in Astron. Not open to students with 4 qtr cr hrs for 801. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

6892 Astronomy Seminar II  G  2
First and second year graduate students will participate in weekly departmental colloquia and journal club.
Prereq: Grad standing in Astron. Not open to students with 8 qtr cr hrs in Astron 802 and/or 803. Students with no more than 4 qtr cr hrs in Astron 802 and/or Astron 803 may take this course only once. This course is graded S/U.

7193 Individual Studies  G  1 - 10
Independent library or laboratory work on a special problem or topic in observational or theoretical astronomy.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 3 completions. This course is graded S/U.

7810 Order ofMagnitude Astrophysics  G  2
Methods for solution of a wide range of astrophysical problems, building on basic physical principles.
Prereq: Grad standing in Astron, or permission of instructor. Not open to students with 8 qtr cr hrs in Astron 810. Students with no more than 4 qtr cr hrs in 810 may enroll only once. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

7890 Topical Seminars in Astronomy  G  1
Focused seminars on topics and methods of contemporary astronomical research.
Prereq: Grad standing in Astron, or permission of instructor. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.

8194 Group Studies  G  1 - 5
Special topics not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 20 completions. This course is graded S/U.

8823 Atomic and Radiative Processes in Astrophysics  G  3
Continuum and discrete radiative processes relevant to astrophysics.
Prereq: Grad standing in Astron; or permission of instructor. Not open to students with credit for 622 and 623.

8824 Numerical and Statistical Methods in Astrophysics  G  2
Practical applications of numerical and statistical methods used in modern astrophysics.
Prereq: Grad standing in Astron, or permission of instructor.

8831 Stellar Structure and Evolution  G  3
Theoretical aspects of the structure and evolution of single stars.
Prereq: Grad standing in Astron; or permission of instructor. Not open to students with credit for 631.

8870 Dynamics  G  3
Planetary dynamics, stellar dynamics, and astrophysical gas dynamics.
Prereq: Grad standing in Astron; or permission of instructor. Not open to students with credit for 625 and 870.

8871 The Interstellar Medium and the Intergalactic Medium  G  3
The physics of low-density gases, with application to the interstellar medium and the intergalactic medium.
Prereq: Grad standing in Astron; or permission of instructor. Not open to students with credit for 871.

8873 Cosmology  G  3
Structure and evolution of the universe, physical processes in the early universe, formation of cosmic structure.
Prereq: Grad standing in Astron; or permission of instructor. Not open to students with credit for 873.

8998 Directed Research in Astronomy and Astrophysics  G  1 - 12
Directed laboratory or library research under the direction of a faculty member that is not leading directly to a dissertation or thesis.
Prereq: Grad standing in Astronomy, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 20 completions. This course is graded S/U.
48  Astronomy

8999  Research in Astronomy and Astrophysics  G  1 - 12
Research for dissertation or thesis.
Prereq: Grad standing in Astronomy, and permission of instructor. Repeatable to a maximum of 20 completions. This course is graded S/U.

Athletic Training

2000  Basic Athletic Training  U  3
Introduction to profession of Athletic Training, its governing organizations and basic knowledge and skills in prevention, recognition, management and rehabilitation of injuries and illnesses.
Prereq: Enrolled in School of Health and Rehabilitation Sciences, or permission of instructor. Not open to students with credit for 303. Admis Cond course.

2010  Athletic Training Pre-Clinical Skills  U  1
Instruction and assessment of foundational athletic training skills. Course also includes directed observations in selected athletic training facilities.
Prereq or conc: 2000. Not open to students with credit for 303.

2100  Athletic Training Skills Assessment I  U  1
Assessment of student mastery in selected Athletic Training Clinical Skills.
Prereq: 2300. Not open to students with credit for 430, 431, or 432.

2189  Introduction to Clinical Care in Athletic Training  U  3
Introduction to clinical field experience in Athletic Training. Includes limited supervised clinical experience in selected Athletic Training facilities. Concur: 2300. Not open to students with credit for 430, 431, or 432.

2200  Foundations of Athletic Training Diagnosis  U  3
In depth exploration of the morphological and functional changes that are influenced by and result from sport participation, injury, and illness and that are foundational for making accurate diagnoses.
Prereq: Anatomy 2199, and admission to the Athletic Training Program.

2289  Athletic Training Clinical Experience First Year Multisite  U  3
Supervised clinical field experience in Athletic Training rotating through multiple selected facilities.
Prereq: 2189.

2300  Athletic Training Diagnosis and Acute Management I  U  3
Pathology, evaluation, diagnosis, on-field care, and management of lower extremity & axial skeleton pathologies by athletic trainers. Special emphasis on management of acute trauma and return to play determinations.
Prereq: 2200. Not open to students with credit for 420.

2310  Athletic Training Diagnosis and Acute Management II  U  3
Pathology, evaluation, diagnosis, on-field care, and management of upper extremity & head pathologies by athletic trainers. Special emphasis on management of acute trauma and return to play determinations.
Prereq: 2300. Not open to students with credit for 421.

3089  Managing Risks, Emergencies, and Patient Care in the Pre-Season  U  1
Integration into AT clinical practice emphasizing unique risks and demands of the pre-season.
Prereq: 2200. Not open to students with credit for 350.

3100  Athletic Training Skills Assessment II  U  1
Assessment of student mastery in selected Athletic Training Clinical Skills.
Prereq: 2100. Not open to students with credit for 431 or 432.

3110  Athletic Training Skills Assessment III  U  1
Assessment of student mastery in selected Athletic Training Clinical Skills.
Prereq: 3100. Not open to students with credit for 530.

3189  Athletic Training Clinical Experience: Collegiate I  U  5
Supervised Athletic Training clinical experience in the intercollegiate athletics setting. First of three course sequence.
Prereq: 3089. Not open to students with credit for 630.

3289  Athletic Training Clinical Experience: Collegiate II  U  5
Supervised Athletic Training clinical experience in the intercollegiate athletics setting. Second of three course sequence.
Prereq: 3189. Not open to students with credit for 631.

3389  Athletic Training Clinical Experience: Collegiate III  U  1
Supervised Athletic Training clinical experience in the intercollegiate athletics setting. Third of three course sequence.
Prereq: 3289. Not open to students with credit for 532.

3500  Athletic Training Therapeutic Modalities  U  3
Theory and clinical application of physical agents including heat, cold, light, sound, electromagnetic and mechanical energy in treatment and rehabilitation performed by Athletic Trainers.
Prereq: 2310. Not open to students with credit for 610.

3600  Athletic Training Biomechanics  U  3
Theory and clinical application of biomechanics, kinetics, and kinematics by Athletic Trainers in the prevention, diagnosis, management, and rehabilitation of injuries.
Prereq: 2310. Not open to students with credit for 550.

3700  Athletic Training Therapeutic Exercise  U  3
Theory and clinical application of therapeutic exercise in rehabilitation by Athletic Trainers.
Prereq: 3500, 3600, and KoHES (EduPAES) 5500. Not open to students with credit for 521.

3750  Musculoskeletal Screening and Corrective Techniques  U  1
Use of musculoskeletal screening to identify injury risks and development and implementation of specific strengthening programs to minimize those risks.
Prereq: 3600.

3800  Care of Medical Emergencies, Trauma, and Disease  U  4
Diagnosis, on-field care, and ongoing management of disease and non-orthopedic trauma by athletic trainers. Special emphasis on management of catastrophic injury and on inflammation and repair.
Prereq: 2310 or HtrRhSc 5500. Not open to students with credit for 540.

4100  Athletic Training Skills Assessment IV  U  1
Assessment of student mastery in selected Athletic Training Clinical Skills.
Prereq: 3110. Not open to students with credit for 631.

4110  Athletic Training Skills Assessment V  U  1
Assessment of student mastery in selected Athletic Training Clinical Skills.
Prereq: 4100. Not open to students with credit for 632.

4120  Athletic Training Skills Assessment VI  U  1
Assessment of student mastery in selected Athletic Training Clinical Skills.
Prereq: 4110.

4189  Athletic Training Clinical Experience: High School  U  5
Supervised Athletic Training clinical experience in the high school athletics setting.
Prereq: 2189. Not open to students with credit for 630.

4289  Athletic Training Clinical Experience: General Medicine  U  1
Supervised Athletic Training clinical experience in the physician extender/general medical setting.

4389  Athletic Training Clinical Experience: Elective  U  1 - 12
Elective supervised Athletic Training clinical experience. Intended to provide interested students with additional, non-required clinical practice experiences. Requires pre-approval by AT Division’s Director of Clinical Education.
Prereq: Permission of Director of Clinical Education.

4500  Administration in Athletic Training  U  3
Administration of Athletic Training programs. Includes management of personnel, budget, facilities, medical records, insurance, legal liability, emergency plans, public relations, and other topics.
Prereq: 3700. Not open to students with credit for 625.

4600  Psychosocial Issues, Identification and Mediation in Physically Active Patients  U  3
Psychosocial theory and facilitation of development. Disorders are outlined to help athletic trainers identify poor coping mechanisms, psychological disorders, mediation and referral strategies and processes.
Concur: 4500. Not open to students with credit for 635.

Atmospheric Sciences

2193  Individual Studies in Atmospheric Sciences  U  1 - 9
Independent study on selected atmospheric sciences related topics.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

2194  Group Studies in Atmospheric Sciences  U  1 - 3
Special studies on topics directly related to the atmospheric sciences. Repeatable to a maximum of 15 cr hrs or 5 completions.

2940  Basic Meteorology  U  3
Introduction to the underlying physics of the atmosphere; basic equations of thermodynamics, radiation, and dynamics are presented and used to explain selected atmospheric phenomena.
Prereq: Math 152 and Physics 132. Not open to students with credit for 230 or Geo 5900 or 520.

4191  Internship in Atmospheric Sciences  U  1 - 6
An opportunity for practical experience and on-the-job learning in an atmospheric sciences related work place.
Prereq: 12 cr hrs in major program, and permission of instructor. Repeatable to a maximum of 15 hrs or 5 completions. This course is graded S/U.

4193  Individual Studies in Atmospheric Sciences  U  1 - 9
Independent study on selected atmospheric science-related topics.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.
4194  Group Studies in Atmospheric Sciences  U  1 - 3
Special studies on topics directly related to the atmospheric sciences. Repeatable to a maximum of 15 or 5 completions.

4998  Undergraduate Research in Atmospheric Sciences  U  1 - 9
Undergraduate research on topics in Atmospheric Sciences. Prereq: Permission of instructor. Repeatable to a maximum of 15 or 5 completions. This course is graded S/U.

4998H  Honors Undergraduate Research in Atmospheric Sciences  U  1 - 9
Undergraduate research on topics in Atmospheric Sciences. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 or 5 completions. This course is graded S/U.

4999  Thesis Research  U  1 - 9
A program of research that includes individual conferences and culminates in a thesis. Prereq: Permission of instructor. Repeatable to a maximum of 15 or 5 completions. This course is graded S/U.

4999H  Thesis Research  U  1 - 9
A program of research which includes individual conferences and which culminates in an honors thesis and an oral defense. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 or 5 completions. This course is graded S/U.

5191  Internship in Atmospheric Sciences  U G  1 - 6
An opportunity for practical experience and on-the-job learning in an atmospheric sciences related work place. Prereq: 12 cr hrs in major program, and permission of instructor. Repeatable to a maximum of 15 or 5 completions. This course is graded S/U.

5193  Individual Studies in Atmospheric Sciences  U G  1 - 15
Independent studies on selected atmospheric sciences related topics. Prereq: Permission of instructor. Repeatable to a maximum of 5 completions. This course is graded S/U.

5194  Group Studies in Atmospheric Sciences  U G  1 - 3
Special studies on selected atmospheric sciences related topics. Repeatable to a maximum of 15 or 5 completions.

5797  Study at a Foreign Institution  U  1 - 9
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of instructor. Repeatable to a maximum of 15 or 5 completions.

5901  Climate System Modeling: Basics and Applications  U G  3
An examination of climate system modeling, including their component atmospheric, oceanic, sea ice and land surface models, and their coupling, and their applications. Prereq or concur: 2940, 230, Geog 5900, or 520; or permission of instructor. Not open to students with credit for 629.

5940  Synoptic Meteorology Laboratory  U G  2
Introduction to reading and interpretation of synoptic weather maps and diagram- and data-communication systems. Prereq: 2940 (230) or Geog 5900 (520). Not open to students with credit for 620 or Geog 5940 (620). Cross-listed in Geog.

5950  Atmospheric Thermodynamics  U G  3
An analysis of the fundamentals of atmospheric thermodynamics and their application to meteorological problems. Prereq: Math 1152 (153). Not open to students with credit for 631.

5951  Dynamic Meteorology I  U G  3
Fundamental problems in dynamic meteorology; components of the equations of atmospheric motion are derived, and vorticity and divergence in the development of meteorological systems. Prereq: 5950 (631), and Math 2255 (255) or 2415 (415). Not open to students with credit for 637.

5952  Dynamic Meteorology II  U G  3
Advanced problems in dynamic meteorology; use of the equations of motion in numerical models of the atmosphere, especially those used by the National Weather Service. Prereq: 5951 (637) or AeroEng 2405 (405). Not open to students with credit for 638.

6191  Internship in Atmospheric Sciences  G  1 - 6
An opportunity for practical experience and on-the-job learning in an atmospheric sciences related work place. Prereq: 12 or hrs in major program, and permission of instructor. Repeatable to a maximum of 15 or 5 completions. This course is graded S/U.

7193  Individual Studies in Atmospheric Sciences  G  1 - 15
Independent studies on selected atmospheric sciences related topics. Prereq: Permission of instructor. Repeatable to a maximum of 5 completions. This course is graded S/U.

7194  Group Studies in Atmospheric Sciences  G  1 - 3
Special studies on topics directly related to the atmospheric sciences. Prereq: Permission of instructor. Repeatable to a maximum of 15 or 5 completions.

8191  Internship in Atmospheric Sciences  G  1 - 6
An opportunity for practical experience and on-the-job learning in an atmospheric sciences related work place. Prereq: 12 cr hrs in major program, and permission of instructor. Repeatable to a maximum of 15 or 5 completions. This course is graded S/U.

8900  Atmospheric Sciences Seminar  G  3
A multidisciplinary seminar reviewing selected topics in atmospheric sciences and related fields. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

8999  Research in Atmospheric Sciences  G  1 - 9
Research for thesis or dissertation purpose only. Repeatable to a maximum of 5 completions. This course is graded S/U.

2000  Introduction to the Aviation Industry  U  3
Introduction to the aviation industry, including its elements, components, and structures. Topics include: aircraft, airports, airspace, a survey of industry segments and purposes, and careers and career paths. Prereq: Not open to students with credit for 300 or 322.

2100  Private Pilot Fundamentals  U  5
Study of flight fundamentals, aircraft operations, weather, and regulations required for Private Pilot certification. This course is conducted under Federal Aviation Administration Regulations Part 141. Prereq: Not open to students with credit for Aviation 310.01. This course is available for EM credit.

2101  Private Pilot Flight Lab I  U  2
The first course in a series of two courses that culminate in the attainment of a private pilot certificate with airplane single engine land privileges. An application and orientation process is required before enrollment. Prereq: A grade of B- or above in 2100, and CPHR 2.0 or above. Not open to students with credit for Aviation 341.

2102  Private Pilot Flight Lab II  U  2
The second course in a series of two courses that culminate in the attainment of a private pilot certificate with airplane single engine land privileges. Prereq: 2101, and CPHR 2.0 or above. Not open to students with credit for Aviation 342.

2200  Aviation Communication  U  3
Consideration of oral, written, operational, professional, impromptu, prepared, and management communication. Emphasis on aviation communication protocols and formats. Prereq: Aviation 2000 and 2100. Not open to students with credit for Aviation 520.

2300  Aircraft Performance and Weather  U  3
Weather theory, patterns, data, and analysis. Data formats and sources. Consideration of weather conditions as they relate to aircraft and flight performance. Prereq: Aviation 2000 and 2100. Not open to students with credit for Aviation 410 or 411.

2501  Commercial Cross Country Flight Lab  U  2
Course covers flights designed to meet the requirements of the commercial pilot certificate. Prereq: 2100, 2101, and 2102; and CPHR 2.0 or above; and permission of instructor.

3000  Aviation Management and Marketing  U  3
Consideration of management and marketing concepts and models. Analysis of management and marketing strategies and practices in the aviation industry. Prereq: 2000 and 2100. Concur: 2200, or a second-level writing course. Not open to students with credit for Aviation 550 or 654.

3100  Instrument Flight Fundamentals  U  3
Study of flight by reference to instruments, IFR regulations, and procedures in the National Airspace System. Prereq: A grade of B- or above in Aviation 2100, 2101, and 2102. Not open to students with credit for Aviation 415.

3101  Instrument Flight Lab  U  3
Instrument flight operations, navigation, patterns, maneuvers, regulations, approach protocols, and cross country flight planning and execution. Prereq: 2100 and 2102; and CPHR 2.0 or above. Concur: 3100. Not open to students with credit for Aviation 441 or 442.

3193  Individual Studies in Aviation  U  2 - 5
Research, project(s), and/or investigation into aviation topics that are not treated in existing classes. Prereq: Permission of instructor. Repeatable to a maximum of 7 cr hrs or 2 completions. This course is graded S/U.
50 Aviation

3194 Group Studies in Aviation U 2 - 5
Research, project(s), and/or investigation into comprehensive and larger aviation topics that are not treated in existing classes and are best served by a team. Prereq: Permission of instructor. Repeatable to a maximum of 7 cr hrs or 2 completions.

3200 Aviation Regulations U 3
Consideration and analysis of aviation regulatory environments and processes, such as regulatory certifications, rulesmaking, and legislation. Maintenance, airports, aircraft, and operations. Law, environment, safety, security, and operations. Prereq or concur: Aviatn 3000. Not open to students with credit for Aviation 530.

3300 Aviation Human Factors and Safety U 3
Consideration of Human Factors including all sensory, perception, cognitive and decision making dynamics as they are expressed in aviation. Consideration of aviation safety including incidents, accidents, crew resource management, and performance. Prereq or concur: 3000. Not open to students with credit for Aviation 540 or 560.

3340.01 Aviation Human Factors Transition U 2
First half of the curriculum of the new semester course AVN 3300 - "Aviation Human Factors" which is the combination of AVN 540 - Aviation Human Factors, and AVN 560 - Aviation Safety, under the quarter system. This course will focus solely on the aviation human factors component of the combined course curriculum. The course will be offered for 2 semester units. Prereq: Aviation 560. Not open to students with credit for Aviation 540.

3360.01 Aviation Safety Transition U 2
Second half of the curriculum of the new semester course AVN 3300 - "Aviation Human Factors", which is the combination of AVN 540 - Aviation Human Factors, and AVN 560 - Aviation Safety, under the quarter system. This course will focus solely on the aviation safety component of the combined course curriculum. The course will be offered for 2 semester units. Prereq: Aviation 540. Not open to students with credit for Aviation 560.

3400 Aviation Accident Investigation U 3
Review of accident investigation techniques and methodologies that will be reinforced with case examples. Prereq: 2000 and 2100.

3500 Airline Labor Relations U 3
Provides students with an overview of the modern airline labor system in the United States as regulated by the Railway Labor Act. Areas of focus include the organizing process, collective bargaining, negotiation tools and techniques, dispute resolution, corporate structures, mergers, and the union's role in safety. Prereq: 2000, 2100, and 3000.

4000 Air Transportation Analysis I U 3
Analysis of domestic and international air transportation systems and models. Particular focus on supply and demand components. Consideration of major industry segments, such as commercial, business, cargo, and general aviation. Prereq: Aviatn 3000. Not open to students with credit for Aviation 650 or 652.

4100 Commercial Flight Fundamentals U 3
Study of regulations, aerodynamics, systems, performance profiles, navigation, weather, and operations for the commercial pilot certificate. Prereq: A grade of B- or above in Aviatn 2100, 2102, and 3101; or permission of instructor. Not open to students with credit for Aviation 413.

4101 Commercial Flight Lab U 3
Second course toward Commercial Pilot certificate single engine land. Prereq: 2102 and 3101; and a CPRHR 2.0 or above. Not open to students with credit for Aviation 444 or 445.

4300 Advanced Multi-Engine Operations U 2
Introduction and consideration of Part 121 and 135 operations with a comprehensive study of the principles of advanced aircraft operations. Prereq: Aviatn 4100. Not open to students with credit for Aviation 417.

4301 Commercial Multi Engine Flight Lab U 2
Aeronautical knowledge and flight training required to attain an airplane multi engine rating in addition to the Commercial Pilot certificate. Prereq: A grade of B- or above in 3100 and 4100; 2501 and 3101; and a CPRHR 2.0 or above. Not open to students with credit for Aviation 446.

4400 Airport Management U 3
Comprehensive study of airport operations and management; role of the airport manager in planning, finance, administration, public relations, socio-political and environmental considerations, and operational requirements and maintenance. Prereq: Aviatn 3000. Not open to students with credit for Aviation 552.

4420.01 Transition Course for Instrument Flight Lab U 1
Transition course regarding Instrument Flight Labs. Prereq: Aviation 441. Not open to students with credit for Aviation 442.

4450.01 Transition Course for Commercial Flight Lab U 1
Transition course regarding Commercial Flight Labs. Prereq: Aviation 444. Not open to students with credit for Aviation 445.

4500 Aviation Capstone U 3
Directed research, preparation, and presentation of relevant and coordinated information that summarizes current or predicted significant aviation topics, issues, and developments. Partnership with industry is encouraged. Prereq: Aviatn major, and completion of the Aviatn major core.

4800 Professional Practices in Industry U 2 - 5
Application of academic skills, knowledge, and training to identify issues, problems, or research in the student's aviation industry workplace. Employment and faculty sponsorship, problem identification, analysis, and solution proposals. Prereq: Approval of faculty sponsor and/or industry employer/sponsor. Not open to students with credit for Aviation 489. Repeatable to a maximum of 7 or 2 cr hrs or 2 completions. This course is graded S/U.

4999H Aviation Engineering Research for Honors Thesis U 1 - 3
Supervised research and project work arranged individually for honors students resulting in a written Honors thesis. Prereq: Honors standing in the College of Engineering, and permission of instructor. Repeatable to a maximum of 6 or hrs or 4 completions.

5000 Air Transportation Analysis II U G 3
Consideration of commercial air transportation systems with emphasis on performance measurement, productivity, optimization, and network analysis. Prereq: Aviation 4000. Not open to students with credit for Aviation 591 or 750.

5100 Flight Instructor Methodology U G 2
Study of learning theories, communication techniques, the teaching process, teaching methods, and evaluation. Application of these concepts to develop lesson plans and course(s) of study. Prereq: A grade of B- or above in Aviatn 2300, 3100, and 4100. Not open to students with credit for Aviation 421.

5101 Flight Instructor ASE Flight Lab U G 2
Aeronautical knowledge, experience and skills necessary to meet or exceed FAR Part 61 requirements for a flight instructor certificate with airplane single engine land privileges. Prereq: A grade of B- or above in 5100, and CPRHR 2.0 or above. Not open to students with credit for Aviation 461.

5102 Flight Instructor AME Lab U G 1
Aeronautical knowledge and flight training necessary to attain an airplane multi-engine rating in addition to the Flight Instructor ASE certificate. Prereq: Aviation 4301 and 5101. Not open to students with credit for Aviation 463.

5193 Individual Studies in Aviation U G 2 - 5
Research, projects, and/or investigations into aviation topics that are not treated in existing classes. Prereq: Permission of instructor. Repeatable to a maximum of 7 or hrs or 2 completions.

5194 Group Studies in Aviation U G 2 - 5
Team research, projects, and/or investigation into comprehensive and larger aviation topics that are not treated in existing classes. Prereq: Permission of instructor. Repeatable to a maximum of 7 or hrs or 2 completions.

5200 Instrument Flight Instructor Methodology U G 2
Teaching methods and evaluation procedures for a course of study leading to an Instrument Instructor rating. Prereq: A grade of B- or above in Aviatn 3100 and 5100. Not open to students with credit for Aviation 422.

5201 Flight Instructor Instrument Flight Lab U G 1
Necessary aeronautical knowledge, experience, and skills to meet or exceed FAR Part 61 requirements for instrument flight instructor certification. Prereq: Aviation 5101, or Flight Instructor Certificate. Not open to students with credit for Aviation 462.

5300 Airport Planning, Design, and Development U G 3
A comprehensive study of airport planning, design and development, the role of the airport and its components as part of the overall air transportation system, the issues related to the planning, design, and development of the airport and its system. Prereq: Aviation 3000. Not open to students with credit for Aviation 674. Cross-listed in CRPlan and CivilEn.

5999H Honors Research in Aviation U G 1 - 6
Designed to give the student an opportunity to pursue special studies in Aviation at an honors level on topics not otherwise offered. Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 6 or hrs or 2 completions. This course is graded S/U.

Biochemistry

2194 Group Studies U 1 - 4
Group Studies. Prereq: Permission of instructor. Repeatable to a maximum of 16 or hrs or 4 completions. This course is graded S/U.
2210 Elements of Biochemistry U 4
A survey of biochemistry stressing the qualitative rather than the quantitative approach. Credit does not count toward a major in biochemistry. Prereq: Chem 1110 (102) or 1210 (122), or equiv. Not open to students with credit for 211 and 212. This course is available for EM credit.

2900H Early Experience in Research in Biochemistry; Seminar U 1
Introduction to biochemical research through seminars and laboratory tours by faculty in the department. Biology 1113 (113) recommended but not required. Prereq: Honors standing, and Chem 1220 (123), 1620 (163), or 1920H (203H); or permission of instructor. Not open to students with credit for 1900H or 2000H. This course is graded S/U.

2998H Early Experience in Research in Biochemistry: Laboratory U 1 - 3
A laboratory sequel to Biochem 2900H to introduce undergraduates to biochemical research. Prereq: Honors standing, and 2900H; or permission of instructor. Not open to students with credit for 1998H or 2010H. This course is graded S/U.

3798.01 Study Tour: Domestic U 1 - 10
Study Tour, specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Domestic only. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

3798.02 Study Tour: Foreign U 1 - 10
Study Tour. Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Foreign locations only. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

4193 Individual Studies U 1 - 5
Individual Studies. Prereq: Permission of instructor. Repeatable to a maximum of 25 cr hrs or 8 completions. This course is graded S/U.

4194 Group Studies U 1 - 4
Group Studies. Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions. This course is graded S/U.

4511 Introduction to Biological Chemistry U 4
An introductory course in biochemistry dealing with the molecular basis of structure, metabolism, genetic replication, transcription, and translation in plants, animals, and microorganisms. Prereq: Chem 1220 (123) or 1250 (125), and 2510 (252) or 2310 (231), and one semester of Biological Sciences; or permission of instructor. Not open to students with credit for 511. This course is available for EM credit.

4591S DNA Finger Printing Workshops in Columbus Public Schools U 1
A service learning course whereby undergraduates mentor high school students in molecular biology workshops. Prereq: MolGen 4500 (500) or 4606 (606). Repeatable to a maximum of 3 cr hrs. This course is graded S/U. Cross-listed in MolGen and Microb.

4998 Undergraduate Research in Biochemistry U 1 - 5
Undergraduate research in biochemistry, structural and molecular biology. Prereq: Permission of instructor under whose supervision the work is to be completed. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

4998H Undergraduate Honors Research in Biochemistry U 1 - 5
Undergraduate research in biochemistry, structural and molecular biology. Prereq: Honors standing, and permission of instructor under whose supervision the work is to be completed. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

4999 Thesis Research in Biochemistry U 1 - 5
A program of reading and research for each student with individual conferences and reports, culminating in the preparation of a thesis. Prereq: Permission of instructor under whose supervision the work is to be completed. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

4999H Honors Thesis Research in Biochemistry U 1 - 5
A program of reading and research for each student with individual conferences and reports, culminating in the preparation of an honors thesis. Prereq: Honors, and Jr or Sr standing, and permission of instructor under whose supervision the work is to be completed. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

5193 Individual Studies U G 1 - 5
A program of supervised independent study for each student with individual conferences and reports. Prereq: Permission of instructor under whose supervision the study is to be completed. Repeatable to a maximum of 25 cr hrs or 8 completions. This course is graded S/U.

5194 Group Studies U G 1 - 3
Group Studies. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

5613 Biochemistry and Molecular Biology I U G 3
An introductory course in biochemistry and molecular biology developing in three semesters the molecular basis of structure and function of living cells. Prereq: Chem 2510 (252). Prereq or concour: Chem 2520 (253) and one semester in Biological Sciences. Not open to students with credit for 613 or 4511 (511). This course is available for EM credit.

5614 Biochemistry and Molecular Biology II U G 3
Continuation of Biochem 5613. Prereq: 5613 (613). Not open to students with credit for 614.

5615 Biochemistry and Molecular Biology III U G 3
Continuation of Biochem 5614. Prereq: 5614 (614). Prereq or concour 5613 (613), with permission of instructor.

5621 Biochemistry and Molecular Biology Laboratory U G 4
Laboratory course covering the principles and application of basic lab techniques, protein purification, enzyme assays, and recombinant DNA technologies. Prereq: 4511 (511) or 5613 (613), or equiv. Not open to students with credit for 521 or 521H.

5621H Biochemistry and Molecular Biology Laboratory U G 4
Laboratory course covering the principles and application of basic lab techniques, protein purification, enzyme assays, and recombinant DNA technologies. Prereq: Honors standing, and 4511 (511) or 5613 (613), or equiv; or permission of instructor. Not open to students with credit for H521 or 521.

5694 Frontiers in Life Sciences Research: Genomics, Proteomics and Bioinformatics U G 1
As genomes are being sequenced at a rapid pace, students in life sciences need to stay abreast of the tools required to exploit genomic information. The course, which includes videoconferencing with peers in India, covers the theoretical underpinnings of modern tools used in proteomics, genetics, and genomics. Ethical issues associated the remarkable advances in modern biology will be discussed. Prereq: 4511 (511), 5615 (615), MolGen 4500 (500), or MolGen 4606 (606). Not open to students with credit for MolGen 5694. This course is graded S/U. NS Admis Cond course. Cross-listed in MolGen.

5701 DNA Transactions and Gene Regulation U G 4
Understanding mechanisms of DNA replication, DNA repair and recombination, transcription, translation, regulation of gene expression, and the experimental approaches to these topics. Prereq: 4511 (511) or equiv, and MolGen 4500 (500) or 5606 (606); and Sr or Grad standing, or permission of instructor. Not open to students with credit for 702 or MolGen 5701 (701). Cross-listed in MolGen.

5721 Physical Biochemistry I U G 3
Introduction to physical chemistry with emphasis on biological applications; designed for students in the life sciences. Prereq: Biology 1113; Math 1152 (153), 1172, 1181H, or 2162 (162); and Physics 1201 (113) or 1251 (133). Prereq or concour: Chem 2520 (253), 2620, or 2520H. Not open to students with credit for 721.01 or Chem 4200 or 4300.

5722 Physical Biochemistry II U G 3
Continuation of Biochem 5721. Prereq: 5721, or Chem 4200 or 4300. Not open to students with credit for 721.02 and 721.03.

5735 Plant Biochemistry U G 3
Focus on biochemical processes unique to plants, including photosynthesis, respiration, carbon fixation and carbohydrate metabolic networks, cell wall and lipid synthesis, and nitrogen and sulfur assimilation for macromolecular synthesis. Prereq: 4511 (511) or equiv. Not open to students with credit for 735 or 736 MolGen 5735. Cross-listed in MolGen.

6701 Advanced Biochemistry: Molecular Biology U G 3

6706 Advanced Biological Chemistry Lab U G 4
Advanced laboratory integrating recombinant DNA technology including cloning and mutagenesis with protein expression, purification, and characterization. Prereq: 4511 (511) and 5621 (521) or equiv; or permission of instructor.

6761 Advanced Biochemistry: Macromolecular Structure and Function U G 3
An advanced treatment of the physical and chemical properties, biological function, and structural biology of proteins and nucleic acids. Prereq: 5615 (615), Chem 2520 (253), 2550 (255), and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 761 and 766, or Chem 761 and 766, or MolBiol 6761 (761 and 766). Cross-listed in MolBiol.

6762 Advanced Biochemistry: Enzymes U G 1½
An advanced treatment of enzymology and enzyme mechanisms. Prereq: 5615 (615), and Chem 2520 (253) or 2550 (255), and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 762, Chem 762, or MolBiol 6762 (762). Cross-listed in MolBiol.

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6763 Advanced Biochemistry: Membranes and Lipids G 1½
An advanced treatment of membranes structure, function, and lipids. Prereq: 5616 (615), Chem 2520 (253), 2550 (255), and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 763, Chem 763, or MolBioC 6763 (763). Cross-listed in MolBioC.

6764.01 Advanced Biochemistry: Metabolism G 1½
An advanced treatment of cellular metabolic systems, their regulation, and metabolomics. Prereq: 5615 (615), Chem 2520 (253), 2550 (255), and 4210 (521), or equiv. Not open to students with credit for 6764.02 (764), Chem 764, or MolBioC 764.

6764.02 Advanced Biochemistry: Metabolism G 3
An advanced treatment of cellular metabolic systems, their regulation, and metabolomics. Prereq: 5615 (615), Chem 2520 (253), 2550 (255), and 4210 (521), or equiv. Not open to students with credit for 6764.01 (764), Chem 764, or MolBioC 764.

6765.01 Advanced Biochemistry: Physical Biochemistry G 1½
An advanced treatment of physical biochemistry including topics in spectroscopy. Prereq: 5615 (615), Chem 2520 (253), 2550 (255), and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 6765.02 (765), Chem 765, or MolBioC 765.

6765.02 Advanced Biochemistry: Physical Biochemistry G 3
An advanced treatment of physical biochemistry including topics in spectroscopy. Prereq: 5615 (615), Chem 2520 (253), 2550 (255), and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 6765.01 (765), Chem 765, or MolBioC 765.

6785 Research Principles and Techniques G 1 - 5
Research Principles and Techniques. Prereq: Permission of instructor. Repeatable to a maximum of 25 cr hrs or 5 completions. This course is graded S/U.

6795 Special Topics in Biochemistry G 1 - 3
Lectures/discussions in a seminar format of publications, current research, or research techniques in biochemistry. Prereq: 4511 (511) or 5613 (613), or permission of instructor. Repeatable to a maximum of 25 cr hrs or 10 completions. This course is graded S/U.

6890 Biochemistry Seminar G 1
Seminar in Biological Chemistry. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

6998 Graduate Research in Biochemistry G 1 - 12
Research in biochemistry, structural and molecular biology. Repeatable. This course is graded S/U.

6999 Research for Masters Thesis G 1 - 12
Research for Masters thesis only. Repeatable. This course is graded S/U.

7766.01 Advanced Biochemistry: Nucleic Acids G 1½
Advanced understanding of the structure and function of nucleic acids, their interactions with other biological molecules, and of the techniques for detailed mechanistic investigation of nucleic acid structure and function. Prereq: 6763 (763), 6701 (702), or 702; or permission of instructor. Not open to students with credit for 7766.02 (766), Chem 766, or MolBioC 766.

7766.02 Advanced Biochemistry: Nucleic Acids G 3
Advanced understanding of the structure and function of nucleic acids, their interactions with other biological molecules, and of the techniques for detailed mechanistic investigation of nucleic acid structure and function. Prereq: 6761 (761) or 6701 (702), or permission of instructor. Not open to students with credit for 7766.01 (766), Chem 766, or MolBioC 766.

7770.01 Advanced Biochemistry: Protein Engineering G 1½
Current research on genetic and protein engineering of proteins for biotechnological and theoretical studies. Prereq: 6761 (761), Chem 6761 (761), or MolBioC 6761 (761), or equiv; or permission of instructor. Not open to students with credit for 7770.02 (770).

7770.02 Advanced Biochemistry: Protein Engineering G 3
Current research on genetic and protein engineering of proteins for biotechnological and theoretical studies. Prereq: 6761 (761), Chem 6761 (761), or MolBioC 6761 (761), or equiv; or permission of instructor. Not open to students with credit for 7770.01 (770).

7775.01 Special Topics in Biophysical Chemistry G 1½
Advanced study focused on application and problem solving utilizing various biophysical methodologies in the study of the structure, function, and chemical characteristics of biomolecules. Topics may vary depending on student interest and instructor. Prereq: Coursework in Biochemistry and Physical Chemistry, and permission of instructor. Not open to students with credit for 7775.02 (775).

7775.02 Special Topics in Biophysical Chemistry G 3
Advanced study focused on application and problem solving utilizing various biophysical methodologies in the study of the structure, function, and chemical characteristics of biomolecules. Topics may vary depending on student interest and instructor. Prereq: Coursework in Biochemistry and Physical Chemistry, and permission of instructor. Not open to students with credit for 7775.01 (775).

8821.01 Advanced Enzymology G 1½
Advanced studies of enzymes and the mechanism of enzyme action. Prereq: 6762 (762) or Chem 6762 (762), or permission of instructor. Not open to students with credit for 8821.02 (821).

8821.02 Advanced Enzymology G 3
Advanced studies of enzymes and the mechanism of enzyme action. Prereq: 6762 (762) or Chem 6762 (762), or permission of instructor. Not open to students with credit for 8821.01 (821).

8900.01 Advanced Biochemistry: Biomolecular NMR G 1½
Application of NMR spectroscopy to the study of biological macromolecules. Heteronuclear NMR, product operators, multidimensional spectra, proteins, nucleic acids, structure determination, dynamics, ligand complexes. Prereq: Grad standing in Biochemistry, Biophysics or Chemistry, or permission of instructor. Not open to students with credit for 8900.02 (805).

8900.02 Advanced Biochemistry: Biomolecular NMR G 3
Application of NMR spectroscopy to the study of biological macromolecules. Heteronuclear NMR, product operators, multidimensional spectra, proteins, nucleic acids, structure determination, dynamics, ligand complexes. Prereq: Grad standing in Biochemistry, Biophysics or Chemistry, or permission of instructor. Not open to students with credit for 8900.01 (805).

8990 Advanced Topics in Biochemistry G 1 - 4
Advanced treatment of areas of current interest in biochemistry; topics will be announced each semester. Prereq: 5615 (615) or equiv, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions.

8999 Research for Dissertation G 1 - 12
Research for doctoral dissertation only. Repeatable. This course is graded S/U.

Biology

1101 Introductory Biology U 4
Basic principles of biology; topics include the nature of science, organismal diversity, evolution, ecology, genetics, reproduction, and cellular structure and function. Not intended students majoring in one of the biological sciences. Prereq: Not open to students with credit for 1101E, 1113 (113), 1113H (119H), 101, Entmlgy 1101 (101), or MolGen 1101 (PlntBio 101). This course is available for EM credit. GE nat sci bio course.

1101E Introductory Biology U 4
Basic principles of biology; nature of science, organismal diversity, evolution, ecology, genetics, reproduction, and cellular structure and function. Not intended for the student pursuing an undergraduate major in one of the biological sciences. Prereq: Not open to students with credit for Biology 101E, 1113 (113), or 1113H, or Entmlgy 1101 (Entomol 101), or PlntBio 1101 (101). This course is available for EM credit. GE nat sci bio course.

1102 Human Biology U 4
Exploration of human biology; topics include structure and physiological function, reproduction and development, genetics and disease, ecology, and evolution. Not intended for students majoring in one of the biological sciences. Prereq: Not open to students with credit for 102. This course is available for EM credit. GE nat sci bio course.

1105 Human Biology in Cinema U 3
Human Biology in Cinema will show that mainstream films with a core biological theme can be entertaining AND educational and that having some basic biological insights will enhance your comprehension and appreciation of these films. Lectures and discussions will cover basic principles in biology that will help elucidate the content of each film. Prereq: Not open to students with credit for 1102 (102). GE nat sci bio course.

1113 Biological Sciences: Energy Transfer and Development U 4
Exploration of biology and biological principles; evolution and the origin of life, cellular structure and function, bioenergetics, and genetics. A broad introduction to biology comprises both Biology 1113 and 1114. Prereq: Math 1130 (130), 1148, 1150, or above, or Math Placement Level L or M. Prereq or concur: Chem 1110 (101), 1210 (121), 1610, or 1910H (201H), or permission of course coordinator. Not open to students with credit for 113. This course is available for EM credit. GE nat sci bio course. NS Admis Cond course.
1113H Biological Sciences: Energy Transfer and Development U 4
Exploration of biology and biological principles; evolution and the origin of life, cellular structure and function, bioenergetics, and genetics. A broad introduction to biology comprises both Biology 1113H and 1114H.
Prereq: Honors standing; and Math 1149 or 1150 or above, or Math Placement Level L.
Prereq or concur: Chem 1210, 1610, or 1910H, or permission of course coordinator. Not open to students with credit for 115H. GE nat sci bio course. NS Admis Cond course.

1114 Biological Sciences: Form, Function, Diversity, and Ecology U 4
Exploration of biology and biological principles; evolution and specialization, diversity in structure, function, behavior, and ecology among prokaryotes and eukaryotes. A broad introduction to biology comprises both Biology 1113H and 1114.
Prereq: Math 1130 (130), 1149, or 1150 or above, or Math Placement Level L or M. Prereq or concur: Chem 1110 (101), 1210 (121), 1610, or 1910H (201H), or permission of course coordinator. Not open to students with credit for 114. This course is available for EM credit. GE nat sci bio course. NS Admis Cond course.

1114H Biological Sciences: Form, Function, Diversity, and Ecology U 4
Exploration of biology and biological principles; evolution and specialization, diversity in structure, function, behavior, and ecology among prokaryotes and eukaryotes. A broad introduction to biology comprises both Biology 1113H and 1114.
Prereq: Honors standing; and Math 1149, 1150, or above, or Math Placement Level L or M. Prereq or concur: Chem 1210 (121), 1610, or 1910H (201H), or permission of course coordinator. Not open to students with credit for 116 or 116H. GE nat sci bio course. NS Admis Cond course.

1141 Peer Led Team Learning for Biology 1114 Students U 1
Peer-led team learning (PLTL) provides a structure within which students will actively work together in groups to complete a series of activities and deepen their understanding of concepts associated with Biology 1114. A peer leader will work with the group on challenging and relevant activities to prepare biology students to apply scientific reasoning to authentic problems. Concur: 1114. This course is graded S/U.

1350 The Biology of Hope and Belief U 3
Examines the evolutionary significance of hope and near universal desire to believe in a supernatural deity from multiple perspectives and details the neurochemistry of both phenomena.
Prereq: Not open to students with credit for 350. GE nat sci bio course.

2100 Biological Analysis U 4
A case studies approach to biology with emphasis on quantitative and systems analysis. Does not substitute for Biology 1113 or 1114 for majors in the Biological Sciences. Chem 1120 or 1250 and Math 1152 or 1172 recommended.
Prereq: Math 1151, and Soph standing. GE nat sci bio course.

2194 Group Studies U 1 - 4
Group study of a selected topic in biology not provided by other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

2200 Genome Biology U 1
DNA sequencing and analysis of bacteriophage genomes. Special emphasis on mycobacteriophage as part of the Howard Hughes Medical Institute National Genomics Research Initiative.
Prereq: 1113 (with participation in the Howard Hughes Medical Institute National Genomics Research Initiative), or permission of instructor. Cross-listed in Microbiol.

2797 Study at a Foreign Institution U 1 - 10
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.
Prereq: Permission of advisor. Repeatable to a maximum of 30 cr hrs or 8 completions.

3401 Integrated Biology U 4
A case studies approach is used to gain a better understanding of biological concepts and principles. This course is designed for biology majors.
Prereq: 1113 (113), 1114 (114), Chem 1220 (123), and Math 1150 (150), or permission of instructor. Not open to students with credit for 401.

4191 Internship in Biology U 1 - 5
A cooperative education or internship assignment conducted under the supervision of a faculty member.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

4193 Individual Studies U 1 - 5
A program of individual study in the biological sciences appropriate for the student's needs.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

4194 Group Studies U 2 - 4
Group studies of topics not otherwise offered in Biology.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 7 completions.

4797 Study at a Foreign Institution U 1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.
Prereq: Permission of advisor. Repeatable to a maximum of 30 cr hrs or 8 completions.

4798 Biological Roots in England U 3
A short-term study-abroad course on the history of science in England, with emphasis on biology.
Prereq: 8 cr hrs taken in Biological Sciences. Not open to students with credit for 500.

4998 Research U 1 - 5
Undergraduate research in biology.
Prereq: Permission of advisor. Repeatable to a maximum of 30 cr hrs or 8 completions. This course is graded S/U.

4999 Honors Undergraduate Research U 1 - 5
Undergraduate research in biology.
Prereq: Honors standing, and permission of advisor. This course is graded S/U.

5001 Topics in Biology Teaching U G 1
Students actively participate in workshops and other activities, including the development of new instructional materials and SOTL projects, that enhance their preparedness for college teaching. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

5880 Interdepartmental Seminar U G 1 - 4
Two or more departments or colleges may collaborate in presenting seminars in subjects of mutual interest; topics to be announced.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

6001 Biology College Teaching G 2
Students take a scholarly approach to studying theory-based methods to help undergraduates learn biology. Students consider methods as an instructor, peer reviewer, and student.
Prereq: Grad standing in BioSci. Not open to students with credit for Biology 701.

6193 Graduate Independent Studies G 1 - 4
Graduate independent studies.
Repeatable to a maximum of 4 cr hrs or 4 completions. This course is graded S/U.

7000 Introduction to BME U 3
Introduction to the application of engineering to modern healthcare utilizing lectures from engineering, medicine, and life science.
Prereq: Permission of instructor. Not open to students with credit for 202 or 500.

2193 Individual Studies in Biomedical Engineering U 1 - 12
Provides the opportunity to pursue special studies or research in biomedical engineering not otherwise covered.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 10 completions. This course is graded S/U.

2194 Group Studies in Biomedical Engineering U 1 - 6
Provides groups of students opportunities to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

2700 Numerical Simulations in BME U 2
Focuses on the application of computer-based numerical and graphical display skills for solving problems relevant to biomedical engineering.
Prereq: 2000, Engr 1182 or Engr 1282, MechEng 2040, Math 2177, and Biology 1113 or equiv, and enrollment in BiomedE major. Not open to students with credit for 205.

3702 Measurements and Instrumentation Lab U 2
Measurement and interpretation of data from living systems; measurement and analysis of signals generated by bioelectrical potentials, and their relationship to human physiology and function.
Prereq: 2000, Stat 3460 or 3470, Anatomy 2220, and EEOB 3510; or permission of instructor. Not open to students with credit for 402.

Biomedical Engineering
3703 Quantitative Physiology U 3
Introduces students to the mathematical and numerical techniques used to develop, solve
and analyze quantitative models of physiological systems.
Prereq: 2700, Anatomy 2220, EEOB 3510, and Math 2177. Not open to students with credit for 403.

4110 Bioimaging U 3
Introduction to medical imaging techniques like x-ray, computed tomography, magnetic
resonance and ultrasound.
Prereq: 2010, Physics 1251, Math 2177, Anatomy 2220 or EEOB 2520, or permission of
instructor. Not open to students with credit for 411.

4193 Individual Studies in Biomedical Engineering U 1 - 12
Provides the opportunity to pursue special studies or research in biomedical engineering not
otherwise covered.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 10 completions.
This course is graded S/U.

4194 Group Studies in Biomedical Engineering U 1 - 6
Provides groups of students opportunities to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

4210 Biotransport U 3
Covers key transport concepts in biomedical engineering. Emphasis is placed on mass and
momentum transport with applications related to biology, medical science and biotechnology.
Prereq: 2000, Math 2177, and MechEng 3500, or permission of instructor. Not open to students with credit for 421.

4310 Biomaterials U 3
Principles of materials science; biocompatibility and biological reactions to implanted
materials; natural biomaterials and synthetic materials used in biomedical applications.
Prereq: 2000, MatScEn 2010, and Math 2177. Concur: EEOB 3510, or permission of
instructor. Not open to students with credit for 431.

4410 Biomechanics U 3
Mechanical characterization of biological tissues at the cellular, organ, and system level;
exploration of biomechanical factors of physiological and pathological conditions.
Prereq: 2000, Math 2177, and MechEng 2400. Concur: EEOB 3510, or permission of
instructor. Not open to students with credit for 441.

4510 Cell, Molecular, and Tissue Engineering U 3
Application of engineering methods to study, measure, repair, or replace biological functions
and the molecular cellular or tissue-level length scales.
Prereq: 2000, Math 2177, Biochem 4511, and EEOB 3510, or permission of instructor. Not
open to students with credit for 451.

4610 Biomedical Micro/Nanotechnology U 3
Introduction to micro/nanotechnology in biomedical settings, including micro/nanotechnologies
used to investigate biological systems, physiological responses to nanotherapeutics, and first
principles of microfluidics and microfabrication.
Prereq: 2000, MatScEn 2010, and Biochem 4511, or permission of instructor. Not open to
students with credit for 461.

4711 Bioimaging Lab U 3
Hands-on lab that teaches students technical skills associated with Bioimaging. Lab
components include hypothesis testing and analysis, computer simulation, lab safety and
instrument training, and technical communication.
Concur: 4110, or permission of instructor.

4712 Biotransport Lab U 3
Hands-on lab that teaches students technical skills associated with Biotransport. Lab
components include hypothesis testing and analysis, computer simulation, lab safety and
instrument training, and technical communication.
Concur: 4210, or permission of instructor.

4713 Biomaterials Lab U 3
Hands-on lab that teaches students technical skills associated with Biomaterials. Lab
components include hypothesis testing and analysis, computer simulation, lab safety and
instrument training, and technical communication.
Concur: 4310, or permission of instructor.

4714 Biomechanics Lab U 3
Hands-on lab that teaches students technical skills associated with Biomechanics. Lab
components include hypothesis testing and analysis, computer simulation, lab safety and
instrument training, and technical communication.
Concur: 4410, or permission of instructor.

4715 Molecular, Cell, and Tissue Engineering Lab U 3
Hands-on lab that teaches students technical skills associated with Cell and Tissue
Engineering. Lab components include hypothesis testing and analysis, computer simulation,
lab safety and instrument training, and technical communication.
Concur: 4510, or permission of instructor.

4716 BME Micro/Nanotechnology Lab U 3
Hands-on lab that teaches students technical skills associated with BME
Micro/Nanotechnology. Lab components include hypothesis testing and analysis, computer
simulation, lab safety and instrument training, and technical communication.
Concur: 4610, or permission of instructor.

4881 Biomedical Engineering Seminars I U 0
Seminar series for introducing the state-of-the-arts development of biomedical engineering.
Prereq: BiomedE major, or permission of instructor. This course is progress graded (S/U).

4882 Biomedical Engineering Seminars II U 1
Seminar series for introducing the state-of-the-arts development of biomedical engineering.
Prereq: 4881, or permission of instructor. This course is graded S/U.

4900 Professional Development U 1
Development of professional skills; engineering economy; project planning; ethics, best
business practices.
Prereq: Sr standing in BiomedE. Concur: 4901. Not open to students with credit for 503.

4901 Biomedical Engineering Capstone Design I U 3
First course in a two-course BME capstone sequence. Introduction to design principles;
challenges of biomedical device design; projects focus on helping persons with disabilities.
Prereq: Sr standing in BiomedE. Concur: 4900. Not open to students with credit for 501 or
565.01.

4902 Biomedical Engineering Capstone Design II U 3
Second course in a two-course BME capstone sequence. Applying design principles;
challenges of biomedical device design; engineering and testing devices that focus on helping
persons with disabilities.
Prereq: 4901, or permission of instructor. Not open to students with credit for 502 or 565.02.

4998.01 Undergraduate Research in Biomedical Engineering U 1 - 6
Individually supervised research for students in Biomedical Engineering.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

4998.01H Honors Undergraduate Research in Biomedical Engineering U 1 - 6
Individually supervised research for students in Biomedical Engineering.
Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or
10 completions.

4998.02H Honors Undergraduate Research in Biomedical Engineering U 1 - 12
Individually supervised research for students in Biomedical Engineering.
Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs or
10 completions. This course is graded S/U.

4999 Biomedical Engineering Undergraduate Thesis Research U 1 - 6
Student presentations and thesis writing included.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

4999H Biomedical Engineering Undergraduate Honors Thesis Research U 1 - 6
Honors program students are offered the opportunity to pursue an independent distinction
project/research. Student presentations and thesis writing included.
Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or
10 completions.

5001 Cardiovascular Bioengineering U G 3
Overview of biomedical engineering approaches in imaging and intervention in cardiovascular
medicine.
Prereq: Sr or Grad standing in Engineering or Medicine, or permission of instructor. Not open
to students with credit for 701.

5105 Bioimaging U G 3
Introduction to medical imaging techniques like x-ray, computed tomography, magnetic
resonance and ultrasound.
Prereq: Permission of instructor. Not open to students with credit for 4110 (411).

5110 Biomedical Microscopic Imaging U G 3
Principles and applications of microscopy techniques (light, electron and atomic force
microscopy) for biomedical research.
Prereq: 4110 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not
open to students with credit for 611.

5120 Biomedical Optics U G 3
Introduction to light-tissue interaction, optical imaging, and spectroscopy.
Prereq: 4110 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not
open to students with credit for 612.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>5177</td>
<td>Biomedical Atomic Force Microscopy</td>
<td>U G</td>
<td>Applications of Atomic Force Microscopy (AFM) in bio-imaging, biomechanics, and nanomanipulation. Pre_req: 5110 (611) or equiv, and Sr or Grad standing; or permission of instructor.</td>
</tr>
<tr>
<td>5186</td>
<td>Biomedical Ultrasound</td>
<td>U G</td>
<td>Introduction to use of ultrasound in biomedical applications, including interaction of ultrasound with tissue; generation, reception and interpretation of ultrasonic signals; and clinical instrumentation. Pre_req: 4110 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 686 or 716.</td>
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<tr>
<td>5193</td>
<td>Individual Studies in Biomedical Engineering</td>
<td>U G</td>
<td>Provides the opportunity to pursue special studies or research in biomedical engineering not otherwise covered. Pre_req: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 10 completions. This course is graded S/U.</td>
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<tr>
<td>5194.01</td>
<td>Group Studies in Biomedical Engineering</td>
<td>U G</td>
<td>Provides groups of students opportunities to pursue special studies not otherwise offered. Pre_req: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
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<td>5194.02</td>
<td>Group Studies in Biomedical Engineering</td>
<td>U G</td>
<td>Provides groups of students opportunities to pursue special studies not otherwise offered. Pre_req: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
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<td>5194.03</td>
<td>Group Studies in Biomedical Engineering</td>
<td>U G</td>
<td>Provides groups of students opportunities to pursue special studies not otherwise offered. Pre_req: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
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<td>5194.04</td>
<td>Group Studies in Biomedical Engineering</td>
<td>U G</td>
<td>Provides groups of students opportunities to pursue special studies not otherwise offered. Pre_req: Permission of instructor. Not open to students with credit for 510. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
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<td>5194.05</td>
<td>Group Studies in Biomedical Engineering</td>
<td>U G</td>
<td>Provides groups of students opportunities to pursue special studies not otherwise offered. Pre_req: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
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<td>5194.06</td>
<td>Group Studies in Biomedical Engineering</td>
<td>U G</td>
<td>Provides groups of students opportunities to pursue special studies not otherwise offered. Pre_req: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
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<tr>
<td>5194.07</td>
<td>Group Studies in Biomedical Engineering</td>
<td>U G</td>
<td>Provides groups of students opportunities to pursue special studies not otherwise offered. Pre_req: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
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<tr>
<td>5194.08</td>
<td>Group Studies in Biomedical Engineering</td>
<td>U G</td>
<td>Provides groups of students opportunities to pursue special studies not otherwise offered. Pre_req: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
</tr>
<tr>
<td>5194.09</td>
<td>Group Studies in Biomedical Engineering</td>
<td>U G</td>
<td>Provides groups of students opportunities to pursue special studies not otherwise offered. Pre_req: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
</tr>
<tr>
<td>5205</td>
<td>Biotransport</td>
<td>U G</td>
<td>Covers key transport concepts in biomedical engineering. Emphasis is put on mass and momentum transport with applications related to biology, medical science and biotechnology. Pre_req: Permission of instructor. Not open to students with credit for 4210 (421).</td>
</tr>
<tr>
<td>5210</td>
<td>Advanced Biological Transport</td>
<td>U G</td>
<td>Theoretical and phenomenological derivation and applications of transport (momentum, mass and energy) concepts important for biological systems and motivated by biomedical problems. Pre_req: 4210 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 621 or 721.</td>
</tr>
<tr>
<td>5305</td>
<td>Materials</td>
<td>U G</td>
<td>Principles of materials science; biocompatibility and biological reactions to implanted materials; natural biomaterials and synthetic materials used in biological applications. Pre_req: Permission of instructor. Not open to students with credit for 4310 (431).</td>
</tr>
<tr>
<td>5310</td>
<td>Advanced Materials</td>
<td>U G</td>
<td>Basic and advanced concepts of materials science; biocompatibility and biological reactions to implanted materials; natural biomaterials and synthetic materials used in biomedical applications. Pre_req: 4310 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 631.</td>
</tr>
<tr>
<td>5352</td>
<td>Soft Tissue Biomaterials</td>
<td>U G</td>
<td>Soft tissue material properties and uses of soft materials for biomedical applications, including tissue engineering, drug delivery, cardiovascular implants, and natural biomaterials. Pre_req: 5310, or permission of instructor. Not open to students with credit for 732.</td>
</tr>
<tr>
<td>5353</td>
<td>Hard Tissue Biomaterials</td>
<td>U G</td>
<td>In-depth literature review of selected current concepts in the material science of hard tissues and related implant materials. Pre_req: 5310, or permission of instructor. Not open to students with credit for 733.</td>
</tr>
<tr>
<td>5359</td>
<td>Biopolymer Structure and Function</td>
<td>U G</td>
<td>Biological polymers are critical components for normal body function. Examples of biopolymers include those involved in bone structure, coagulation, elasticity, extracellular matrix, polysaccharides and genetics. Pre_req: 4310 or equiv, and Chem 2310 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 632 or 739.</td>
</tr>
<tr>
<td>5405</td>
<td>Biomechanics</td>
<td>U G</td>
<td>Mechanical characterization of biological tissues at the cellular, organ, and system level; exploration of biomechanical factors of physiological and pathological conditions. Pre_req: Permission of instructor. Not open to students with credit for 4410 (441).</td>
</tr>
<tr>
<td>5420</td>
<td>Mechanobiology</td>
<td>U G</td>
<td>Introduction to the incorporation of living components and compatible biomaterials to study, repair, or replace biological functions. Pre_req: 4410, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 642.</td>
</tr>
<tr>
<td>5421</td>
<td>Tissue Mechanics</td>
<td>U G</td>
<td>Mechanical characteristics and behavior of tissues at the organ and system level and how these properties relate to physiological and pathological function. Pre_req: 4410 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 641 or 741.</td>
</tr>
<tr>
<td>5430</td>
<td>Finite Element Applications in BME</td>
<td>U G</td>
<td>The finite element method for solution of differential equations for modeling biomedical engineering applications (implemented using COMSOL Multiphysics software). Pre_req: Math 2177 or equiv, and Anatomy 2220 or equiv, and Sr or Grad standing; or permission of instructor. Not open to students with credit for 643.</td>
</tr>
<tr>
<td>5470</td>
<td>Cellular Mechanics</td>
<td>U G</td>
<td>Explores how the mechanical properties of biological cells influence physiological and pathophysiological functions. Topics include biomembranes, cell-cell adhesions and cytoskeletal mechanics. Pre_req: 4410 or equiv and MechEng 2040 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 740.</td>
</tr>
<tr>
<td>5505</td>
<td>Cell, Molecular and Tissue Engineering</td>
<td>U G</td>
<td>Application of engineering methods to study, measure, repair, or replace biological functions and the molecular cellular or tissue-level length scales. Pre_req: Permission of instructor. Not open to students with credit for 4510 (451).</td>
</tr>
<tr>
<td>5510</td>
<td>Advanced Tissue Engineering</td>
<td>U G</td>
<td>The incorporation of living components and compatible biomaterials to study, repair, or replace biological functions. Pre_req: 4510 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 651.</td>
</tr>
<tr>
<td>5520</td>
<td>Cell Engineering</td>
<td>U G</td>
<td>Cell-related phenomena important to tissue engineering and medicine: Cell-surface and cell-cell interactions; chemical/mechanical effects on cell function; cell engineering applications for treatment of human diseases. Pre_req: 4510 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 652.</td>
</tr>
<tr>
<td>5580</td>
<td>Excitable Cell Engineering</td>
<td>U G</td>
<td>Quantitative approaches to understanding excitable cell function. Advanced engineering methods applied to study these specialized cells will be addressed. Pre_req: Math 415 or equiv, and EEOB 3510 (415) or equiv, or Grad standing in BiomedE; or permission of instructor.</td>
</tr>
<tr>
<td>5605</td>
<td>Biomedical Micro/Nanotechnology</td>
<td>U G</td>
<td>An introduction to micro/nanotechnology in medical settings emphasizing nanotechnologies used to investigate biological systems, use of biomolecules as functional components, and physiological responses to nanotheeraputics. Pre_req: Permission of instructor. Not open to students with credit for 4610 (461).</td>
</tr>
<tr>
<td>5610</td>
<td>Biomedical Microdevices</td>
<td>U G</td>
<td>Course covers the application of microdevices for biomedical applications, including review of microfabrication and biophysical chemistry. Discussion and analysis of current research. Pre_req: 4610 or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 661 or 762.</td>
</tr>
<tr>
<td>5635</td>
<td>Cellular Nanotechnology</td>
<td>U G</td>
<td>Application of nanotechnology to cells for sensing and subcellular manipulation. Synthesis and biological modification of quantum dots and magnetic nanostructures, their unique material properties, and their application. Pre_req: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 765 or CHBE 735. Cross-listed in CBE 5735.</td>
</tr>
<tr>
<td>5639</td>
<td>Medical Device Design</td>
<td>U G</td>
<td>Basic principles and essential steps for medical device design and commercialization. Pre_req: 2000, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 679.</td>
</tr>
</tbody>
</table>
Biomedical Nanotechnology I
Survey of biomedical micro and nanotechnology with particular emphasis on design and construction strategies for therapeutic nanodevices incorporating biological components.
Prereq: 4610 or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 761. Cross-listed in CBE 5769.

Biomedical Nanotechnology II
Follows the previous course, emphasizing the contribution of biotechnology, pharmacology, toxicology and immunology to biomedical nanotechnology, and providing intensive interactive current literature and presentation experience.
Prereq: 5661 (761), or permission of instructor. Not open to students with credit for 764.

Introduction to Microfluidics and Nanofluidics
Principles of incompressible fluid mechanics and electrokinetic phenomena at the micro and nanoscale; biomedical applications with a laboratory illustrating fabrication techniques and experimental methods.
Prereq: MechEng 3503 or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 763 or MechEng 715. Cross-listed in MechEng 6515.

BioMEMS Microfabrication
A detailed overview of microfabrication technologies, including silicon microfabrication, polymer microfabrication, and advanced microfabrication topics, with application to specific MEMS and BioMEMS devices.
Prereq: Sr or Grad standing in Engineering, or permission of instructor.

Biomedical Microtransducers
Examination of the Micro-Electro-Mechanical-Systems (MEMS) as a tool for detecting signals or performing functions for biomedical research and clinical purposes.
Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 768.

Advanced Medical Device Design
Advanced knowledge, hands-on skills and useful tools for medical device design, fabrication, verification, validation, and regulation.
Prereq: 5639, or permission of instructor.

Biomedical Instrumentation
Study of instruments and measurement techniques used in obtaining data from living systems.
Prereq: 3702 or equiv, and Sr or Grad standing; or permission of instructor. Not open to students with credit for 771.

Scientific Methods in Biomedical Engineering
Instruction on basic concepts and skills necessary for graduate students in Biomedical Engineering including literature search, proposal preparation, critical evaluation, and research presentation.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 600.

Magnetic Resonance Spectroscopy and Imaging I
Presentation of the basic principles of MRI/MRS, including basic MR physics, pulse sequences, adiabatic excitation, coil design, MR hardware, image formation, localized spectroscopy.
Prereq: Grad standing, and permission of instructor. Not open to students with credit for 813 or Radiolgy 6813 (813). Cross-listed in Radiolgy 6813.

Biocompatibility
Interactions between surgically implanted materials and human tissues are presented.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 734.

Research Ethics
Introduction to professional and ethical issues confronting biomedical research and researchers and approaches to dealing with such issues.
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Biomedical Engineering Research for Thesis
Research for thesis purposes only.
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Magnetic Resonance Spectroscopy and Imaging II
Continuation of 6113. Presentation of the basic principles of MR/MRS including basic MR physics, pulse sequences, adiabatic excitation, coil design, MR hardware, image formation, localized spectroscopy.
Prereq: 6113 (813) or Radiolgy 6813 (Radiolgy 813), or permission of instructor. Not open to students with credit for 814 or Radiolgy 7814 (Radiolgy 814). Cross-listed in Radiolgy 7814.

Individual Studies in Biomedical Engineering
Provides the opportunity to pursue special studies or research in biomedical engineering not otherwise covered.
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Group Studies in Biomedical Engineering
Provides groups of students opportunities to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

Biomedical Engineering Seminars I
First course in two course sequence. Seminar series for introducing the state-of-the-arts development of biomedical engineering.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 881.01, 881.02, or 881.03. This course is progress graded (S/U).

Biomedical Engineering Seminars II
Second course in two course sequence. This is a seminar series for introducing the state-of-the-arts development of biomedical engineering.
Prereq: 8810 (881.01 or 881.02), or permission of instructor. Not open to students with credit for 881.03. This course is graded S/U.

Biomedical Engineering Seminars III
Seminar series for introducing the state-of-the-arts development of biomedical engineering.
Prereq: 8811 or 881.03, or permission of instructor. Not open to students with credit for 881.04 or 881.05. This course is progress graded (S/U).

Biomedical Engineering Seminars IV
Second course in two course sequence. This is a Seminar series for introducing the state-of-the-arts development of biomedical engineering.
Prereq: 8812 (881.04 or 881.05), or permission of instructor. Not open to students with credit for 881.06. This course is graded S/U.

Cardiovascular Engineering
An in-depth, multidirectional exploration and integration of the biological and engineering aspects of a focused topic in Cardiovascular Engineering. Topics will change with each offering.
Prereq: Grad standing, or permission of instructor.

Ophthalmic Engineering
Exploration of measurement technologies and engineering problems in ophthalmology.
Prereq: Grad standing, or permission of instructor.

Orthopaedic Engineering
An in-depth, multidirectional exploration and integration of the biological and engineering aspects of a focused topic in Orthopaedics. Topic will change with each offering.
Prereq: Grad standing, or permission of instructor. This course is available for EM credit.

Graduate Research in Biomedical Engineering
Graduate research within Biomedical Engineering.
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Biomedical Engineering Research for Dissertation
Research for dissertation purposes only.
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Biomedical Informatics
Introduction to Biomedical Informatics A survey of biomedical informatics theories and methods employed in the design, implementation and management of information systems supporting basic science, clinical and translational research, clinical care, and public health. Recommended course work in computer science, statistics, anatomy, physiology, and medical terminology.
Prereq: Not open to students with credit for 710.

Introduction to Imaging Informatics
Teach students from different backgrounds the role of imaging in biomedical research, decision support and personalized medicine. Recommended familiarity with a programming language and operating system.
Prereq: Permission of instructor. Not open to students with credit for 720.

Introduction to Bioinformatics
Introduces students to basic topics of bioinformatics including sequence analyses, proteomics, microarrays, regulatory networks, sequence and protein databases. Recommended background in molecular biology and computer science.
Prereq: Not open to students with credit for IBGP 730.

Introduction to Research Informatics
A survey of biomedical informatics theories and methods employed in the design, implementation and management of clinical and translational research programs. Recommended experience with computer science, statistics, anatomy, medical terminology, and molecular biology.
Prereq: Not open to students with credit for 740.

Methods in Biomedical Informatics
An intensive, application-oriented survey of methods used during the course of the design, implementation and evaluation of BMI platforms, including clinical info systems, decision support systems, databases, etc., data capture instruments, data visualization tools and other analytical "pipelines". These methods span a broad spectrum from information needs assessments to systems evaluation.
Prereq: Basic knowledge of the following areas - basic computer science principles (logic, procedural and/or object oriented programming, data structures and algorithms), statistical methods, and medical terminology.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5760</td>
<td>Public Health Informatics</td>
<td>3</td>
<td>Cross-listed in Publlih.</td>
</tr>
<tr>
<td>5770</td>
<td>Health Analytics: Data to Discovery to Dissemination</td>
<td>3</td>
<td>Health Analytics is the science of analyzing health data for knowledge discovery and decision making.</td>
</tr>
<tr>
<td>5793</td>
<td>Individual Studies in Biomedical Informatics</td>
<td>1-15</td>
<td>Enables graduate students to do research projects with faculty other than their adviser.</td>
</tr>
<tr>
<td>7810</td>
<td>Advanced Topics in Clinical Informatics</td>
<td>3</td>
<td>An in-depth review of practical theories and methods employed in the design, implementation and management of complex clinical information systems.</td>
</tr>
<tr>
<td>7820</td>
<td>Biological and Medical Image Analysis</td>
<td>3</td>
<td>Provides a comprehensive review of key techniques for analyzing biomedical images, especially histological and microscopic images using an imaging informatics approach.</td>
</tr>
<tr>
<td>7830</td>
<td>Systems Biology</td>
<td>3</td>
<td>Critical analysis of experiments in systems biology.</td>
</tr>
<tr>
<td>7840</td>
<td>Advanced Topics in Biomedical Data Management</td>
<td>3</td>
<td>An in-depth review of latest developments in the areas of biomedical data management technologies, tools, middleware that support translational studies. Recommended experience with computer science, and bio, imaging, and clinical informatics.</td>
</tr>
<tr>
<td>7891</td>
<td>Seminar in Biomedical Informatics</td>
<td>2</td>
<td>Faculty and outside speakers will give presentations on current BMI research and theory. Alternate classes will consist of journal-club style discussions moderated by faculty.</td>
</tr>
<tr>
<td>8999</td>
<td>Research in Biomedical Informatics</td>
<td>1-15</td>
<td>Research for thesis or dissertation purposes only.</td>
</tr>
<tr>
<td>1100</td>
<td>Biomedical Science Survey</td>
<td>1</td>
<td>Introduction to the Biomedical Science major and College of Medicine. Emphasis on academic requirements and resources, career exploration, university policies, and student rights and responsibilities.</td>
</tr>
<tr>
<td>2891H</td>
<td>Mastering the Biomedical Literature I</td>
<td>2</td>
<td>First course in a two semester series. Includes searching for, organizing, and analyzing the biomedical literature for applications in biomedical research and scholarly communication.</td>
</tr>
<tr>
<td>2892H</td>
<td>Mastering the Biomedical Literature II</td>
<td>2</td>
<td>Second course in a two semester series analyzing the biomedical literature. Designed in two week blocks to read an original paper in depth, and then to meet and discuss the work with the author.</td>
</tr>
<tr>
<td>2900H</td>
<td>Biomedical Science Laboratory Techniques</td>
<td>2</td>
<td>Lab exercises to teach the theory and practice of basic techniques in cell and molecular biology: including tissue isolation, protein analysis, microscopy, DNA isolation, PCR, bacterial and mammalian cell transfactions, and product analysis.</td>
</tr>
<tr>
<td>3194</td>
<td>Group Studies</td>
<td>1-4</td>
<td>A specially designed program of study for BMS students.</td>
</tr>
<tr>
<td>3891H</td>
<td>Biomedical Science Research Experience I</td>
<td>5</td>
<td>An intensive research experience for BMS students.</td>
</tr>
<tr>
<td>3892H</td>
<td>Biomedical Science Research Experience II</td>
<td>5</td>
<td>An intensive research experience for BMS students.</td>
</tr>
<tr>
<td>3998</td>
<td>BMS Undergraduate Research</td>
<td>1-4</td>
<td>Undergraduate research in Biomedical Science Laboratory.</td>
</tr>
<tr>
<td>4200H</td>
<td>Concepts in Healthcare I: Humanistic and Social Issues in Medicine &amp; Biomedical Science</td>
<td>3</td>
<td>Experiential initiation into the humanistic aspects of patient centered medicine for seniors in the Biomedical Science major. Communication process between patient and professional, between professionals, team work &amp; leadership in medicine examined.</td>
</tr>
<tr>
<td>4210H</td>
<td>Concepts in Healthcare II: Introduction to Health Policy and Leadership in Healthcare</td>
<td>3</td>
<td>Students will examine the political, social, and economic forces that have shaped health policy in the U.S. and the basic concepts of leadership in preparation for a career in a health care profession, biomedical research, or other careers.</td>
</tr>
<tr>
<td>4810H</td>
<td>Special Topics in Biomedical Science I: Immunology &amp; Infectious Disease</td>
<td>3</td>
<td>Integrative research and application experience for seniors in the Biomedical Science major. Special topics in biomedical science combine basic science research and clinical applications to human disease processes.</td>
</tr>
<tr>
<td>4820H</td>
<td>Special Topics in Biomedical Science II: Genetics &amp; Neurological Disease</td>
<td>1</td>
<td>Integrative research and application experience for seniors in the Biomedical Science major. Special topics in biomedical science combine basic science research and clinical applications to human disease processes.</td>
</tr>
<tr>
<td>4830H</td>
<td>Special Topics in Biomedical Science III: Cancer Research; Bench to Bedside and Back</td>
<td>1</td>
<td>Integrative research and application experience for seniors in the Biomedical Science major. Special topics in biomedical science combine basic science research and clinical applications to human disease processes.</td>
</tr>
<tr>
<td>4998H</td>
<td>BMS Undergraduate Thesis Research</td>
<td>1-4</td>
<td>Undergraduate research in a Biomedical Science Laboratory culminating in an honors thesis and defense.</td>
</tr>
<tr>
<td>5000</td>
<td>Theory and Foundations of Bioethics</td>
<td>3</td>
<td>Explores moral concerns and ethical decision-making in medicine and health care. Topics include health care reform informed consent, quality of life decisions, decisions to allow to die, rationing, futility, and scarcity of resources. In particular, we will analyze concerns regarding equality, justice, and individual rights to health care.</td>
</tr>
<tr>
<td>5800</td>
<td>Ethics of Biomedical Research</td>
<td>3</td>
<td>Provides a foundation in traditional ethics, a consideration of the subcategories of bioethics, neuroethics, and eugenics and instructs students in how to apply ethics to contemporary issues in research and technology. This course also satisfies the basic components of Responsible Conduct of Research (RCR) education.</td>
</tr>
</tbody>
</table>

**Biomedical Science Graduate Program**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Theory and Foundations of Bioethics</td>
<td>3</td>
<td>Explores moral concerns and ethical decision-making in medicine and health care. Topics include health care reform informed consent, quality of life decisions, decisions to allow to die, rationing, futility, and scarcity of resources. In particular, we will analyze concerns regarding equality, justice, and individual rights to health care.</td>
</tr>
<tr>
<td>2010</td>
<td>Ethics of Biomedical Research</td>
<td>3</td>
<td>Provides a foundation in traditional ethics, a consideration of the subcategories of bioethics, neuroethics, and eugenics and instructs students in how to apply ethics to contemporary issues in research and technology. This course also satisfies the basic components of Responsible Conduct of Research (RCR) education.</td>
</tr>
<tr>
<td>Course ID</td>
<td>Course Title</td>
<td>Credit Hours</td>
<td>Prerequisites</td>
</tr>
<tr>
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</tr>
<tr>
<td>5194</td>
<td>Introduction to Agent-Based Modeling Using NetLogo</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>5890</td>
<td>Bioethics Theory and Foundations</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6010</td>
<td>Biomedical Research Ethics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6020</td>
<td>Clinical Bioethics</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6030</td>
<td>Bioethics, Law, &amp; Public Policy</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>6700</td>
<td>Patient-Centered Research</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6920</td>
<td>Clinical Biomedical Research</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7000</td>
<td>Concepts in Biomedical Science</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7010</td>
<td>Biology of Human Disease I</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>7013</td>
<td>Genes and Genome Organization</td>
<td>1½</td>
<td></td>
</tr>
<tr>
<td>7014</td>
<td>Transcription and Translation Control Mechanisms</td>
<td>1½</td>
<td></td>
</tr>
<tr>
<td>7015</td>
<td>Molecular and Cellular Physiology</td>
<td>1½</td>
<td></td>
</tr>
<tr>
<td>7016</td>
<td>Cytoskeleton and Extracellular Matrix</td>
<td>1½</td>
<td></td>
</tr>
<tr>
<td>7020</td>
<td>Biology of Human Disease II</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>7021</td>
<td>Development and Differentiation</td>
<td>1½</td>
<td></td>
</tr>
<tr>
<td>7022</td>
<td>Host Defense</td>
<td>1½</td>
<td></td>
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<tr>
<td>7023</td>
<td>Cancer Biology</td>
<td>1½</td>
<td></td>
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<tr>
<td>7024</td>
<td>Integrated Organ Systems</td>
<td>3</td>
<td></td>
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<tr>
<td>7025</td>
<td>Molecular Pharmacology</td>
<td>2</td>
<td></td>
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<tr>
<td>7026</td>
<td>Clinical Research</td>
<td>¼</td>
<td></td>
</tr>
<tr>
<td>7040</td>
<td>Research Problem Solving in Biomedical Science</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>7050</td>
<td>Bioinformatics Applied to Human Disease</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7060</td>
<td>Faculty Research in Biomedical Science</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7070</td>
<td>Fundamentals of Grant Writing I</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7080</td>
<td>Fundamentals of Grant Writing II</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- The field of medical ethics has been and is continually shaped by major cases, both famous and infamous. The course surveys the causes and contexts, as well as the philosophical and ethical issues embedded within these cases.
- Offered a philosophical survey of the moral foundations of contemporary biomedical ethics and health care policies.
- The broad intent of this course is to highlight the importance of ethics in biomedical research and to explore how critical ethical thinking can be used to analyze personal decision-making, public regulation, and the law concerning advanced biomedical sciences/technologies and their clinical applications.
- Through lectures, small groups, independent reading, and mentored clinical research projects students learn the nature, goals, importance, basic principles, and administrative requirements of clinical research.
- Students in small groups will analyze current and classic research papers and learn how to identify the hypothesis, test the hypothesis, and whether the results support the conclusions.
- Training with computerized bioinformatics packages and electronic sources of genomics information to develop skills for genomics analysis of human diseases.
Biomedical Sciences Graduate Program

7610 Independent Studies in Human Blood and Lymphatic Tissues
Students will independently follow provided study guides to gain an understanding of human blood and lymphatic tissues essential for understanding disease mechanisms in those tissues. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.10.

7611 Independent Studies in Human Immunological Mechanisms
Students will independently follow provided study guides to gain an understanding of the immunological mechanisms essential for understanding the pathogenesis of human diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.11.

7612 Independent Studies in Human Medical Nutrition
Students will independently follow provided study guides to gain an understanding of the medical nutrition essential for understanding the mechanism of human diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.12.

7613 Independent Studies in Human Endocrine and Metabolic Systems
Students will independently follow provided study guides to gain an understanding of human endocrine and metabolic systems essential for understanding human endocrine and metabolic diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.13.

7614 Independent Studies in the Human Reproductive System
Students will independently follow provided study guides to gain an understanding of the human reproductive system essential for understanding human reproductive diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.14.

7631 Independent Studies in Human Pathologic Mechanisms
Students will independently follow study guides to gain an understanding of the basic pathologic mechanisms leading to human disease. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 763.01.

7632 Independent Studies in Human Microbial Mechanisms
Students will independently follow study guides to gain an understanding of microbial mechanisms leading to human disease. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 763.02.

7633 Independent Studies in Human Drug Mechanisms
Students will independently follow study guides to gain an understanding of pharmacokinetics, pharmacodynamics, and mechanisms of action of drugs used to treat human diseases. Prereq: 7631 (763.01), and enrollment in IBGP, or permission of program director. Not open to students with credit for 763.03.

7634 Independent Studies in Human Infectious Diseases
Students will independently follow study guides to gain an understanding of infectious diseases. Prereq: 7631 (763.01) and 7632 (763.02), and enrollment in IBGP, or permission of program director. Not open to students with credit for 763.04.

7635 Independent Studies in Cardiovascular Pathobiology
Students will independently follow study guides to gain an understanding of cardiovascular pathobiology. Prereq: 762.06 and 763.01, or 7631, and enrollment in IBGP, or permission of program director. Not open to students with credit for 763.05.

7636 Independent Studies in Respiratory Pathobiology
Students will independently follow study guides to gain an understanding of respiratory pathobiology. Prereq: 762.06 and 763.01; or 7631, and enrollment in IBGP, or permission of program director. Not open to students with credit for 763.06.

7637 Independent Studies in Renal Pathobiology
Students will independently follow study guides to gain an understanding of renal pathobiology. Prereq: 762.07 and 763.01; or 7631, and enrollment in IBGP, or permission of program director. Not open to students with credit for 763.07.

7638 Independent Studies in Endocrine Pathobiology
Students will independently follow study guides to gain an understanding of human endocrine pathobiology. Prereq: 762.13 and 763.01; or 7631, and enrollment in IBGP, or permission of program director. Not open to students with credit for 763.08.

7610 Statistical Aspects of Grant Writing
To provide training and experience for IBGP students in preparing the statistical component of research grant proposals. Prereq: 7070 and stats course, or equiv, or permission of instructor. This course is graded S/U.

7240 Molecular Pathogenesis
In-depth presentation and discussion of the molecular and cellular mechanisms of pathogenesis, emphasizing current research in the field. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 724. Cross-listed in Microt 7724.

7300 Biomedical Informatics I
Introduces students to basic topics of bioinformatics including sequence analyses, proteomics, microarrays, regulatory networks, sequence and protein databases. Prereq: CSE 2122 (230) or equiv, or permission of instructor.

7310 Biomedical Informatics II
Continuation of Biomedical Informatics I. Prereq: 7300, BMI 730, or CSE 2122 (230), or equiv, or permission of instructor.

7400 Selected Topics in Microbial Pathogenesis
Student led discussions of classic and current literature in microbial pathogenesis. Repeatable to a maximum of 4 cr hrs.

7601 Independent Studies in Medical Biochemistry
Students will independently follow provided study guides to gain an understanding of the medical biochemistry essential for understanding the mechanism of human diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.01.

7602 Independent Studies in Human Histology
Students will independently follow provided study guides to gain an understanding of the human histology essential for understanding the mechanism of human diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.02.

7603 Independent Studies in Human Neuroanatomy
Students will independently follow provided study guides to gain an understanding of the neuroanatomy essential for understanding the mechanism of human diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.03.

7604 Independent Studies in Human Neurophysiology
Students will independently follow provided study guides to gain an understanding of the neurophysiology essential for understanding the mechanism of human diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.04.

7605 Independent Studies in the Human Cardiovascular System
Students will independently follow provided study guides to gain an understanding of the human cardiovascular system essential for understanding human cardiovascular diseases. Prereq: IBGP student or permission of program director. Not open to students with credit for 762.05.

7606 Independent Studies in the Human Respiratory System
Students will independently follow provided study guides to gain an understanding of the human respiratory system essential for understanding human respiratory diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.06.

7607 Independent Studies in the Human Urinary Studies and Body Fluids
Students will independently follow provided study guides to gain an understanding of the human urinary system and body fluids essential for understanding the mechanism of human diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.07.

7608 Independent Studies in the Human Gastrointestinal System
Students will independently follow provided study guides to gain an understanding of the human gastrointestinal system essential for understanding human gastrointestinal diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.08.

7609 Independent Studies in Human Molecular Biology and Genetics
Students will independently follow provided study guides to gain an understanding of the molecular biology and genetics essential for understanding the mechanism of human diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 762.09.
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7639 Independent Studies in Gastrointestinal Pathobiology  G  2
Students will independently follow study guides to gain an understanding of human gastrointestinal pathobiology. Prereq: 762.08 and 763.01, or 7631, and enrollment in IBGP, or permission of program director. Not open to students with credit for 763.09.

7640 Independent Studies in Reproductive Pathobiology  G  2
Students will independently follow study guides to gain an understanding of human reproductive pathobiology. Prereq: 762.04 and 763.01, or 7631, and enrollment in IBGP, or permission of program director. Not open to students with credit for 763.10.

7641 Independent Studies in Human Neuro-Pathobiology  G  2
Students will independently follow study guides to gain an understanding of human neuro-pathobiology. Prereq: 762.03, 762.04 and 763.01; or 7631 and enrollment in IBGP, or permission of program director. Not open to students with credit for 763.11.

7642 Independent Studies in Psychiatry  G  1
Students will independently follow study guides to gain an understanding of psychiatric disorders. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 763.12.

7643 Independent Studies in Hematology Pathobiology  G  2
Students will independently follow study guides to gain an understanding of hemostatic pathobiology. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 763.13.

7644 Independent Studies in Rheumatic and Musculoskeletal Pathobiology  G  1
Students will independently follow study guides to gain an understanding of the pathobiological mechanisms underlying the expression of human rheumatic and musculoskeletal diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 763.14.

7645 Independent Studies in Ophthalmal-Pathobiology  G  1
Students will independently follow study guides to gain an understanding of the pathobiological mechanisms underlying the expression of human ophthalmal diseases. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 763.15.

7700 Introduction to Clinical Aspects of Translational Research  G  1
Students will attend lectures given to medical students that prepare them for studies in the clinical environment. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 764. This course is graded S/U.

7701 Clinical Experience in Acute and Cancer Pain Therapy  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to acute and cancer pain therapy and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.01.

7702 Clinical Experience in Alcohol and Other Drug Dependency  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to alcohol and other drug dependency and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.02.

7703 Clinical Experience in Allergy and Clinical Immunology  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to allergy and clinical immunology and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.03.

7704 Clinical Experience in Anesthesia  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to anesthesia and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.04.

7705 Clinical Experience in Bariatric Surgery  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to bariatric surgery and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.05.

7706 Clinical Experience in Blood Diseases of Infants and Children  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to blood diseases of infants and children and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.06.

7707 Clinical Experience in Bone Marrow Transplant  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to bone marrow transplant and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.07.

7708 Clinical Experience in Cancer Genetics  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to cancer genetics and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.08.

7709 Clinical Experience in Cancer Pain and Palliative Medicine  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to cancer genetics and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.09.

7710 Clinical Experience in Cardiology-Coronary Care  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to cardiology-coronary care thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.10.

7711 Clinical Experience in Cardiology Heart Failure  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to cardiology heart failure and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.11.

7712 Clinical Experiences in Cardiothoracic  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to cardiothoracic and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.12.

7713 Clinical Experiences in Clinical Rheumatology  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to clinical rheumatology and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.13.

7714 Clinical Experiences in Complicated Diabetes Mellitus  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to complicated diabetes mellitus and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.14.

7715 Clinical Experiences in Comprehensive Care of the Cancer Patient  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to comprehensive care of cancer patients and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.15.

7716 Clinical Experiences in Dermatology  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to dermatology and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.16.

7717 Clinical Experiences in Digestive Diseases Hepatology  G  2
Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to digestive diseases hepatology and thus enhance their ability to perform translational research. Prereq: Enrollment in IBGP, or permission of program director. Not open to students with credit for 765.17.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7718</td>
<td>Clinical Experience in Emergency Medicine</td>
<td>G 2</td>
<td>Enrollment in IBGP or permission of program director</td>
<td>Not open to students with credit for 765.18. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to emergency medicine and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7719</td>
<td>Clinical Experience in End Stage Renal Disease in Children</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.19. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to end stage renal disease in children and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7720</td>
<td>Clinical Experience in Endocrinology and Metabolism-Clinical</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.20. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to endocrinology and metabolism and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7721</td>
<td>Clinical Experience in Gastroenterology Outpatient</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.21. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to gastroenterology and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7722</td>
<td>Clinical Experience in General Medicine</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.22. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to general medicine and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7723</td>
<td>Clinical Experience in General Medicine-Endocrinology/Diabetes</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.23. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to endocrinology/diabetes and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7724</td>
<td>Clinical Experience in General Surgery</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.24. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to general surgery and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7725</td>
<td>Clinical Experiences in Geriatrics</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.25. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to geriatrics and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7726</td>
<td>Clinical Experience in Clinical Gynecology</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.26. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to clinical gynecology and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7727</td>
<td>Clinical Experience in Gynecologic Oncology</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.27. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to gynecologic oncology and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7728</td>
<td>Clinical Experience in Hematology</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.28. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to hematology and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7729</td>
<td>Clinical Experience in Hematology/Oncology</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.29. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to hematology/oncology and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7730</td>
<td>Clinical Experience in Infectious Diseases</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.30. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to infectious diseases and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7731</td>
<td>Clinical Experience in Long Term Care of the HIV Patient</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.31. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to long term care of the HIV patient and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7732</td>
<td>Clinical Experience in Medical Intensive Care</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.32. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to medical intensive care and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7733</td>
<td>Clinical Experience in Nephrology</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.33. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to nephrology and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7734</td>
<td>Clinical Experience in Neurology</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.34. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to neurology and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7735</td>
<td>Clinical Experience in Neuropsychiatry</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.35. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to neuropsychiatry and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7736</td>
<td>Clinical Experience in Neurosurgery</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.36. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to neurosurgery and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7737</td>
<td>Clinical Experience in Normal Labor and Delivery</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.37. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to normal labor and delivery and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7738</td>
<td>Clinical Experience in Obstetrics High Risk</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.38. Provides graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to obstetrics high risk and thus enhance their ability to perform translational research.</td>
</tr>
<tr>
<td>7739</td>
<td>Clinical Experience in Oncology</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.39. Clinical experience in hospital wards and in the ambulatory environment in a clinical area related to oncology and enhancement of the ability to perform translational research.</td>
</tr>
<tr>
<td>7740</td>
<td>Clinical Experience in Otolaryngology: Head and Neck Surgery</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.40. Clinical experience in hospital wards and in the ambulatory environment in a clinical area related to otolaryngology head and neck surgery and enhancement of ability to perform translational research.</td>
</tr>
<tr>
<td>7741</td>
<td>Clinical Experience in Orthopedics</td>
<td>G 2</td>
<td>Enrollment in IBGP, or permission of program director</td>
<td>Not open to students with credit for 765.41. Clinical experience in hospital wards and in the ambulatory environment in a clinical area related to orthopedics and enhancement of ability to perform translational research.</td>
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</tbody>
</table>
### Biomedical Sciences Graduate Program

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<tr>
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<th>Course Title</th>
<th>Credits</th>
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<td>7742</td>
<td>Clinical Experience in Ophthalmology</td>
<td>G 2</td>
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<tr>
<td>7743</td>
<td>Clinical Experience in Pediatric Cardiology</td>
<td>G 2</td>
</tr>
<tr>
<td>7744</td>
<td>Clinical Experience in Pediatric Cardiothoracic</td>
<td>G 2</td>
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<tr>
<td>7745</td>
<td>Clinical Experiences in Pediatric Clinical</td>
<td>G 2</td>
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<tr>
<td></td>
<td>Gastroenterology</td>
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<tr>
<td>7746</td>
<td>Clinical Experience in Pediatric Clinical Genetics</td>
<td>G 2</td>
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<tr>
<td>7747</td>
<td>Clinical Experience in Pediatric Critical Care Medicine</td>
<td>G 2</td>
</tr>
<tr>
<td>7748</td>
<td>Clinical Experiences in Pediatric Developmental Disorders</td>
<td>G 2</td>
</tr>
<tr>
<td>7749</td>
<td>Clinical Experiences in Pediatric Emergency Medicine</td>
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<tr>
<td>7750</td>
<td>Clinical Experiences in Pediatric Endocrinology</td>
<td>G 2</td>
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<tr>
<td>7751</td>
<td>Clinical Experience in Pediatric Infectious Diseases</td>
<td>G 2</td>
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<tr>
<td>7752</td>
<td>Clinical Experience in Pediatric Hematology/Oncology</td>
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<tr>
<td>7753</td>
<td>Clinical Experience in Pediatric Intensive Care Unit</td>
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<tr>
<td>7754</td>
<td>Clinical Experiences in Pediatric Nephrology</td>
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<tr>
<td>7755</td>
<td>Clinical Experience in Pediatric Otolaryngology</td>
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<tr>
<td>7756</td>
<td>Clinical Experience in Pediatric Pulmonology</td>
<td>G 2</td>
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<tr>
<td>7757</td>
<td>Clinical Experience in Pediatric Surgery</td>
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<tr>
<td>7758</td>
<td>Clinical Experiences in Pediatric Urology</td>
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<tr>
<td>7759</td>
<td>Clinical Experience in Physical Medicine and Rehabilitation</td>
<td>G 2</td>
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<tr>
<td>7760</td>
<td>Clinical Experience in Plastic Surgery</td>
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<tr>
<td>7761</td>
<td>Clinical Experience in Pulmonary</td>
<td>G 2</td>
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<tr>
<td>7762</td>
<td>Clinical Experience in Radiation Oncology</td>
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<tr>
<td>7763</td>
<td>Clinical Experience in Reproductive Endocrinology and Infertility</td>
<td>G 2</td>
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<tr>
<td>7764</td>
<td>Clinical Experiences in Rheumatology</td>
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<tr>
<td>7765</td>
<td>Clinical Experience in Surgical Intensive Care</td>
<td>G 2</td>
</tr>
<tr>
<td>7766</td>
<td>Clinical Experience in Surgical Intensive Care Unit/Anesthesia</td>
<td>G 2</td>
</tr>
</tbody>
</table>
7767 Clinical Experience in Surgical Oncology  
Clinical experience in hospital wards and in the ambulatory environment in a clinical area related to surgical oncology and enhancement of the ability to perform translational research. Prereq: Enrollment in IBGP, and permission of program directors. Not open to students with credit for 765.67.

7768 Clinical Experience in Thoracic Surgery  
Clinical experience in hospital wards and in the ambulatory environment in a clinical area related to thoracic surgery and enhancement of the ability to perform translational research. Prereq: Enrollment in IBGP, and permission of program directors. Not open to students with credit for 765.68.

7769 Clinical Experience in Transfusion Medicine Blood Banking  
Clinical experience on hospital wards and in the ambulatory environment in a clinical area related to transfusion medicine blood banking and enhancement of the ability to perform translational research. Prereq: Enrollment in IBGP, and permission of program director. Not open to students with credit for 765.69.

7770 Clinical Experience in Transplantation Surgery  
Clinical experience in hospital wards and in the ambulatory environment in a clinical area related to transplantation surgery and enhancement of the ability to perform translational research. Prereq: Enrollment in IBGP, and permission of program directors. Not open to students with credit for 765.70.

7771 Clinical Experience in Urology  
Provide graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to urology and thus enhance their ability to perform translational research. Prereq: IBGP student, and permission of program directors.

7772 Clinical Experience in Vascular Surgery  
Provide graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to vascular surgery and thus enhance their ability to perform translational research. Prereq: IBGP student, and permission of program directors.

7773 Clinical Experience in Adult Clinical Genetics  
Provide graduate students a clinical experience on hospital wards and in the ambulatory environment in a clinical area related to adult clinical genetics and thus enhance their ability to perform translational research. Prereq: IBGP student, and permission of program directors.

7800 Presentation Skills for Biomedical Researchers  
Learn scientific presentation skills through oral and poster presentations of biomedical research in progress given by themselves, faculty, and postdoctoral scientists. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

7810 Animal Models of Human Disease  
Transgenic and knockout mouse technology and examples of models for genetic diseases with each pattern of inheritance. Prereq: 7010, or MolGen 701.

7820 Molecular and Cellular Mechanisms of Stress-Associated Diseases in the Human  
Through presentations and critical discussions of research and literature students will gain an understanding of the mechanisms underlying stress-associated diseases and methods to study these. Prereq: Enrollment in IBGP, or permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

7830 Phytochemicals in Human Health: Crops to the Clinic  
Covers the function and control of phytochemicals in plants, the function of phytochemicals in human health; delivery of phytochemicals through foods in the diet, strategies when designing studies examining foods for health, and policy and sustainability considerations. Prereq: Biochem 4511 (511) or 5613 (613), or equiv; or permission of instructor. Not open to students with credit for FdScTe 7810. Cross-listed in HCS, HumnNtr, FdScTe, and PubHEpi.

7890 Immunological Research of Pediatric Diseases  
Trainees will prepare and give presentations on current research on immunological mechanisms of pediatric diseases. Prereq: Enrollment in IBGP, and permission of instructor. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

7900 Cancer Immunology: Critical Journal Readings  
Faculty, students and postdoctoral fellows will give critical interpretations of research and journal readings on cancer immunology. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7910 Current Research in Human Viral Diseases  
Faculty, students and postdoctoral trainees will give critical interpretations of research and journal readings on human viral diseases. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7920 Translational Biomedical Research  
Through lectures, small group discussions and independent reading, students will learn the nature, goals, importance, basic principles and administrative requirements of translational research. Prereq: Enrollment in IBGP, or permission of program director.

7930 Individual Studies in Integrated Biomedical Science  
A research project will be assigned by a faculty member to meet the individual student's educational goals. Prereq: Enrollment in IBGP, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 10 completions. This course is graded S/U.

7950 Host-Pathogen Interactions: Research Seminar  
Faculty, students and outside speakers will give research presentations on microbial-host interactions. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7960 Research Seminars in Head and Lung Disease  
Faculty and outside speakers will give basic and clinical science research seminars on mechanisms of heart and lung disease. Prereq: Enrollment in IBGP, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7971 Integrated Biomedical Science Graduate Seminar  
Junior graduate students will present research work in progress under the supervision of a faculty mentor. Prereq: Enrollment in IBGP, and Grad standing. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7972 Integrated Biomedical Science Senior Seminar  
Senior IBGP graduate students will present research work and be advised and critiqued by other senior students and a faculty advisor. Prereq: Enrollment in IBGP, and Grad standing. Repeatable to a maximum of 3 cr hrs.

7980 Seminar in Pediatric Research  
Faculty and outside speakers will give presentations on research in biological mechanisms of pediatric disease. Prereq: Enrollment in IBGP, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7991 Cancer Immunology: Research Seminar  
Students attend research presentations on cancer immunology given by faculty, students and postdoctoral fellows. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7992 Cancer Immunology: Research Seminar Presentation  
Faculty, students and postdoctoral fellows will give research presentations on cancer immunology. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8050 Research Techniques and Resources  
Survey of research techniques used to solve problems in modern cell and molecular biology, immunology, biochemistry, microbiology, microscopy, laboratory safety, and related available resources. Prereq: Enrollment in IBGP, or permission of course director. Not open to students with credit for 805.01.

8510 Advanced Seminar in Integrated Biomedical Science  
Interdisciplinary biomedical topics will be reviewed in depth with student participation in analyzing literature, and faculty and outside experts presenting their own original research. Prereq: Enrollment in IBGP, or permission of instructor. This course is graded S/U.

8520 Career Discovery in the Biomedical Sciences  
Seminar topics related to career opportunities available in the biomedical sciences, as well as topics on career development tools such as CV preparation, interview strategies, networking and prioritizing commitments. Prereq: Enrollment in IBGP. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8800.01 Signature Program Translational Science Curriculum  "Immunology and Inflammation"  
Translational Science to understand inflammatory diseases, viral diseases, cancer, and wound healing. Prereq: Enrollment in MD or DO degree program, or permission of instructor.

8800.02 Signature Program Translational Science Curriculum  "Infection & Host/Pathogen Science"  
Translational Science to understand inflammatory diseases, viral diseases, cancer, and wound healing. Prereq: Enrollment in MD or DO program, or permission of instructor. Cross-listed in IntMed.
Biomedical Sciences Graduate Program

8800.03 Signature Program Translational Science Curriculum G 2
"Regenerative Medicine & Wound Healing"
Translational Science to understand inflammatory diseases, viral diseases, cancer, and wound healing. 
Sum Sem. Prereq: Enrollment in MD or DO program, or permission of instructor.

8800.04 Signature Program Translational Science Curriculum G 2
"Cancer Biology & Therapeutics"
Translational Science to understand inflammatory diseases, viral diseases, cancer, and wound healing. 
Prereq: Enrollment in MD or DO degree program, or permission of instructor.

8800.05 Signature Program Translational Science Curriculum G 3
"Genomic Medicine and Pharmacogenomics"
Translational Science to understand current genomic medicine, pharmacogenomics literature, and design of genomics research projects, with emphasis on clinical applications.
Prereq: Enrollment in MD or DO degree program, or permission of instructor.

8910 Interdisciplinary Seminar G 1
Graduate seminar for interdisciplinary studies. 
Prereq: Grad standing. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8911 Interdisciplinary Seminar on Biomedical Images G 1
Graduate seminar for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images. 
Prereq: Grad standing. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

8999 Research in Integrated Biomedical Science G 1 - 12
Research for dissertation purposes only. 
Prereq: Enrollment in IBGP, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 10 completions. This course is graded S/U.

Biophysics

6697 Study at a Foreign Institution G 1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. 
Prereq: Permission of program director. Repeatable to a maximum of 45 cr hrs or 45 completions. This course is progress graded (S/U).

6702 Advanced Experimental Methods in Biophysics G 1 - 3
Advanced Experimental Methods in Biophysics. 
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

6789 Free Radicals in Biomedicine G 2
Background in free radical biology and medicine focused on biologically relevant radicals, their physiological and pathophysiological roles and underlying physico-chemical processes. 
Grad credit in Biochem, Phys Chem, or Biophys recommended. 

6795 Seminar in Biophysics G 1
Seminar in Biophysics. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

6891.01 Interdisciplinary Seminar on Biomedical Images G 1 - 2
Graduate Seminar for Graduate Interdisciplinary Specialization in Comprehensive Engineering and Science of Medical Images. 
Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U. Cross-listed in BiomedE, BMI, CSE, ECE, IBGP, Pathol, Radiol, Stat, and VisSc.

7600 First-Year Student Orientation G 1
Orientation for first-year students in Biophysics and partner graduate programs; lectures on topics important for successful graduate experience; training in presenting scientific work; training in research ethics. 
Prereq: Not open to students with credit for MCDBio 7600, MolGen 7600, OSBP 7600 (760), or Micro 7600. This course is graded S/U. Cross-listed in MCDBio, MolGen, OSBP, and Micro.

8193 Individual Studies G 1 - 5
Any particular subject that is not part of the regular curriculum. 
Prereq: Permission of instructor and program director. Repeatable. This course is graded S/U.

8813 Magnetic Resonance Spectroscopy and Imaging I G 2
Presentation of the basic principles of MRI/MS including basic MR physics, pulse sequences, adiabatic excitation, coil design, MR hardware, image formation, localized spectroscopy. 
Prereq: Chem 521 or equiv, and Biochem 511, and Grad standing, and permission of instructor. Not open to students with credit for BiomedE 813 or Radiol 813. Cross-listed in BiomedE.

8814 Magnetic Resonance Spectroscopy and Imaging II G 2
Presentation of the basic principles of MRI/MS including basic MR physics, pulse sequences, adiabatic excitation, coil design, MR hardware, image formation, localized spectroscopy. 
Prereq: Grad 8813 (813), and Grad standing, and permission of instructor. Cross-listed in BiomedE and Radiol.

8998 Research in Biophysics G 1 - 15
Research for thesis and dissertation purposes. 
Prereq: Enrollment in a Ph.D. program. Repeatable. This course is graded S/U.

8999 Research in Biophysics G 1 - 3
Research credit for students who are post candidacy exam. Repeatable. This course is graded S/U.

Biotechnology

1201T Exploring Biochemical Sciences and Biotechnology U ¾
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

2193T Individual Studies U 1 - 3
Designed to give an individual student an opportunity to pursue special studies not offered in other courses. 
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

2194T Group Studies U 1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses. 
Prereq: Permission of Instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

2218T General and Applied Entomology U 2
Classification, identification, life cycles, external/ internal structures, and functions of insects; common insect pests and their damage; methods of control and their applications. 
Prereq: Not open to students with credit for 2167T or LabBioSci 2187T. This course is available for EM credit.

2219T Pesticides and their Use U 2
A study of the classification of pesticides and their mode of action, physiological effects, persistence in the environment, benefits, hazards, use, performance and regulation.
Prereq: Not open to students with credit for 2191T or LabBioSci 2191T. This course is available for EM credit.

Bosnian/Croatian/Serbian

1101 Elementary Bosnian/Croatian/Serbian I U 4
Introduction to Bosnian/Croatian/Serbian; development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of these languages through regular course enrollment or EM credit, or to students with 2 or more years of study in these languages in high school, except by permission of department. 
Prereq: Not open to students with credit for SrboCroat 101. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102 Elementary Bosnian/Croatian/Serbian II U 4
Continued development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of these languages through regular course enrollment or EM credit. 
Prereq: BCS 1101 (SrboCroat 101.01). Not open to students with credit for SrboCroat 102 or 103. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103 Intermediate Bosnian/Croatian/Serbian I U 4
Continued development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of these languages through regular course enrollment or EM credit. 
Prereq: BCS 1102 (SrboCroat 102.01). Not open to students with credit for SrboCroat 104. This course is available for EM credit. GE for lang course.

2104 Intermediate Bosnian/Croatian/Serbian II U 4
Increasing functional ability in speaking, listening, reading, and writing practice, vocabulary-building; new grammar structures; start developing higher-level language skills in Bosnian/Croatian/Serbian. Not open to native speakers of this language through regular course enrollment or EM credit. 
Prereq: BCS 1103 (SrboCroat 104.01). Not open to students with credit for SrboCroat 407.01, or for 5 cr hrs of 407.51.

3101 Advanced BCS I U 3
Further developing speaking, listening, reading, and writing skills and grammar competence. 
Prereq: 2104. Not open to students with credit for Slavic 5194 (Au13, Mihalicek).

3102 Advanced BCS II U 3
Advanced BCS; second semester. 
Prereq: 3101.

Business Admin
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>College of Business Survey</td>
<td>1</td>
<td>Academic requirements; policies procedures and resources; student rights and responsibilities; academic areas of specialization; careers in accounting and business administration. Prereq: NFYS, or a transfer student in direct enrollment program in BUS; and permission of instructor or department. Not open to students with credit for any OSU survey course.</td>
</tr>
<tr>
<td>1100H</td>
<td>College of Business Survey</td>
<td>1</td>
<td>Academic requirements; policies procedures and resources; student rights and responsibilities; academic areas of specialization; careers in accounting and business administration. Prereq: Honors standing, and NFYS standing in direct enrollment program in BUS and permission of instructor or department. Not open to students with credit for any OSU survey course.</td>
</tr>
<tr>
<td>1101.01</td>
<td>Business Administration Seminar: Scholars</td>
<td>1</td>
<td>Seminar for first-year business students to explore personal interests, interdisciplinary opportunities, campus and local community resources and activities related to business scholars program. Prereq: Admission to Business scholars program, and permission of instructor.</td>
</tr>
<tr>
<td>1101.02</td>
<td>Business Administration Seminar: Campus Change</td>
<td>1</td>
<td>Develop successful strategies to transition from a regional campus to Fisher College and the BSBA major program on the Columbus campus. Emphasis placed on self-initiative, effective decision making and personal responsibility. Prereq: Permission of instructor.</td>
</tr>
<tr>
<td>1200</td>
<td>College of Business Survey II</td>
<td>1</td>
<td>Students will develop a comprehensive academic, professional/career, and personal plan for success that incorporates: self-knowledge and individual interests, exploring a specialization, a 4-year graduation plan, short term and long term goals for gaining leadership and work experience, and identifying opportunities to enhance the college experience. Prereq: Fresh standing, or transfer student survey course.</td>
</tr>
<tr>
<td>2191.01</td>
<td>Professional Experience Field Study</td>
<td>1</td>
<td>For students completing a full semester internship requiring credit; internship is supervised by the employer, three assignments related to the internship are evaluated by the Director, Undergraduate Internship Services. Prereq: Admission to College of Business major program and specialization, and permission of instructor. Not open to students with more than 3 credit hours of 2191 or 2191.02. Repeatable to a maximum of 4 or hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>2191.02</td>
<td>Professional Experience Field Study</td>
<td>½</td>
<td>For students completing a session long internship requiring credit; internship is supervised by the employer, three assignments related to the internship are evaluated by the Director, Undergraduate Internship Services. Prereq: Admission to College of Business major program and specialization, and permission of instructor. Not open to students with more than 3.5 credit hours of 2191 or 2191.01. Repeatable to a maximum of 4 or hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>2292H</td>
<td>Business Skills &amp; Environment</td>
<td>3</td>
<td>Introduction to the role of business in the lives of individuals, consumers, employees, and citizens. Focus on the concept of ethical leadership with emphasis on both oral and written communication skills for the business environment. Prereq: Honors standing, and admittance to BSBA program. Not open to students with credit for BusMHR 2291, 2226 or BusAdm 499 or 499H.</td>
</tr>
<tr>
<td>2600</td>
<td>Undergraduate Speaker Series</td>
<td>1</td>
<td>Alumni from the Fisher College of Business will discuss their specializations, and companies to assist students in making career decisions. Emphasis on networking and business communications. Prereq: Enrollment in College of Business. Not open to students with credit for 503. This course is graded S/U.</td>
</tr>
<tr>
<td>2601</td>
<td>Job Search Preparation and Transition to Work for Business Students</td>
<td>½-1</td>
<td>Practical techniques and skill development in conducting a job/internship search, researching career information, evaluating career decisions and beginning a successful career. Prereq: Sophomore standing, and enrollment in the Fisher College of Business Major Program and Specialization. Not open to students with credit for 501.01. Repeatable to a maximum of 1 or 2 completions.</td>
</tr>
<tr>
<td>2798</td>
<td>Study Tour: International</td>
<td>3</td>
<td>Designed to provide an orientation to students who will embark on an international experience and once there, will enable students across countries to learn from each other. Prereq: Permission of instructor. Not open to students with credit for 498.02.</td>
</tr>
<tr>
<td>3100</td>
<td>Business Case Analysis and Presentation</td>
<td>2</td>
<td>Perspectives, disciplines and skills necessary for success in the role of a business analyst as defined by careers within venture capital, investment banking and strategy consulting. Prereq: Permission of instructor. Repeatable to a maximum of 4 or 1 credit hours. This course is graded S/U.</td>
</tr>
<tr>
<td>3189</td>
<td>Advanced Field Placement</td>
<td>½</td>
<td>Preparation for students who will participate in an international internship through the Fisher College of Business Office of Career Management. Prereq: Permission of instructor. Repeatable to a maximum of 2 or 1 credit hours.</td>
</tr>
<tr>
<td>3520</td>
<td>Entrepreneurship and Innovation: Fundamentals of New Product Development</td>
<td>3</td>
<td>Provide an understanding of the entire product development process, from the first stages of problem definition to the finished product. Prereq: BusMHR 3510.01.</td>
</tr>
<tr>
<td>3531</td>
<td>Entrepreneurship and Innovation: General, Startup-Based Entrepreneurship</td>
<td>3</td>
<td>Transformation of knowledge captured through creative, person-centered design into conceptual, viable, commercial concepts in the area of product/service based general entrepreneurship and entrepreneurial start-ups. Examination of a variety of business models appropriate for commercializing product/service based commercializations. Prereq: 3510, and Design 2700 and MechEng or ISE 5682.</td>
</tr>
<tr>
<td>3532</td>
<td>Entrepreneurship and Innovation: Corporate Entrepreneurship</td>
<td>3</td>
<td>Develop skills and understanding of theories and their application to develop new ideas and viable new businesses within an established firm. Address the development of an internal culture of innovation, processes for reviewing ideas and developing concepts, strategic analysis, positioning for competitive advantage, forms of corporate ventures, and the qualities of corporate entrepreneurs. Prereq: 3510, and Design 2700 and MechEng or ISE 5682.</td>
</tr>
<tr>
<td>3533</td>
<td>Entrepreneurship and Innovation: Technology Entrepreneurship</td>
<td>3</td>
<td>Examine the innovative transformation of knowledge captured in scientific discoveries into conceptual, viable, commercial products and services. Prereq: 3510, and Design 2700 and MechEng or ISE 5682.</td>
</tr>
<tr>
<td>3630.01</td>
<td>Business Industry Cluster</td>
<td>2</td>
<td>Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Previous enrollment in 3630.01, or admission to Business Industry Cluster Program, or permission of instructor. Not open to students with credit for 505.01.</td>
</tr>
<tr>
<td>3630.01E</td>
<td>Business Industry Cluster</td>
<td>2</td>
<td>Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Admission to BSBA Honors Contract Industry Cluster Program.</td>
</tr>
<tr>
<td>3630.02</td>
<td>Business Industry Cluster</td>
<td>2</td>
<td>Exploration of current interdisciplinary best business practices in industry. Students will work across business majors to learn strategy and implementation details from current industry professionals. Prereq: Previous enrollment in 3630.02, or enrollment in Business Industry Cluster Program, or permission of instructor. Not open to students with credit for 505.02.</td>
</tr>
<tr>
<td>3630.02E</td>
<td>Business Industry Cluster</td>
<td>2</td>
<td>Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Admission to BSBA Honors Contract Industry Cluster Program.</td>
</tr>
<tr>
<td>3630.03</td>
<td>Business Industry Cluster</td>
<td>2</td>
<td>Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Previous enrollment in 3630.03, or admission to Business Industry Cluster Program, or permission of instructor. Not open to students with credit for 505.03.</td>
</tr>
<tr>
<td>3630.03E</td>
<td>Business Industry Cluster</td>
<td>2</td>
<td>Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Admission to BSBA Honors Contract Industry Cluster Program.</td>
</tr>
<tr>
<td>3630.04</td>
<td>Business Industry Cluster</td>
<td>2</td>
<td>Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Previous enrollment in 3630.04, or admission to Business Industry Cluster Program, or permission of instructor. Not open to students with credit for 505.04.</td>
</tr>
<tr>
<td>3630.04E</td>
<td>Business Industry Cluster</td>
<td>2</td>
<td>Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Admission to BSBA Honors Contract Industry Cluster Program.</td>
</tr>
<tr>
<td>3630.05</td>
<td>Business Industry Cluster</td>
<td>2</td>
<td>Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Previous enrollment in 3630.05, or admission to Business Industry Cluster Program, or permission of instructor. Not open to students with credit for 505.05.</td>
</tr>
</tbody>
</table>
3630.05E Business Industry Cluster U 2
Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Admission to the BSBA Honors Contract Industry Cluster Program.

3630.06 Business Industry Cluster U 2
Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Admission to Business Industry Cluster Program, or permission of instructor.

3630.06E Business Industry Cluster U 2
Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Admission to BSBA Honors Contract Industry Cluster program.

3630.07 Business Industry Cluster U 2
Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Admission to Business Industry Cluster Program, or permission of instructor.

3630.07E Business Industry Cluster U 2
Exploration of current interdisciplinary best business practices in industry. Students will work across business specializations to learn strategy and implementation details from current industry professionals. Prereq: Admission to BSBA Honors Contract Industry Cluster program.

3632.01 Business Industry Cluster Project Experience U 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization. Prereq: Enrollment in Business Industry Cluster Program, or permission of instructor. Prereq or concur: 3630.01. Not open to students with credit for 506.01.

3632.01E Business Industry Cluster Project Experience U 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization. Prereq: Admission to BSBA Honors Contract Industry Cluster program.

3632.02 Business Industry Cluster Project Experience U 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization. Prereq: Enrollment in Business Industry Cluster Program, or permission of instructor. Prereq or concur: 3630.02. Not open to students with credit for 506.02.

3632.02E Business Industry Cluster Project Experience U 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization. Prereq: Admission to Business Industry Cluster Program, or permission of instructor. Prereq or concur: 3630.02E, and admission to BSBA Honors Contract Industry Cluster program.

3632.03 Business Industry Cluster Project Experience U 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization. Prereq: Enrollment in Business Industry Cluster Program, or permission of instructor. Prereq or concur: 3630.03. Not open to students with credit for 506.03.

3632.03E Business Industry Cluster Project Experience U 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization. Prereq: 3630.03E, and admission to BSBA Honors Contract Industry Cluster Program.

3632.04 Business Industry Cluster Project Experience U 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization. Prereq: Enrollment in Business Industry Cluster Program, or permission of instructor. Prereq or concur: 3630.04. Not open to students with credit for 506.04.

3632.05 Business Industry Cluster Project Experience U 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization. Prereq: Enrollment in Business Industry Cluster Program, or permission of instructor. Prereq or concur: 3630.05. Not open to students with credit for 506.05.

3632.06 Business Industry Cluster Project Experience U 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization. Prereq 3630.06, and enrollment in Business Industry Cluster Program; or permission of instructor.

3632.07 Business Industry Cluster Project Experience U 3
Hands-on experience in the execution of industry business practices to fill a need articulated by an operating public or private organization. Prereq 3630.07, and enrollment in Business Industry Cluster Program; or permission of instructor.

3640.01 Introduction to Sustainability in Business I: Principles and Concepts U 3
An introduction to the topic of sustainability in business. Prereq: Must be in Business Industry Cluster Program.

3640.01E Introduction to Sustainability in Business I: Principles and Concepts U 3

3640.02 Introduction to Sustainability in Business II: Principles and Concepts U 3
An introduction to the topic of sustainability in business. Prereq: ENR 2500 or AED Econ 2500. Not open to students with credit for BusMHR 504.01, 504.02 or 694.11 or BusAdm 3640.01.

3641 Introduction to Sustainability in Business: Applications & Solutions U 3
An introduction to the topic of sustainability in business with a concentration on the applications and solutions. Prereq: 3640.01 (504.01). Not open to students with credit for 504.02 or 694.12.

3642.01 Introduction to Sustainability in Business II: Applications, Solutions and Project Experience U 3
Field projects on sustainable business issues. Prereq: 3640.01, or permission of instructor.

3642.01E Introduction to Sustainability in Business II: Applications, Solutions and Project Experience U 3
An introduction to the topic of sustainability in business with a concentration on the applications and solutions. Prereq: 3640.01E, and admission to BSBA Honors Contract Industry Cluster Program. Not open to students with credit for 3640.02 or 3642.02.

3642.02 Introduction to Sustainability in Business II: Applications, Solutions and Project Experience U 3
Field projects on sustainable business issues. Prereq: 3640.02, or permission of instructor. Not open to students with credit for BusMHR 504.03 or 694.13.

3760 Exploring Culture in International Environments U 1
Through individual reflections, activities, and discussions, students participating in Fisher's International Student Exchange Program will be challenged to view knowledge and experiences from multiple perspectives.

3809H Honors Seminar U 3
Seminar on current business topics for students enrolled in the Business Administration Honors Programs. Topics may vary.

4189 Advanced Field Study: Doing Business in a Global Region U 1
Required pre-departure component of Fisher College of Business Global Internship Program for Undergraduates.
Prereq: Admission to Fisher College of Business Global Internship Program, and permission of instructor. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

4191 Professional Experience in Business U 0
Students complete a co-op or internship assignment in private industry or for a government agency; assignment is supervised by the employer and monitored and evaluated by the course coordinator.
Prereq: Permission of the Course Coordinator. Repeatable to a maximum of 4 completions. This course is graded S/U.

4510 Entrepreneurship and Innovation: Practicum U 3
Last required course in the Entrepreneurship and Innovation Minor. Application of tools and resources to real-world projects.
Prereq: 3510 and 3531, 3532, 3533 or BusMHR 5530, and Design 2700, and MechEng or ISE 5682.

4798 Study Tour: International U 1 - 10
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Repeatable for different titled study tours only.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions.

4998 Undergraduate Research in Business U 1 - 3
Undergraduate Research in Business for non-honors students. Prereq: BusMHR 2291 (499), and Jr standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.

5797 Study at a Foreign Institution U ½ - 18
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.
Prereq: Permission of Undergraduate BSBA Program Director of Student Services. Repeatable to a maximum of 36 cr hrs or 10 completions.
International students complete a co-op or internship assignment in private industry or for a government agency; assignment is supervised by the employer and monitored and evaluated by the course coordinator. 

Prereq: Permission of the Course Coordinator. Repeatable to a maximum of 4 completions. This course is graded S/U.

7194 Group Studies G ½ - 3

Group studies in business administration; topics vary with instructor.

Prereq: Enrollment in Grad programs in Business, or permission of instructor. Repeatable to a maximum of 6 or hrs or 4 completions.

**Business Admin: Finance**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1200</td>
<td>Personal Finance</td>
<td>U 3</td>
<td>Introduction to the field of personal financial management and planning, focusing on the tools individuals and families employ to manage their financial affairs.</td>
</tr>
</tbody>
</table>

Prereq: Not open to students with credit for 220, or enrolled in Accounting or Finance majors.

3120 Foundations of Finance U 3

Develops skills related to Time Value of Money, Risk and Return with applications in business and personal finance.

Prereq: AcctMIS 2000 (310), Math 1130 (130) or equiv., Econ 2001.01 (200), and CSE 100 or equiv. Not open to students with credit for 3220 (620) or 420. Not open to students enrolled in the BSSA program.

3193 Individual Studies U 1 - 6

Individual study projects in selected areas of finance.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.

3194 Group Studies U 1 - 6

Group study projects in selected areas of finance.

Prereq: Permission of instructor. Not open to students with credit for 494.

3220 Business Finance U 3

Introductory finance class which allows students to develop the skills to understand how financial managers make value-maximizing decisions for their firms. Prereq: Econ 2001.01 (200) or 2002.01 (201), and AcctMIS 2200 (211). Not open to students with credit for 620, or to students enrolled in UUSS, UEx or PreBSSA-PR.

3222 Foundations of Investments U 3

Basic principles and methods of investment for non-Business majors.

Prereq: 3120 (420) or 3220 (620), and AcctMIS 2200. Not open to students with credit for 4220 (722) or 522. Not open to students enrolled in the BSSA program.

3250 Foundations of International Finance U 3

Management of financial risk inherent with international business; problems of implementing corporate finance principles; International Capital Markets, for non-Business majors.

Prereq: 2200, 3220 (620), or 420. Not open to students with credit for 4250 or 725.

3290 Foundations of Entrepreneurial Finance U 3

Considers financial challenges facing entrepreneurs, including framing the issues, writing business plans, developing financial strategies, and structuring deals; for non-finance majors.

Prereq: 3120 (420) or 3220 (620). Not open to students with credit for 4215 (590).

3300 Introduction to Insurance and Risk U 3

Basic principles and main characteristics of the Insurance Industry and the fundamentals of risk identification, insurance contracts, and annuities.

Prereq: Econ 2001.01 (200) or 2002.01 (201), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 640.

3400 Introduction to Real Estate U 3

Examine the economics of property rights, the fundamental theories in urban economics, and selected applications.

Prereq: Econ 2001.01 (200) or 2002.01 (201). Not open to students with credit for 670.

3500 Legal Environment of Business U 1½

An introduction to American legal institutions, sources of law, and an analysis of basic concepts of public and private law related to business decisions.

Prereq: Soph standing. Not open to students with credit for 510, or to students enrolled in UUSS, UEx or PreBSSA-PR.

4193 Individual Studies U 1 - 4

Individual study projects in selected areas of finance.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.

4194.21 Group Studies U 1 - 4

Group study projects in selected areas of finance.

Prereq: Permission of instructor. Not open to students with credit for 694.21.

4194.22 Group Studies U 1 - 4

Group study projects in selected areas of finance.

Prereq: Permission of instructor. Not open to students with credit for 694.22.

4194.23 Group Studies U 1 - 4

Group study projects in selected areas of finance.

Prereq: Permission of instructor. Not open to students with credit for 694.23.

4194.24 Group Studies U 1 - 4

Group study projects in selected areas of finance.

Prereq: Permission of instructor. Not open to students with credit for 694.24.

4194.25 Group Studies U 1 - 4

Group study projects in selected areas of finance.

Prereq: Permission of instructor. Not open to students with credit for 694.25.

4200 Applications in Finance U 3

Applications in Finance with a discussion of Investment alternatives such as Money Market instruments, Stocks and Bonds and Corporate Finance issues such as Corporate Governance, Cost of Capital and Capital Budgeting.

Prereq: 3220 (620), BusMgt 2320 (330), and 2321 (331). Not open to students with credit for 4210, 4211, 4212 (721), 4220, 4221, or 4222 (722).

4201 Financial Data U 1½

How to use relevant accounting information for various applications in finance such as estimating stock and bond prices and free cash flows.

Prereq: 3220 (620), AcctMIS 2300 (212), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01).

4210 Corporate Finance I U 1½

Analysis of more advanced capital budgeting problems through understanding the theories and applications of capital structure payout policy.

Prereq: 3220 (620), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 721.

4210H Corporate Finance I U 1½

Analysis of more advanced capital budgeting problems through understanding the theories and applications of capital structure and payout policy.

Prereq: Enrollment in the Business Administration Honors Cohort Program; and 3220 (620), BusMgt 2320 (330), and 2321 (331). Not open to students with credit for 721.

4211 Corporate Finance U 3

Analysis of advanced capital budgeting problems through understanding the theories and applications of capital structure, leasing and real options. Theories and applications in corporate control, corporate governance and mergers and acquisitions.

Prereq: 3220 (620), BusMgt 2320 (330), and 2321 (331). Not open to students with credit for 721, 4210 or 4212.

4212 Corporate Finance II U 1½

Theories and applications in corporate control, leasing, corporate governance and real options.

Prereq or concur: 4210 and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 721.

4212H Corporate Finance II U 1½

Advanced theories and applications in corporate control, leasing, corporate governance, and real options.

Prereq or concur: 4210H, and enrollment in the Business Administration Honors Cohort Program. Not open to students with credit for 721.

4213 Corporate Finance III U 1½

Corporate finance theories as they relate to spinoffs, restructuring, and bankruptcy.

Prereq: 4211 (721), 4221 (722), 4230 (723), 4233 (723), 4250 (Ec 520), 4260 (726), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 721.

4214 Corporate Finance IV U 1½

A capstone course that allows students to apply their skills and knowledge developed in earlier courses to action-based corporate finance case studies.

Prereq or concur: 4210 and BusMHR 2291 (BusAdm 499.01). Not open to students with credit for 721.

4215 Entrepreneurial Finance U 1½

The roles of business plans, Angel Investors, and venture capital in private firms.

Prereq: 4211 (721), 4221 (722), 4230 (723), 4233 (723), 4250 (Ec 520), 4260 (726), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 721.

4220 Investments I U 1½

Skills for valuation and theories and applications of CAPM, APT, and efficient markets.

Prereq: 3220 (620), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 722.

4221 Investments U 3

Skills for valuation and theories and applications of CAPM, APT, and efficient markets; investment options, forwards and futures, interest rate parity, and relevant market regulation.

Prereq: 3220 (620), BusMgt 2320 (330), and 2321 (331). Not open to students with credit for 722, 4220 or 4222.

4222 Investments II U 1½

Investment options, forwards and futures, interest rate parity, and relevant market regulation.

Prereq or concur: 4220 and BusMHR 2291 (BusAdm 499.01). Not open to students with credit for 722.
68
4223

Business Admin: Finance
Fixed Income

U

1½

The basics of fixed-income securities, bond valuation skill development, and the
measurement and management of credit and interest-rate risk.
Prereq: 4232 (723) and BusMHR 2291 (BusAdm 499.01). Not open to students with credit for
731.
4224

Behavioral Finance

U

1½

Theories and implications of behavioral finance, CAPM Anomalies, and advanced Investment
strategies.
Prereq: 4212 (721), 4222 (722), 4260 (726), 4230 (723), 4201, 4250, and BusMHR 2291
(BusAdm 499.01). Not open to students with credit for 722.

4226

Portfolio Management

U

1½

Theories and applications in asset management including the roles of investment strategies.
Prereq: 4212 (721), 4222 (722), 4260 (726), 4230 (723), 4201, 4250, and BusMHR 2291
(BusAdm 499.01). Not open to students with credit for 728.
4227

Trading & Markets

U

1½

Action-based course on market design and trading cost analysis, including interactive trading
simulation.
Prereq: 4201, 4212 (721), 4222 (722), 4230 (723), 4250, 4260 (726), and BusMHR 2291
(BusAdm 499.01). Not open to students with credit for 730.

4228

Stock Market: Student Investment Management

U

3

4310

Property and Liability Insurance

U

3

Fundamentals of commercial property and liability insurance, including commercial property
and liability contracts, and the regulation and financial analysis of property and liability
insurers.
Prereq: 3300 (640), BusMgt 2320 (330), and BusMHR 2291 (BusAdm 499.01). Not open to
students with credit for 749.

4311

Life and Health Insurance

U

3

Basics of the life insurance and health insurance industry and contracts.
Prereq: 3300 (640), BusMgt 2320 (330), and BusMHR 2291 (BusAdm 499.01). Not open to
students with credit for 741.
4312

Employee Benefits Plans

U

3

Fundamentals of insurance topics related to the human resource function such as health and
retirement benefits, and COBRA.
Prereq: BusMgt 2320 (330), 3300 (640), and BusMHR 2291 (BusAdm 499.01). Not open to
students with credit for 741.
4410

Real Estate Finance

U

3

Basics of the mortgage markets and related finance investments and models of real estate
valuation.
Prereq: 3400 (670), or in Finance-BS plan. Not open to students with credit for 772.
4411

Property Management

U

3

Action-based course applying valuation techniques and investment strategies to portfolio
management and valuation.
Prereq: 4201, 4212 (721), 4222 (722), 4260 (726), 4230 (723), 4250, and BusMHR 2291
(BusAdm 499.01). Not open to students with credit for 724.

Basic topics related to property management such as acquisition, construction, and
supporting business functions.
Prereq: 3220 (620), 3400 (670), 3500 (510), BusMgt 2320 (330), 2321 (331), and BusMHR
2291 (BusAdm 499.01). Not open to students with credit for 776.

4230

4412

Options & Futures I

U

1½

Development of the basic skills to value options, futures, and related derivatives with
applications to derivative-based investments such as incentive stock options.
Prereq or concur: 4210 (721), 4220 (722), and BusMHR 2291 (BusAdm 499.01). Not open to
students with credit for 723.
4232

Options & Futures II

U

1½

How to value options and option-based derivatives using the Black-Scholes pricing model,
plus selected areas of financial engineering and strategies using exotic options.
Prereq: 4201, 4212 (721), 4222 (722), 4230 (723), 4250, 4260 (726), and BusMHR 2291
(BusAdm 499.01). Not open to students with credit for 723.
4250

Global Finance

U

1½

Implications for financial managers of global economic policy.
Prereq or concur: 4210 (721) and 4220 (722). Not open to students with credit for Econ 520.
4252

International Finance

U

1½

Theories and applications related to cross-border acquisitions, FOREX risk management, and
project finance.
Prereq: 4212 (721), 4222 (722), 4260 (726), 4230 (723), 4201, 4250, and BusMHR 2291
(BusAdm 499.01). Not open to students with credit for 725.

4260

Financial Institutions

U

1½

Basic financial institutions that play a role in corporate finance and investments including
commercial banks, investment banks, and insurance companies.
Prereq: 3220 (620), BusMgt 2320 (330), 2321 (331), and BusMHR 2291 (BusAdm 499.01).
Not open to students with credit for 726.
4262

Managing Financial Institutions

U

1½

Skills development on the measurement and management of credit risk, interest-rate risk of
financial institutions, and the role of securitization.
Prereq: 4260 and BusMHR 2291 (BusAdm 499.01). Not open to students with credit for 726.
4270

History of Financial Thought

U

1½

Consists of a series of lectures and interviews with leading contributors to the development
and practice of finance.
Prereq: BusMHR 2291 (BusAdm 499.01), BusFin 4212 (721), 4222 (722), 4260 (726), 4230
(723), and 4201 or 4250. Not open to students with credit for 779. This course is graded S/U.

4280

Treasury Management

U

3

Provide in depth coverage of the principles and tools of treasury and cash management.
Prereq: 4201, 4212 (721), 4222 (722), 4230 (723), 4250, 4260 (726), and BusMHR 2291 or
2292 (BusAdm 499.01). Not open to students with credit for 727.
4290

Risk Management I

U

1½

Theories and their implications as they relate to corporate risk management, basic hedging
strategies, and the basics of value at risk.
Prereq: BusMHR 2291 (BusAdm 499.01), BusFin 4212 (721), 4222 (722), 4260 (726), 4230
(723), and 4201 or 4250. Not open to students with credit for 729.

4292

Risk Management II

U

1½

In this capstone risk management course, students apply theories of risk management to
cases in enterprise risk management.
Prereq: 4201, 4212 (721), 4222 (722), 4230 (723), and 4260 (726). Prereq or concur: 4290
and BusMHR 2291 (BusAdm 499.01). Not open to students with credit for 729.

Real Estate Law

U

3

Basic legal aspects of property contracts, transactions, and environmental law.
Prereq: 3220 (620), 3400 (670), 3500 (510), BusMgt 2320 (330), 2321 (331), and BusMHR
2291 (BusAdm 499.01). Not open to students with credit for 775.
4413

Planning and Development

U

3

In this action-based class, students engage in site-based development case studies.
Prereq: 3220 (620), 3400 (670), 3500 (510), BusMgt 2320 (330), 2321 (331), and BusMHR
2291 (BusAdm 499.01).
4414

Real Estate Strategy

U

3

Basic real estate strategies related to green development and urban renewal.
Prereq: 3220 (620), 3400 (670), 3500 (510), BusMgt 2320 (330), 2321 (331), and BusMHR
2291 (BusAdm 499.01).

4510

Legal Business Issues

U

1½

Fundamentals of contracts and other legal aspects of business.
Prereq or concur: 3500 and BusMHR 2291 (BusAdm 499.01). Not open to students with credit
for 510.
4512

Law for Accountants

U

3

U

1-3

Fundamentals of the Uniform Commercial Code.
Prereq: Soph standing. Not open to students with credit for 3500 (510).

4998

Undergraduate Research in Finance

Undergraduate research in finance for non-honors students.
Prereq: BusAdm 2291 (499), and Jr standing, and permission of instructor. Repeatable to a
maximum of 12 cr hrs or 4 completions. This course is progress graded.
4998H

Honors Research

U

1-3

Special topics research in finance, business law, insurance and risk, and/or real estate;
research evaluated through papers, thesis, and /or special examination.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs
or 4 completions.

5400

Special Topics in Real Estate

U G

1½ - 3

U G

3

Special topics in Real Estate as determined by instructor.
5402

Real Estate Valuation

This real estate valuation and financial modeling course will cover existing income producing
property as well as ground up construction. Topics include market analysis, comparable
valuation, income valuation, cost valuation, real estate finance, expense reimbursements,
budget development, and pro-forma modeling.
Prereq: 3400 or 7240; or permission of instructor.

6211

Finance I

G

1½

Covers topics of time value of money, concepts of risk and return, and investment criteria.
Prereq: Enrollment in MAcc program. Not open to students with credit for 811.
6212

Finance II

G

1½

Covers capital budgeting, market efficiency, derivatives, interest rate parity.
Prereq: Enrollment in MAcc program. Not open to students with credit for 811.
6220

Turbo Finance

G

3

Fundamental techniques for financial analysis such as time value of money, risk and return,
capital budgeting and investment criteria, financial accounting, and an introduction to financial
derivatives.
Prereq: Enrollment in SMB-Finance program. Not open to students with credit for 860.


6221 Industry, Risk and Pricing G 1½
Principles of how individuals and firms make financial decisions, how financial markets work, and how financial managers make decisions under different forms of industry structure. Prereq: Enrollment in SMB-Finance program. Not open to students with credit for 861.

6222 Global Financial Markets G 1½
Principles of how the Federal Reserve and its policies impact financial markets, the institutional environment of global financial markets, and the basics of the foreign exchange market. Prereq: Enrollment in SMB-Finance program. Not open to students with credit for 861.

6226 Team Projects G 1½
Action-based course providing students in the Specialized Masters Finance the opportunity to practice analytical and soft skills through working with professionals on finance projects. Prereq: Enrollment in SMB-Finance program. Not open to students with credit for 865.

7193 Individual Studies G ½ - 9
Individual study projects in related areas of finance. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.

7194.21 Group Studies G 1 - 4
Group study projects in selected areas of finance. Prereq: Permission of instructor.

7194.22 Group Studies G 1 - 4
Group study projects in selected areas of finance. Prereq: Permission of instructor.

7210 Corporate Financial Management I G 1½
Advanced valuation skills and theories and applications in capital structure and security issuance. Prereq or concur: MBA 6221 and 6222, or 810. Not open to students with credit for 811 or 863.

7212 Corporate Financial Management II G 1½
Advanced theories of and applications in the areas of corporate control and governance and mergers and acquisitions. Prereq or concur: 7210, 7220, and 7230; or MBA 6221 and 6222; or 810 and BusFin 811. Not open to students with credit for 821.

7213 Corporate Financial Management III G 1½
Advanced corporate finance theories and applications in the areas of spinoffs, restructuring, and bankruptcy. Prereq or concur: 7210, 7220, and 7230; or MBA 810 and BusFin 811. Not open to students with credit for 821.

7214 Corporate Financial Management IV G 1½
Advanced case studies in corporate finance. Prereq or concur: 7212 and 7213 (821), or 811 and MBA 810. Not open to students with credit for 828.

7215 Entrepreneurial Finance G 1½
Advanced study of the roles of Angel investing, business plans, and venture capital in entrepreneurial finance. Prereq and concur: MBA 6221 or 6222 (810), or BusFin 6220, or 6221 and 6222. Not open to students with credit for 844 or 846.

7216 Private Equity G 1½
Theories of and applications in buyouts and private equity transactions. Prereq or concur: MBA 6221, 6222, or 810. Not open to students with credit for 845.

7220 Investment Management I G 1½
Advanced skills needed for securities valuation, theories and applications related to the CAPM, APT, and efficient markets. Prereq and concur: MBA 6221, 6222, or 810. Not open to students with credit for 822.

7221 Financial Modeling G 1½
Basic financial modeling techniques in EXCEL. Prereq or concur: MBA 6221, 6222, BusFin 6211, 6212, or 6220. Not open to students with credit for 840.

7222 Investment Management II G 1½
Valuation of fixed income securities as well as measures of their interest rate and credit risk. Prereq: MBA 6221 (810) and 6222 (811), or prereq or concur: 7210, 7220 (822), or 7230 (823). Not open to students with credit for 827.

7223 Investment Management III G 1½
Advanced investment strategies need for asset management and portfolio allocation. Prereq: MBA 6221 (810) and 6222 (BusFin 811), or prereq or concur: BusFin 7210, 7220 (822), or 7230 (823). Not open to students with credit for 830.

7224 Trading & Markets G 1½
Advanced theories of market design applied in an interactive trading simulation, Action-Based. Prereq: MBA 6221 (810) and 6222 (BusFin 811), or prereq or concur: BusFin 7210, 7220 (822), or 7230 (823). Not open to students with credit for 830.

7225 Student Stock Market Investment Management G 3
Advanced topics with industry analysis and stock valuation applied to portfolio management. Prereq: 7210 and 7220, or 822. Not open to students with credit for 824.

7226 Behavioral Finance G 1½
Theories of behavioral finance, such as Prospect Theory, and their implications for investor behavior and markets. Prereq or concur: MBA 6221 (810) or 6222 (BusFin 811). Not open to students with credit for 823.

7230 Derivatives I G 1½
Advanced investments class studying how to value options and related instruments using binomial pricing models and how to value and implement strategies using futures. Prereq or concur: MBA 6221 (810) or 6222 (BusFin 811). Not open to students with credit for 823.

7232 Derivatives II G 1½
Advanced derivatives course covering the Black-Scholes valuation model with applications to financial instruments and other areas of financial engineering. Prereq: MBA 6221 (810) and 6222 (BusFin 811), or Prereq or concur: BusFin 7210, 7220, or 7230. Not open to students with credit for 823.

7240 Principles of Real Estate G 1½
Topics in Real Estate planning and development, property management, and related property laws. Prereq or concur: MBA 6221 (810), 6222, 6223, BusFin 6211, 6212, or 6220. Not open to students with credit for 870 or 871.

7241 Real Estate Finance G 1½
Advanced topics in real estate valuations with applications to mortgage-related instruments and REITs. Prereq or concur: MBA 6221 (810), 6222, BusFin 6211, 6212, or 6220. Not open to students with credit for 872.

7250 International Finance G 1½
Theories of FOREIGN, international capital markets, cross-border investments, and their implications for firms. Prereq or concur: MBA 6221 (810) or 6222. Not open to students with credit for 825.

7260 Financial Institutions G 1½
Main roles of financial institutions used by firms such as commercial banks, investment banks, and insurance companies. Prereq or concur: MBA 6221 (810) or 6222. Not open to students with credit for 826.

7261 Insurance G 1½
Main features of the insurance industry, property and liability insurance, and employee benefit plans. Prereq or concur: MBA 6221 (810) or 6222. Not open to students with credit for 831.

7270 History of Financial Thought G 1½
Presentations by thought leaders in the field of finance where students prepare questions, and interview the speakers. Prereq: MBA 810 or Prereq and concur: MBA 6221 or 6222. Not open to students with credit for 879. This course is graded S/U. Cross-listed in 4270.

7280 Legal Business Issues G 1½
Contract law, tort law, and employment law relevant for financial managers. Prereq or concur: MBA 6221, 6222 (810), BusFin 6220, or 6211 and 6212. Not open to students with credit for 833.

7290 Enterprise Risk Management I G 1½
Advanced theories of Corporate Risk Management, hedging strategies, and how to measure apply Value at Risk. Prereq: 7210, 7220, and 7230, or MBA 810 and BusFin 811, or 6212. Not open to students with credit for 829.

7291 Enterprise Risk Management II G 1½
An Action-based Graduate level course. Students apply theories of risk management, hedging strategies, and value at risk to cases. Prereq: 829 or Prereq or concur: 7290. Not open to students with credit for 834.

7500 Recent Advances in Financial Markets G 3
Presentations to Korean Advanced Institute of Science and Technology (KAIST) students by faculty on current research topics. Prereq: Enrollment in KAIST program. Repeatable to a maximum of 6 cr hrs.

7521 Building Financial Models G 1½
Advanced topics in financial modeling in EXCEL. Prereq: Enrollment in KAIST program. Not open to students with credit for 849.

7702 Applied Managerial Economics for Health Sciences G 2
To provide an economics-oriented framework for analyzing managerial and organizational problems, and to further the understanding of how a health science firm's internal rules of the game affect behavior and performance. Prereq: Admission into the Business Minor in Health Sciences.
7800 Advanced Topics in Finance for EMBA  
Prereq: Enrollment in EMBA program. Repeatable to a maximum of 15 or hrs or 7 completions.

7999 Research in Finance: Thesis  
Research for thesis purposes only. Repeatable to a maximum of 24 or hrs or 6 completions. This course is graded S/U.

8210 Seminar: Asset Pricing Theory  
PhD level class covers the theoretical models related to contingent claims, CAPM, APT, and Black Scholes.  
Prereq: Permission of instructor. Not open to students with credit for 920.

8220 Seminar: Empirical Asset Pricing  
Covers empirical asset methods such as the Fama-McBeth techniques and GMM estimation.  
Prereq: Permission of instructor. Not open to students with credit for 921.

8230 Seminar: Corporate Finance Theory  
Covers seminal theories of corporate finance such as those related to capital structures, contracting, and security design.  
Prereq: Permission of instructor. Not open to students with credit for 922.

8240 Seminar: Empirical Corporate Finance  
Covers empirical research and methodologies in areas related to capital structure, investment, financial distress and governance.  
Prereq: Permission of instructor. Not open to students with credit for 922.

8250 Seminar: Advanced Asset Pricing  
Covers advanced topics in empirical and theoretical asset pricing.  
Prereq: Permission of instructor. Not open to students with credit for 922.

8260 Seminar: Advanced Corporate Finance  
Covers advanced topics in empirical and theoretical corporate finance.  
Prereq: Permission of instructor. Not open to students with credit for 924.

8280 Seminar: Research in Finance  
Faculty lead introduction to research areas in Finance to first year finance PhD students.  
Prereq: Permission of instructor. Not open to students with credit for 880. Repeatable to a maximum of 9 or hrs.

8290 Seminar: Finance Research Topics  
Advanced PhD student presentations of research in Finance.  
Prereq: Permission of instructor. Repeatable to a maximum of 9 or hrs or 6 completions.

8999 Research in Finance: Dissertation  
Research for dissertation purposes only. Repeatable to a maximum of 24 or hrs or 6 completions. This course is graded S/U.

1210 Fundamentals of Leadership Development  
Introduces students to the fundamentals of leadership. Topics include teamwork, leadership, ethics, communication, decision making, conflict management and diversity. Open only to students enrolled in the Central Ohio Leadership Academy. Offered each June; dates, times and location to be announced.  
Prereq: Permission of instructor. This course is graded S/U.

2000 Introduction to International Business  
Basic coverage of world trade and investment problems, and introduction to multinational corporation strategies and the various types of environments in which they do business.  
Prereq: Econ 2002.01 (201), and Econ 2001.01 (200) or AEDEcon 2001 (200). Not open to students with credit for BusAdm 555. Not open to students enrolled in UUSS, UExp or PreBSBA-PR.

2210 Personal Leadership and Team Effectiveness  
Effective management practices and how leadership practices lead to effective team and organizational performance.  
Prereq or concur: BusAdm 1100, or any University Survey course. Not open to students with credit for BusAdm 499 or 499.01.

2290 Applied Business Skills and Environment I  
Introduces students to the concept of capitalism and the role of business organizations in society.  
Prereq or concur: BusAdm 1100, or any University Survey course. Not open to students with credit for BusAdm 499 or 499.01.

2291 Applied Business Skills and Environment II  
Enhancement of future business leaders’ ability to resolve ethical issues and understand the ethical issues that leaders commonly face.  
Prereq: Soph standing, and enrollment in the Fisher College of Business. Not open to students with credit for BusAdm 499 or 499.01. Not open to students with credit for BusAdm 499 or 499.01. Not open to students enrolled in UUSS, UExp or PreBSBA-PR.

2292 Business Skills & Environment  
Introduce the role of business in the lives of individuals, consumers, employees, and citizens. Focus on the concept of ethical leadership with emphasis on both oral and written communication skills for the business environment.  
Prereq: Admission to the Business Administration major program. Not open to students with credit for BusAdm 499, 499.01 or BusMHR 2291.

2292H Business Skills & Environment  
Introduction to the role of business in the lives of individuals, consumers, employees, and citizens. Focus on the concept of ethical leadership with emphasis on both oral and written communication skills for the business environment.  
Prereq: Honors standing, and admission to the Business Administration major program. Not open to students with credit for 2291, 2292, or BusAdm 499(H).

2400 IBE Innovation Management Seminar  
Students will develop and apply a series of conceptual models that illustrate interactions between competitive strategy and patterns of technological, market and competitive change. Models will provide means to consider which firms benefit from market change, why existing firms fail to incorporate innovation in a timely manner and the types of markets in which a given firm should invest.  
Prereq: Admission to the Integrated Business and Engineering major.

2500 Entrepreneurship  
Assesses economical, sociological, and psychological foundations of entrepreneurship and its impact on society.  
Prereq: Not open to students with credit for BusMHR 290. GE soc sci human, nat, and econ resources course.

3000 Advanced Topics in International Business  
Advanced topics in international business including strategy, alliances, and exchange.  
Prereq: 2200 and 2292 (BusAdm 499.01). Not open to students with credit for BusAdm 555.

3100 Foundations of Management and Human Resources  
The study of human behavior in organizational settings.  
Prereq: Math 1130 (130), Econ 2001.01 (200), and CSE 100, or equiv. Not open to students with credit for 400 or 701. Not open to students enrolled in the Fisher College of Business.

3193 Individual Studies  
Individual study projects in selected areas in management and human resources.  
Prereq: Permission of instructor. Not open to students with credit for BusAdm 493. Repeatable to a maximum of 15 or hrs or 3 completions. This course is graded S/U.

3194 Group Studies  
Group study projects in selected areas in management and human resources.  
Prereq: Permission of instructor. Not open to students with credit for 494.

3200 Managing Individuals in Organizations: Organizational Behavior and Human Resources  
Principles for managing the performance of individuals and groups in organizations; introduction to organizational behavior theory and its application to staffing, training, compensation, and appraisal Prereq: Soph standing. Not open to students with credit for 3100 (400) or 701. Not open to students enrolled in UUSS, UExp or PreBSBA-PR.

3200H Managing Individuals in Organizations: Organizational Behavior and Human Resources  
Principles for managing the performance of individuals and groups in organizations; introduction to organizational behavior theory and its application to staffing, training, compensation, and appraisal.  
Prereq: Honors standing and enrollment in the Business Administration Honors Cohort Program. Not open to students with credit for BusMHR 701 or 70/H.

3211 Leadership and Character  
Issues of leadership as related to value-based decision making, character, and personal integrity.  
Prereq: Admission to the Business Administration major program. Not open to students with credit for 3200 (701), 3100 (400), or 650.

3300 Managing Human Resources  
Overview of human resource skills for non-HR managers; emphasis on practices and techniques for hiring, developing, compensating, and appraising employees.  
Prereq: Econ 2001.01 (200). Not open to students with credit for 3200 (701), 3100 (400), or 650.

3400 IBE Competitive Analysis Seminar  
Provides students the opportunity to apply basic competitive analysis theories/tools to analyze "real-world" firms.  
Prereq: Admission to the Integrated Business and Engineering Major Program.

3510.01 New Venture Creation  
Examines the creation of businesses in the face of uncertainty.  
Prereq: Not open to students with credit for 490 or 490.01.
3510.02 Creating the Social Venture U 3
Examines the creation of entrepreneurial ventures in the non-profit sector. Prereq: 2500 (290). Not open to students with credit for 490.02.

3540 Entrepreneurship Experience U 3
Special program for managing and leading a campus-based entrepreneurial venture. Prereq: 2500 (290) and Econ 2001.01 (200).

3541 Global Innovation and Entrepreneurial Leadership U 3
Field study projects to introduce students to venture capital, private equity, technology commercialization and new venture strategy. Prereq: BusMHR 2500 (290) and Econ 2001.01 (200).

3542 The Accelerator: Planning the Entrepreneurial Venture U 3
Practicum experience for exploring personal entrepreneurship and creating new ventures. Prereq: 2500 (290). Not open to students with credit for BusMHR 491.

3543 Franchising U 3
Planning, building, and leading franchise organizations and franchising as a growth strategy. Prereq: BusMHR 2500 (290).

3660 Innovation Practice U 3
Theory and application of innovation processes and frameworks for commercial application.

3661 Managing Creativity and Ideation U 3
Studies theory, research and practice in design thinking, intuition, ideation to develop a middle-brain competency and capability.

3665 Personal Creativity and Innovation U 3
Exploration of how people, places and practices foster personal creativity. Prereq: Not open to students with credit for 380.

4020 Cross Cultural Management U 3
Basic elements of culture and its impact upon business. Prereq: 3010 or BusAdm 555, and BusMHR 2292 (BusAdm 499.01).

4021 Institutions of the International Business Environment U 3
Major international institutions and the role they play in international business and commerce. Prereq: 3010 or BusAdm 555, and BusMHR 2292 (BusAdm 499.01).

4023 International Negotiations U 3
How to effectively negotiate and make deals in cross-cultural contexts. Prereq: 3010 or BusAdm 555, and BusMHR 2292 (BusAdm 499.01).

4024 Group International Projects for Students Studying Abroad U 3
Introduction to culture, communication and interactions for students who will traveling abroad as well as on ongoing project while students are away. Prereq: 2292 (BusAdm 499.01), and permission of instructor.

4193 Individual Studies U 1 - 5
Individual study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 693. Repeatable to a maximum of 15 cr hrs or 3 completions. This course is graded S/U.

4194.61 Group Studies U 1 - 5
Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 694.51.

4194.62 Group Studies U 1 - 5
Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 694.52.

4194.63 Group Studies U 1 - 5
Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 694.53.

4194.64 Group Studies U 1 - 5
Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 694.54.

4194.65 Group Studies U 1 - 5
Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 694.55.

4220 Negotiation and Conflict Management U 3
Introduction to the psychology of bargaining and negotiation, the dynamics of interpersonal and intergroup conflict and its resolution; emphasis on analyzing bargaining and conflict relationships. Prereq: 3100 (400), or 3200 (701), BusMgt 2320 (330), and 2321 (331). Not open to students with credit for 764.

4221 Concepts and Competencies for Managing People U 3
Application of concepts to managing oneself and others in real work situations. Includes practice of behavioral skills such as delegation, persuasion and performance feedback. Prereq: 3100 (400), or 3200 (701) and BusMgt 2320 (330); and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 764.

4232 Leading and Managing Change U 3
The issues and challenges of successfully leading and managing organizational change. Design and implementation of change, with emphasis primarily on successful implementation.

4320 Human Resource Management in a Market Economy U 3
Application of economic theory to organizations and labor markets; emphasis on the role of labor market analysis in human resource decision-making. Prereq: Econ 2001.01 (200), or AEDEcon 2001 and Econ 2002.01 (201); and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 651.

4321 International Labor and Human Resource Management U 3
Examination of the human resource challenges that emerge in multinational organizations, and emphasis on issues to be considered when preparing oneself and others for international assignments. Prereq: 3100 (400), or 3200 (701), BusMgt 2320 (330), and 2321 (3310); and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 763 or 765.

4322 Human Resource Learning: Training and Development U 3
Introduction to concepts and organization practices associated with designing, implementing, and evaluating different types of employee training and development programs. Prereq: 3100 (400), or 3200 (701) and BusMgt 2320 (330); and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 703.

4323 Human Resource Practices and the Law U 3
Review of federal laws and administrative bodies regulating employee management in the workplace, emphasis on gaining practical skills for managing human resource issues legally. Prereq: 3100 (400), or 3200 (701) and BusMgt 2320 (330); and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 653.

4324 Staffing: Concepts and Competencies for Acquiring Talent U 3
Introduction to the scientific, legal, and administrative issues associated with the recruitment, hiring, and placement of individuals by organizations. Prereq: 4223 (653) and 2292 (BusAdm 499.01), or enrollment in GENLBUS-BLS. Not open to students with credit for 756.

4325 Labor Relations and Collective Bargaining U 3
Examination of basic aspects of labor relations and collective bargaining including labor history, labor law, union structure and governance, labor-management bargaining, and contract administration. Prereq: 3100 (400), or 3200 (701) and BusMgt 2320 (330); and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 761.

4326 Compensation and Benefits Administration U 3
Provides a comprehensive framework and state-of-the-art tools for designing compensation systems via assessment of organizational needs, internal and external equity, and compensation administration. Prereq: 3100 (400), or 3200 (701) and BusMgt 2320 (330); and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 762.

4327 Strategic Career Development U 3
Understanding career development as an integral component of work. Prereq: 3200 (701), BusMgt 2320 (330), and BusMHR 2292 (BusAdm 499.01).

4328 Performance Management U 3
Measure and develop performance of individuals and groups to align performance with organization’s strategic objectives. Prereq: 3200 (701), BusMgt 2320 (330), and BusMHR 2292 (BusAdm 499.01).

4330 Strategic Human Resource Management U 3
Examination of a strategic perspective for managing employees that emphasizes the use of ethical practices and evaluates how practices fit together with organizational objectives. Prereq: 3100 (400), or 3200 (701) and BusMgt 2320 (330); and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 769.

4490 Strategic Management U 3
Introduction to the concepts and analytic tools in the field of strategic management to understand the competitive position of firms. Prereq: 2292 or BusAdm 499, and BusMgt 3220 (701), BusFin 3220 (620), 3500 (510), BusMgt 3230 (630), and BusML 3250 (650); and Sr standing; and enrollment in Fisher College of Business. Not open to students with credit for BusAdm 799. Not open to students in UJSS, UEXP, or PREBSBA-PR.

4490H Strategic Management U 3
Introduction to the concepts and analytic tools in the field of strategic management to understand the competitive position of firms. Prereq: Honors standing, and 2292 or BusAdm 499, and BusMgt 3220 (701H), BusFin 3220 (620), 3500 (510), BusMgt 3230 (630), and BusML 3250 (650); and Sr standing; and enrollment in Business Administration Honors program. Not open to students with credit for BusAdm 799H.

4520E Leading High Performance Ventures U 3
Focuses on concepts, frameworks, skills, and tools that enable a start-up to become a sustainable enterprise that creates jobs. Option available for honors students to do extra work for Honors credit. Prereq: 2500 (290) and Econ 2001.01 (200). Not open to students with credit for 3520 or 590.
## Business Admin: Management & Human Rsrcs

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>4550</td>
<td>Capstone in Entrepreneurship: Starting the Business</td>
<td>U</td>
<td>3</td>
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<tr>
<td></td>
<td>Students will start a business, including all aspects involved in a start-up.</td>
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<td>Second half of the course is a one-semester independent based on their start-up experience. This immersion course is required to earn an Entrepreneurship Distinction and Fellowship designation. Prereq: 2500 (290).</td>
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<tr>
<td>4570</td>
<td>Establishing Import-Export Firms</td>
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<td></td>
<td>To teach students how to get an export business started, how to compete in a global market and how to expand the business globally. Prereq: 2000, and permission of instructor.</td>
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<tr>
<td>4627</td>
<td>Leveraging Athletics for Business and Personal Success</td>
<td>U</td>
<td>3</td>
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<tr>
<td></td>
<td>Study of complexities confronting professional athletes. Despite perceived glamour surrounding professional sports, many former stars become directionless and penniless when their playing careers end. Classroom experience through readings and assignments will explore how this can occur and attempt to understand and offer activities and behaviors that lead to life success.</td>
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<tr>
<td>4998</td>
<td>Undergraduate Research in Management and Human Resources</td>
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<td>1 - 3</td>
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<tr>
<td></td>
<td>Undergraduate Research in Management and Human Resources for non-honors students. Prereq: BusAdm 2291 (499), and Jr standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.</td>
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<tr>
<td>4998H</td>
<td>Honors Research</td>
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<td>1 - 3</td>
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<td></td>
<td>Special topics research in management and human resources; research evaluated through papers, thesis, and/or special examinations. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.</td>
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<tr>
<td>5530</td>
<td>Topics in Social Entrepreneurship</td>
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<td>G 3</td>
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<td>Developing a business plan in social entrepreneurship.</td>
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<td>Prereq: 2500 (290) and Econ 2001.01 (200). Open not to students with credit for 691 or 694.52.</td>
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<tr>
<td>7010</td>
<td>Advanced topics in Multinational Business</td>
<td>G</td>
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<td></td>
<td>Examination of topics in international business, including the role of cultural and political systems, trade and FDI, and multinational enterprise. Prereq: MBA 6261 (820). Not open to students with credit for BusAdm 896.</td>
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<tr>
<td>7011</td>
<td>International Business Simulation</td>
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<td></td>
<td>Along with business schools in other countries, students have the opportunity to become immersed in an international business simulation.</td>
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<tr>
<td>7012</td>
<td>International Strategy</td>
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<td>1½</td>
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<td>Comprehensive study of policy and strategy formulation of firms in an international context with simulated cross-cultural negotiations, and the development of an international strategy for a local firm. Prereq: Not open to students with credit for BusAdm 857.</td>
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<tr>
<td>7013</td>
<td>China and Its Global Business Implications</td>
<td>G</td>
<td>1½</td>
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<td>Introduction to the historical, economic, cultural, social and geopolitical circumstances of China's rise, and its global business repercussions. Prereq: Not open to students with credit for 833.</td>
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<tr>
<td>7014</td>
<td>Global Management of Intellectual Property</td>
<td>G</td>
<td>1½</td>
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<td></td>
<td>Introduction to business features of intellectual property and the ways to manage it successfully.</td>
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<tr>
<td>7015</td>
<td>The Globalization of Smaller Firms</td>
<td>G</td>
<td>1½</td>
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<td></td>
<td>Field projects in which students have opportunity to apply theory and tools towards solving real-life challenges facing smaller businesses seeking to globalize. Prereq: Not open to students with credit for 827.</td>
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<tr>
<td>7016</td>
<td>Social Enterprise in Base-of-the Pyramid Markets</td>
<td>G</td>
<td>1½</td>
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<td></td>
<td>The role social enterprise organizations play in poverty alleviation and how to develop strategies for accomplishing social and financial objectives. Prereq: Not open to students with credit for 653.</td>
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<tr>
<td>7017</td>
<td>International Projects</td>
<td>G</td>
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<td></td>
<td>Pairs student teams in different countries who, together, identify complementary resources and capabilities that serve as a basis of cross-border cooperation and alliances.</td>
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<td>7020</td>
<td>Global Labs I</td>
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<td>1½</td>
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<td>Students prepare for client project with lectures on project work, including discussion of how to do business in foreign settings, business-focused cultural differences and other relevant topics to prepare students for projects. Discussion of relevant travel logistics, 1+ hours per week with faculty coach to prepare for project work, i.e. finalize project scope and in-country stakeholders. Prereq: Permission of instructor. Not open to students with credit for MBA 808. This course is graded SU.</td>
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<tr>
<td>7021</td>
<td>Global Labs II</td>
<td>G</td>
<td>3</td>
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<td>Travel portion of the GAP. Students will spend 3 weeks working to complete project for corporate client. During this time they will work 40+ hours per week at the client site in-country, and also communicate electronically 2+ hours per week (or as needed) with faculty coach. Project culminates with student presentation to client executives at the conclusion of 3 weeks. Prereq: Permission of instructor. Not open to students with credit for MBA 808.</td>
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<tr>
<td>7022</td>
<td>Global Labs III</td>
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<td>½ - 4</td>
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<td>Travel portion of Global Labs, following introduction to the region in which students will travel, including a discussion of the business environment, history, culture and labor markets. Students earn 0.5 credits for each week in country. Prereq: Permission of instructor.</td>
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<td>7191</td>
<td>Advanced Experience in Labor and Human Resources: Internship</td>
<td>G</td>
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<td>Supervised practical experience relating to labor and human resources. Prereq: Permission of instructor. Not open to students with credit for 850.01.</td>
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<td>7192</td>
<td>Human Resource Management: Tutorial</td>
<td>G</td>
<td>3</td>
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<td></td>
<td>Preparation of investigative paper relating course work to specific problem in labor and human resources. Prereq: Permission of instructor. Not open to students with credit for 950.02.</td>
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<td>7193</td>
<td>Individual Studies</td>
<td>G</td>
<td>1 - 5</td>
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<td></td>
<td>Individual study projects in selected interdisciplinary topics in business administration. Prereq: Enrollment in BusAdm or LHR PhD program, or permission of instructor. Repeatable to a maximum of 15 or hrs or 3 completions. This course is graded SU.</td>
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<tr>
<td>7194.61</td>
<td>Group Studies</td>
<td>G</td>
<td>1 - 5</td>
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<td></td>
<td>Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 894.61.</td>
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<tr>
<td>7194.62</td>
<td>Group Studies</td>
<td>G</td>
<td>1 - 5</td>
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<td></td>
<td>Group study projects in related areas in management and human resources. Prereq: Permission of instructor. Not open to students with credit for 894.62.</td>
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<td>7194.63</td>
<td>Group Studies</td>
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<tr>
<td>7220</td>
<td>Personal Leadership Effectiveness</td>
<td>G</td>
<td>3</td>
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<td>The ability to successfully execute any project or assignment; attaining mastery in identifying, resolving problems, gaining mastery in causing results in any condition/circumstance. Prereq: MBA 6200 or 6202 (860). Not open to students with credit for 834.</td>
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<tr>
<td>7221</td>
<td>Leadership Values and Decision Making</td>
<td>G</td>
<td>1½</td>
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<td>The importance of character, values and integrity to personal and organizational leadership. Includes cases, lectures, readings and speakers. Prereq: Enrollment in MBA, WPMBM, MHRM, or MAcc program, or permission of instructor. Not open to students with credit for 840.</td>
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<tr>
<td>7222</td>
<td>Advanced Topics in Leadership: Building Your Leadership Legacy</td>
<td>G</td>
<td>1½</td>
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<td>Development of a personal leadership legacy designed to achieve career goals and improve leadership skills. Prereq: Enrollment in MBA, WPMBM, MHRM, or MAcc program, or permission of instructor. Not open to students with credit for 842.</td>
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<tr>
<td>7223</td>
<td>Advanced Topics in Leadership Effectiveness: Strategy Implementation</td>
<td>G</td>
<td>1½</td>
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<td>Study strategy needed for organizational alignment; implementation, execution of strategic priorities; and organizational culture, leadership, structure, communications, compensation, metrics relative to effective execution of strategies. Prereq: Enrollment in MBA, WPMBM, MLHR or MAcc program or permission of instructor. Not open to students with credit for 847.</td>
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<tr>
<td>7224</td>
<td>Organizational Turnarounds</td>
<td>G</td>
<td>1½</td>
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<td>Case studies of organizational turnarounds. Prereq: Enrollment in MBA, WPMBM, MLHR, or MAcc program; or permission of instructor. Not open to students with credit for 843.</td>
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<tr>
<td>7225</td>
<td>Crisis Leadership</td>
<td>G</td>
<td>1½</td>
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<td></td>
<td>Studies of leaders and organizations facing crises to understand how to be successful in handling such challenges. Prereq: Enrollment in MBA, WPMBM, MLHR, or MAcc program; or permission of instructor. Not open to students with credit for 843.</td>
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<td>7226</td>
<td>Foundations of Transformative Leadership I</td>
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<td>7227</td>
<td>Foundations of Transformative Leadership II</td>
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<td>7230</td>
<td>Developing High Performance Teams</td>
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<td>7231</td>
<td>Building Professional Services</td>
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<td>7231.02</td>
<td>Building Professional Services</td>
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<td>7232</td>
<td>Leading and Managing Change</td>
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<td>7233</td>
<td>Leadership and Implementation of Change</td>
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<td>7240</td>
<td>Managerial Negotiations</td>
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<td>7241</td>
<td>Advanced Managerial Negotiation</td>
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<td>7242</td>
<td>International Negotiations and Deal Making</td>
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<td>7243</td>
<td>Power and Influence</td>
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<td>7244</td>
<td>Negotiations</td>
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<td>7260</td>
<td>Organizational Behavior for Specialized Masters</td>
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<td>7261</td>
<td>Leadership for Specialized Masters</td>
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<td>7262</td>
<td>Organizational Behavior for SMB</td>
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<td>7263</td>
<td>Leadership for SMB Finance Students</td>
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<td>7301</td>
<td>Conceptual and Historical Foundations of Labor and Human Resource Management</td>
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<td>7302</td>
<td>Markets, Organizations, and HRM</td>
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<td>Contemporary Employment Practices and the Law</td>
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<td>Talent Management</td>
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<td>7305</td>
<td>Understanding Teams &amp; Leadership for Human Resource Managers</td>
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<td>7306</td>
<td>Strategic Management of Human Assets</td>
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<td>7307</td>
<td>Performance Management</td>
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<td>Organizational Development and Change</td>
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<td>7309</td>
<td>Strategic Management of Human Assets</td>
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<td>7310</td>
<td>Labor Relations</td>
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<td>7311</td>
<td>Staffing Organizations</td>
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<td>7312</td>
<td>Total Rewards/Compensation</td>
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<td>7314</td>
<td>Designing Effective Organizational Learning Systems</td>
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<td>7220</td>
<td>Fundamentals of Business Excellence I</td>
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**Business Admin: Management & Human Rsrs** 73
7321 Fundamentals of Business Excellence II  G  3
Focus on developing specialized knowledge of functional areas and process in modern organizations. Prereq: 7320 (863), or permission of instructor.
7322 Fundamentals of Business Excellence III  G  3
Presentation of the strategic and tactical issues related to effective implementation and practice in HR. Prereq or concur: 7321, or permission of instructor.
7325 Human Resource Problem Solving  G  1½
A capstone course that engages students in diagnosing and solving human resource problems. Prereq: Enrollment in MLHR program.
7335 Managing Diversity  G  1½
Best practices and innovative ideas in managing diversity, the impact of diversity within and outside the organization, and how diversity creates value for an organization. Prereq: Grad standing.
7350 International Human Resources  G  1½
Exposure to the human resource management practices of selected countries and understanding of why such differences exist. Prereq: Not open to students with credit for 858.
7412 Competitive Analysis  G  1½
Tools to identify, parse, and analyze the economic and market data necessary to develop a comprehensive strategic analysis of business competition. Application of major steps in industry analysis, competitive positioning, capability analysis, competitor analysis, and some private equity valuation. Prereq: Enrollment in MBA or WP MBA program, or permission of instructor. Not open to students with credit for 838.
7413 Advanced Strategic Analysis  G  1½
Advanced strategic analysis provides students with a strategic perspective on management in complex, knowledge-intensive, and dynamic environments. The course introduces new tools and frameworks to consider how to evaluate highly uncertain investment proposals and whether and how to capture value from intangible, knowledge-based assets. Prereq: Enrollment in MBA or WP MBA, or permission of instructor. Not open to students with credit for 838.
7414 Vertical Integration and Diversification  G  1½
A study of corporate strategies, actions firms take to gain competitive advantages; strategies studied will include vertical integration, outsourcing, and firm performance. Course introduces concepts associated with transaction cost economics, resource-based view, and real options as applied to vertical integration and diversification decisions. Prereq: Enrollment in MBA or WP MBA, or permission of instructor. Not open to students with credit for 839.
7415 Corporate Diversification  G  1½
A study of corporate strategies, actions firms take to gain competitive advantages; strategies studied will include corporate diversification and mergers and acquisitions. Prereq: Enrollment in MBA or WP MBA, or permission of instructor. Not open to students with credit for 839.
7418 Strategic Corporate Restructuring  G  1½
Focuses on understanding the conditions in the external and internal environment of the firm that necessitates restructuring. Prereq: Enrollment in MBA or WP MBA, or permission of instructor. Not open to students with credit for 844.
7420 Mergers, Acquisitions and Corporate Development  G  1½
Analyzes mechanisms underlying the creation and destruction of value in M&A by studying issues such as: drivers of M&A, value creation strategies, valuation and integration. Prereq: Enrollment in MBA, MHHRM, MACC program, or permission of instructor. Not open to students with credit for 898.
7421 Intopia: Applied Competitive Strategy  G  3
Focuses on international operations business simulation INTOPIA and student’s companies operations in it. Each company must be well prepared to make and execute decisions. Prereq: Enrollment in MBA or WPMB program, or permission of instructor. Not open to students with credit for 836.
7422 Strategic Bankruptcy  G  1½
Focuses on understanding the conditions that necessitate a restructuring in bankruptcy. Prereq: Enrollment in MBA or WPMB program, or permission of instructor. Not open to students with credit for 844.
7423 Strategic Dynamics  G  1½
Explores the strategic concepts and techniques used to manage the dynamic conditions of uncertainty and competition to obtain a competitive advantage. Prereq: Enrollment in MBA or WPMB program, or permission of instructor.
7424 Strategic Implementation  G  1½
Utilization of theories from strategic management in practice. Prereq: Enrollment in MBA or WPMB, or permission of instructor.
7425 Strategic Alliances  G  1½
Strategic alliances in the global economy, their increasing numbers, and how to make such alliances work. Prereq: Enrollment in MBA or WP MBA, or permission of instructor.
7430 Business Solutions Teams  G  3
Engage teams of MBA students in solution of business problems for real world companies which serve as clients. Prereq: MBA 6291, or enrollment in MAcc program, or permission of instructor. Not open to students with credit for MBA 805.
7460 Innovation Management  G  1½
Different types of technological, market and organizational problems in technology or product life cycle. Prereq: Enrollment in MBA, WP MBA, MLHR or MAcc program, or permission of instructor. Not open to students with credit for 848.
7461 Technology and Innovation Strategy  G  1½
How technology strategy may lead to creation/persistence of competitive advantage. In contrast to core strategy course, provides series of strategic frameworks for managing high-tech businesses. Prereq: Enrollment in MBA, WP MBA, MLHR, MHRA, or MAcc program; or permission of instructor. Not open to students with credit for 848.
7500 Resolving Social Conflict  G  3
Multidisciplinary examination of social conflict, its dynamics and negotiated resolution; offers a broad-based framework for diagnosing and managing conflict applied to legal, environmental, organizational and geopolitical conflict. Prereq: Grad standing, or permission of instructor. Not open to students with credit for BusAdm 750. Cross-listed in CRPPlan and ENR.
7520 Entrepreneurship and Introduction to Business Plans  G  1½
Experiential opportunities in entrepreneurship, entrepreneurial concepts, and basics about business plans. Prereq: Not open to students with credit for 825.
7521 Professionalizing the Business Plan  G  1½
Financing and launching the student business plan. Prereq: BusHR 7520 (824).
7522 Entrepreneurship and the Business Plan  G  3
Experiential opportunities in entrepreneurship, entrepreneurial concepts, and financing and executing the business plan. Prereq: Not open to students with credit for 7520 or 7521 (825).
7525 Global Innovation and Entrepreneurial Leadership  G  1½
Field study projects to introduce venture capital, private equity, technology commercialization and new venture strategy.
7526 Advanced Topics in Entrepreneurship  G  1½
Topics involved in the financial start-up process, such as financing, how to start franchising, how to organize boards, how to find attorneys, etc. Prereq: 7520 (825).
7530 Technology Entrepreneurship and Commercialization  G  3
Proven techniques and proprietary protocols for estimating the commercial potential of new technologies, qualifying market opportunities, and designing competitive entry strategies. Prereq: Not open to students with credit for 890.
7531 Technology Venture Lab  G  3
Executing the “live” launch of new ventures utilizing lean startup principles, the business model canvas and the customer discovery process for creating scalable, investment-worthy ventures. Prereq: Not open to students with credit for 891.
7533 Managing a Not-for-Profit Business  G  1½
General introduction and business analysis of not-for-profit businesses and business solutions to issues facing not-for-profit leaders. Focus will be the fundraising model implemented at the university. Topics will include administration, finance, resource development, donor relations, capital campaigns, event planning and volunteer management.
7535 The Accelerator  G  1½
Practicum experience for exploring personal entrepreneurship and creating new ventures.
7540 Field Study in Micro Enterprise in Developing Economies  G  1½
Experiential learning about starting businesses in underdeveloped contexts through field studies in a developing country.
7601 Organizations, Markets and Management for SMB  G  3
Approaches microeconomics from a management and organizational perspective. The objective is to develop a framework grounded in the fundamentals of economic theory. Prereq: Enrollment in SMB Marketing program, or permission of instructor. Not open to students with credit for MBA 812.
BUS 7605 The Business of College Sports 3

Business analyses of intercollegiate athletics, including an in-depth look at OSU athletic program. College sports administration, educational, and business missions. Prereq: Enrollment in the MBA, WIPMBA, MLHR, MHRM or MAcc program, or permission of instructor. Not open to students with credit for 870 or KnSISM 6842. Cross-listed in KnSISM 6842.

BUS 7610 Business Ethics 1½

Developing ethical perspectives in the business environment for use in managerial decision-making. Prereq: Not open to students with credit for 859.

BUS 7611 International Corporate Compliance and Ethics Governance 1½

Managers face increasing compliance standards for multinational enterprises that governments view as reducing corruption and promoting ethical business practices. Anti-corruption prohibitions, codes of conduct, and moral ethics guidelines are no longer limited to businesses conducted solely with governments, but also apply to NGO's.

BUS 7620 Enhancing Professional Exchange for Ph.D. students 1½

This course is progress graded.

BUS 7628 Advanced Personal Communication 1½

Builds on the baseline skills developed in MBA 6281.01 Professional Development. Focus is on key elements of style and "polishing up techniques" for presentations. Evaluation and critique move to a secondary level, where presentations are improved and strategies are formed for next steps. This advanced course puts more focus on impromptu and organization techniques in presentation.

BUS 7630 Creativity: Skills and Practice 1½

How people, places, practices foster creativity. Readings from academic, spiritual, confessional, & self-help literature on creativity, productivity, happiness, & experience. Assignments of daily writing and self-assessments of personal creativity. Prereq: Enrollment in the MBA, WIPMBA, MLHR, MHRM, MAcc, or permission of instructor. Not open to students with credit for BusMHR 631.

BUS 7640 Strategies for Business Sustainability: Principles and Concepts 1½

Examination of the principles and concepts involved in developing sustainable businesses. Prereq: Not open to students with credit for 841.

BUS 7641 Strategies for Business Sustainability: Applications and Solutions 1½

Examination of the applications and solutions involved in developing sustainable businesses. Prereq: Not open to students with credit for BusMHR 841.

BUS 7642 Project Experience in Business Sustainability 3

Students engage in projects that focus on business sustainability issues. Prereq: Not open to students with credit for 894.63.

BUS 7660 Innovation Practice 1½

Theory and application of innovation practices as well as a framework for commercial application. Prereq: Not open to students with credit for 894.60.

BUS 7661 Innovations in Digital and e-Commerce Management 1½

Management process and strategies for the successful development, launch and ongoing execution of innovative online, transaction based e-commerce. Prereq: Enrollment in MBA program.

BUS 7662 Creativity and Ideation 1½

Importance and role that creativity and ideation play in the management and leadership of successful businesses. Prereq: Not open to students with credit for 831.

BUS 7663 Issues in Organizational Innovation 1½

Exploration of factors that underlie and enhance the process of innovation in organizations.

BUS 7665 Innovation Field Studies 1½

Diagnosing and solving real-world innovation problems. This course is progress graded.

BUS 7689 Washington Campus 1½ - 3

Week-long program with presentations by Washington policy-makers, trips to agencies, and participation in congressional simulation. Prereq: Permission of instructor. Not open to students with credit for 883. Repeatable to a maximum of 3 cr hrs or 2 completions.

BUS 7703 Leadership, Talent Management, and Organizational Behavior in Health Sciences 2

Provides an overview of factors that influence individual and team performance and techniques to improve it with an emphasis on the businesses in the life sciences and healthcare for managerial decision making. Prereq: Enrollment in the Graduate Business Minor in Health Sciences.

BUS 7714 Strategy and Competitive Analysis for Health Sciences 1½

Course focuses on creation of long term value for organizations in the health sciences industry and provides practical tools for strategic analysis of industries and individual practices for competitive strategies. Prereq: BUS 7644, 7704, and permission of instructor.

BUS 7780 Advanced Topics in Management and Human Resources for EMBA 1½ - 3

Advanced Topics in Management and Human Resources for students in the Executive MBA Program. Prereq: Enrollment in the MBA program. Repeatable to a maximum of 15 cr hrs or 7 completions.

BUS 7799 Research in Management and Human Resources: Thesis 3

Research for thesis purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 4 completions. This course is progress graded (S/U).

BUS 8001 Seminar: Seminar in International Business 1½

A critical study of current theories and research methodologies and findings in the field in international business. Prereq: Enrollment in the Fisher College of Business Ph.D program, or permission of instructor. Not open to students with credit for 925.01.

BUS 8002.01 Advanced Seminar: Selected Issues in International Business I 1½

Current and key issues in international management analyzed from an interdisciplinary perspective. Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor. Repeatable to a maximum of 3 cr hrs.

BUS 8002.02 Advanced Seminar: Selected Issues in International Business II 1½

Additional current and key issues in international management analyzed from an interdisciplinary perspective. Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

BUS 8021 Management Seminar: Seminar in Organizational Behavior 1½

Discussions of theory and research on organizational behavior. Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

BUS 8021.01 Advanced Seminar: Selected Issues in Organizational Behavior I 1½

Advanced discussions of theory and research on organizational behavior. Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

BUS 8021.02 Advanced Seminar: Selected Issues in Organizational Behavior II 1½

Additional advanced discussions of theory and research on organizational behavior. Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

BUS 8023 Seminar: Seminar in Organizational Theory 1½

Theory, research on environmental and structural characteristics of formal organizations and their correlates with particular emphasis on management of the organization in dynamic, global environment. Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Not open to students with credit for 915.

BUS 8301 Management Seminar: Seminar in Human Resource Management 1½

Discussions of theory and research that serve as a foundation for the fields of human resources. Prereq: Enrollment in the Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 3 cr hrs.

BUS 8302 Advanced Seminar: Selected issues in Human Resources Management I 1½

Advanced discussions of theory and research on human resource management. Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

BUS 8302.02 Advanced Seminar: Selected issues in Human Resources Management II 1½

Additional advanced discussions of theory and research on human resource management. Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 3 cr hrs.
8401 | Management Seminar: Seminar in Strategic Management | G | 1½ |
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<tr>
<td>An examination of the concepts, models, theories, and research underlying contemporary thinking on strategic management.</td>
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<td>Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
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8402.01 | Advanced Seminar: Selected issues in Strategic Management I | G | 1½ |
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<td>Advanced discussions of current theoretical developments and research in the business policy and strategic management field.</td>
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<tr>
<td>Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
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8402.02 | Advanced Seminar: Selected issues in Strategic Management II | G | 1½ |
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<tr>
<td>Additional advanced discussions of current theoretical developments and research in the business policy and strategic management field.</td>
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<tr>
<td>Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor. Repeatable to a maximum of 3 cr hrs.</td>
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8501 | Management Seminar: Seminar in Entrepreneurship | G | 1½ |
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<tr>
<td>Discussions of theory and research in Entrepreneurship. Prereq: Enrollment in Fisher College of Business PhD program or permission of instructor. Repeatable to a maximum of 3 cr hrs.</td>
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8502.01 | Advanced Seminar: Selected issues in Entrepreneurship I | G | 1½ |
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<tr>
<td>Advanced discussions of theory and research in Entrepreneurship. Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor. Repeatable to a maximum of 3 cr hrs.</td>
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8502.02 | Advanced Seminar: Selected issues in Entrepreneurship II | G | 1½ |
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<tr>
<td>Additional advanced discussions of theory and research in Entrepreneurship. Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor. Repeatable to a maximum of 3 cr hrs.</td>
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8601 | Management Seminar: Micro Foundations of Management | G | 1½ |
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<td>An examination of the micro foundations, theories, and models underlying the field of management. Prereq: Enrollment in Fisher College of Business PhD program, or permission of instructor. Repeatable to a maximum of 3 cr hrs.</td>
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8602 | Management Seminar: Macro Foundations of Management | G | 1½ |
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<tr>
<td>An examination of the macro foundations, theories, and models underlying the field of management. Prereq: Enrollment in Fisher College of Business PhD program or permission of instructor. Repeatable to a maximum of 3 cr hrs.</td>
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8610 | Preparing Manuscripts for Management Journals | G | 1½ |
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<td>Students will work on skills needed to translate research into publishable papers. Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor. Repeatable to a maximum of 4.5 cr hrs.</td>
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8780 | Introduction to Micro Research Methods in Management | G | 1½ |
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<td>Introduction to research design and methodology as it relates to the study of micro organizational phenomena. Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor. Repeatable to a maximum of 3 cr hrs.</td>
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8781 | Introduction to Macro Research Methods in Management | G | 1½ |
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<tr>
<td>Introduction to research design and methodology as it relates to the study of macro organizational phenomena. Prereq: Enrollment in Fisher College of Business Ph.D program, or permission of instructor. Repeatable to a maximum of 3 cr hrs.</td>
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8999 | Research in Management and Human Resources: Dissertation | G | 1 - 12 |
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<td>Research for dissertation purposes only. Repeatable. This course is graded S/U.</td>
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### Business Admin: Management Sciences

2320 | Decision Sciences: Statistical Techniques | U | 3 |
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<td>Examination of the use of statistical techniques in managerial decision-making processes; statistical inference, simple and multiple regression, time series. Prereq: Stat 1430 (133), or equiv, and CSE 2111 (203) or 1113, or equiv. Not open to students with credit for 330. This course is available for EM credit.</td>
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2321 | Business Analytics | U | 1½ |
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<tr>
<td>Examination of the use of business analytic models used in managerial decision making processes. Emphasis on formulation and interpretation of models, supported by spreadsheet based software. Prereq: Stat 1430 (133), or equiv, and CSE 2111 (203) or 1113, or equiv. Not open to students with credit for 331.</td>
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2322 | Operations in Action | U | 2 |
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<td>Designed to provide early business students exposure to the field of operations and supply chain management (OM/SCM). This course will use a blended method of education consisting of self-study of selected materials, in-class discussion, communications with a female mentor, and tours of operations at several selected organizations. Prereq: Open to all Fisher business students.</td>
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3100 | Foundations of Operations Management | U | 3 |
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<tr>
<td>Introduction to operations &amp; supply chain management to improve organizations; specifically analyzing, controlling &amp; improving resources &amp; processes to increase productivity, generate value-added output &amp; meet business strategic &amp; tactical goals. Prereq: Math 1130 (130) or 1148 (148), or equiv, and Econ 2001.01 (200), or equiv. Not open to students with credit for 3200 (630) or 430. Not open to students enrolled in the BSBA degree program.</td>
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3193 | Individual Studies | U | 1 - 6 |
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<td>Individual study projects in selected areas in Management Sciences. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.</td>
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3194 | Group Studies | U | 1 - 6 |
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<td>Group studies projects. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.</td>
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3230 | Introduction to Operations Management: Improving Competitiveness in Organizations | U | 3 |
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<tbody>
<tr>
<td>Introduction to operations and supply chain management to improve manufacturing and service organizations; analyzing, controlling and improving resources and processes to increase productivity, generate value-added output and meet business goals. Prereq: Stat 1430 (135) or equiv. Not open to students with credit for 3130 (430) or 630, or to students enrolled in UUSS, UEXP or PreBSBA-PR.</td>
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3230H | Introduction to Operations Management: Improving Competitiveness in Organizations | U | 3 |
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<tbody>
<tr>
<td>Introduction to operations and supply chain management to improve manufacturing and service organizations; analyzing, controlling and improving resources and processes to increase productivity, generate value-added output and meet business goals. Prereq: Honors standing in BusAdm Honors Cohort program. Not open to students with credit for 3230.</td>
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3311 | Business Analytics: Data Management and Descriptive Analysis | U | 3 |
<table>
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<tbody>
<tr>
<td>Understand how organizations can successfully collect, organize, manipulate, use and present data. Prereq: Econ 2001.01 and 2002.01 or equiv; and Math 1152 or equiv; and Stat 3202 or equiv; and CSE 2111 or equiv.</td>
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3332 | Business Analytics: Application of Predictive Analytics to Business Data | U | 3 |
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<tr>
<td>Build and test predictive models that move from data to parameter estimation. Prereq: Econ 2001.01 and 2002.01 or equiv; and Math 1152 or equiv; and Stat 3202 or equiv; and CSE 2111 or equiv.</td>
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3333 | Business Analytics: Applied Prescriptive Analytics | U | 3 |
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<tr>
<td>Moving from estimating model parameters, to making data-informed business decisions. Prereq: 3331 and 3332.</td>
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4193 | Individual Studies | U | 1 - 6 |
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<tbody>
<tr>
<td>Individual study projects in selected areas in Management Sciences. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.</td>
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4194.31 | Group Studies | U | 1 - 6 |
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<tr>
<td>Group studies projects. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.</td>
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4194.32 | Group Studies | U | 1 - 6 |
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4194.33 | Group Studies | U | 1 - 6 |
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<td>Group studies projects. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.</td>
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4232 | Operations Planning and Control | U | 3 |
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<tbody>
<tr>
<td>Review of a Planning and Control System. Theoretical frameworks and utilization of techniques to execute strategic and tactical goals to increase productivity and effectiveness of forecasting, scheduling, and inventory and capacity resources. Prereq: 2320 (330), 2321 (331), 3230 (630), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 752.</td>
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</table>
4233 Information Systems in Operations Management  
A study of the information systems and modeling tools used in operations management. Emphasis is spreadsheet and database applications. 
Prereq: 3230 (630), BusMHR 2292 (BusAdm 499.01), and CSE 2111. Not open to students with credit for 733.  

4234 Service Operations  
Surveys a broad framework of key operations management challenges, while also focusing on a broad variety of different services via in-depth case studies. 
Prereq: 3230 (630) and BusMHR 2292 (BusAdm 499.01).  

4237 International Operations Management  
Current influences, practices and standards for structural and infrastructural decision making across national boundaries. Explores complexity of managing geographically dispersed operations with relationships between multiple entities. 
Prereq: 3230 (630) and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 737.  

4239 Managing Process Improvement  
Describes the basics of establishing and managing a Lean process in service, office and manufacturing operations. We will look at how we can add value in delivery of goods or services to the customer. 
Prereq: 2320 (330), 2321 (331), 3230 (630), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 739.  

4240 Management of Technology  
Intended for a broad range of business careers in which management of technological operations is critical for an organization's competitive advantage. Topics include methods to design, measure and improve technologies. 
Prereq: 3230 (630) and BusMHR 2292 (BusAdm 499.01).  

4250 Six Sigma Principles  
Designed to familiarize students with the Six Sigma process improvement methodology and to provide them an opportunity to practice using Six Sigma Black Belt tools. 
Prereq: 2320 (330), 3230 (630), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 710.  

4251 Six Sigma Projects  
Six Sigma Projects class. 
Prereq: 4250 (710) and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 711.  

4261 Purchasing and Supply Chain Management  
Designed to explore the industrial-institutional purchasing cycle for operating supplies, raw materials, components and capital equipment within the context of the Integrated Supply Chain Management Organizational Concept. 
Prereq: 3230 (630) and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 735.  

4262 Purchasing Strategy  
Strategic purchasing is a methodology used in many businesses to realize the greatest amount of benefit to the company while still effectively managing the costs associated with the acquisition of raw materials and operational components. 
Prereq: 2320 (330), 2321 (331), 3230 (630), and BusMHR 2291 (BusAdm 499.01). Not open to students with credit for 736.  

4998 Undergraduate Research in Management Sciences  
Undergraduate Research in Management Sciences for non-honors students. 
Prereq: BusAdm 2291 (499), and Jr standing, and permission of instructor. This course is progress graded.  

4998H Honors Research  
Special topics research in Management Sciences: Research evaluated through papers, thesis, and/or special examinations.  
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.  

6220 Data Analysis for Managers  
Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making.  
Prereq: Enrollment in MLHR or SMB-Marketing Program. Not open to students with credit for 870.  

6221 Data Analysis for Financial Management Part I  
Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making. Part I of 2 course sequence.  
Prereq: Enrollment in MBOE or SMB-Finance Program Course. Not open to students with credit for 870. This course is progress graded.  

6222 Data Analysis for Financial Management Part II  
Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making. Part 2 of 2 course sequence.  
Prereq: Enrollment in MBOE or SMB-Finance Program Course. Concur: 6221. Not open to students with credit for 870.  

7193 Individual Studies  
Individual study projects in selected areas in Management Sciences.  
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is progress graded (S/U).  

7194.31 Group Studies  
Group studies projects.  
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.  

7194.32 Group Studies  
Group studies projects.  
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.  

7194.33 Group Studies  
Group studies projects.  
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.  

7201 Operational Excellence in a Service Environment  
Surveys a broad framework of key challenges in each sector, detailing how they can become opportunities by applying operations management principles. Tools used include lean value-stream mapping, revenue management and quality techniques, including checklists and failure prevention. 
Prereq: Enrollment in MBA or WPMBMA program. Not open to students with credit for 830.  

7202 The Business of Healthcare  
Focuses on the evolving and competitive issues facing the industry today, giving students the tools to adapt and excel under demanding circumstances. Students work to become effective leaders by gaining in-depth knowledge of business concepts, analytical skills and a broad understanding of health-care industry dynamics. 
Prereq: Enrollment in MBA or WPMBMA program. Not open to students with credit for 814.  

7203 Service and Healthcare Business Operations  
Examines how techniques including lean, six sigma and value stream mapping are increasingly being utilized in service businesses, as well as to improve both flow (Cost) and patient safety outcomes in medicine. 
Prereq: Enrollment in MBA or WPMBMA program.  

7204 Managing Continuous Process Improvement in Healthcare  
Designed to provide an understanding of how lean processes work in a health care setting and to introduce several important tools. Classes are often hands-on and always participative. 
Prereq: Enrollment in MBA or WPMBMA program.  

7221 Introduction to Decision Making  
With the help of industry guest speakers, this course demonstrates how decision modeling improves the efficiency of a wide range of business applications and surveys deterministic modeling approaches. These include linear and integer optimization, heuristic problem solving, and discrete choices using the analytic hierarchy process. 
Prereq: MBA 6271. Not open to students with credit for 871.  

7222 Simulation, Risk Analysis, and Decision Making  
Focuses on analyzing management decisions that involve uncertainty, risk and complexity. Students will explore the Monte Carlo simulation, forecasting and decision tree analytical methods with a strong emphasis on their proper use and application. 
Prereq: MBA 6271. Not open to students with credit for 865.  

7223 Project Management  
Introduces challenges senior managers face in companies that run multiple projects with a focus on overall project portfolio management, project selection, resource allocation between projects & organizational team design. Students identify their strengths & weaknesses in projects with a creative problem-solving exercise & experience real-life applications with visits from local project managers. 
Prereq: Enrollment in MBA, WPMBMA, MBBLE or SFF program. Not open to students with credit for 820.  

7231 Manufacturing Planning and Control for Supply Chain Management  
Emphasizes the overall structure of the planning and control function in managing operations, a critical link for the planning activities in many areas of a business. Topics covered include forecasting, sales and operations planning (S&OP), master production scheduling (MPS), material requirements planning (MRP), capacity management, inventory management, and just-in-time (JIT) techniques. 
Prereq: Enrollment in MBA or WPMBMA program. Not open to students with credit for 835.  

Business Admin: Management Sciences  77
7232 Supply Chain Analytics: Matching Supply with Demand  G  1½
Explores how firms can better organize their operations so they more effectively align supply with demand for products and services. Students will learn how to assess supply flexibility and manage demand for a fixed supply and explore topics including flexible capacity management, short-life-cycle forecasting, quick response, revenue management, buy-back contracts and revenue-sharing contracts.
Prereq: MBA 6231 and 6232, or 6233, and enrollment in MBA or WPMB. Not open to students with credit for 832.

7232.01 Supply Chain Analytics: Matching Supply with Demand  G  1½
Explores how firms can better organize their operations so they more effectively align supply with demand for products and services. Students will learn how to assess supply flexibility and manage demand for a fixed supply and explore topics including flexible capacity management, short-life-cycle forecasting, quick response, revenue management, buy-back contracts and revenue-sharing contracts.
Prereq: MBA (6231 and 6232) or 6233, and enrollment in MBA or WPMB. Not open to students with credit for 832.

7232.02 Supply Chain Analytics: Matching Supply with Demand  G  1½
Explores how firms can better organize their operations so they more effectively align supply with demand for products and services. Students will learn how to assess supply flexibility and manage demand for a fixed supply and explore topics including flexible capacity management, short-life-cycle forecasting, quick response, revenue management, buy-back contracts and revenue-sharing contracts.
Prereq: MBA 6231 and 6232) or 6233, and enrollment in MBA or WPMB. Not open to students with credit for 832.

7233 Global Sourcing  G  3
Focuses on major decisions related to global sourcing, starting with ownership (make-buy) and location (offshore-onshore). Among other topics, students explore fundamental trade-offs in sourcing organization, such as centralizing or decentralizing.
Prereq: MBA 6231 and 6232, and enrollment in MBA, WPMB, or MBLE program. Not open to students with credit for 837.

7241 Lean Enterprise Leadership  G  1½
Introduces the skills and discipline needed to lead and learn in a continuous improvement environment in a hands-on, participative manner. Students who complete the class can immediately contribute to an organization's efforts in continuous improvement, whose principles are used by many leading organizations in all sectors to outpace competitors year after year.
Prereq: Enrollment in MBA, WPMB, or MBLE program. Not open to students with credit for 840. This course is graded S/U.

7242 Six Sigma Principles  G  3
Familiarizes students with the Six Sigma process improvement methodology by practicing with its tools. Supplemented with an online textbook from Moresteam.com, project simulation that runs throughout the semester and Minitab statistical software.
Prereq: MBA 6271 (870), or enrollment in MBLE program. Not open to students with credit for 810.

7244 Six Sigma Projects  G  3
Teams of students apply the Six Sigma body of knowledge through a real-world project at an area company. Projects will follow the DMAIC body of knowledge as students and coaches work through its tollgates to achieve process improvement.
Prereq: 7242 or 7243. Not open to students with credit for 811.

7251 Managing Product and Process Innovation  G  1½
An essential element of any business model is the design and the delivery of services and goods. Many organizations are able to perform this function effectively in the short-term, but only a few organizations demonstrate sustained performance over an extended period of time. We refer to these organizations as pioneers in business model innovation.
Prereq: Enrollment in MBA, WPMB, or MAcc program. Not open to students with credit for 834.

7251.01 Operations and Technology Strategy  G  1½
Develop a unifying framework for analyzing strategic issues in operations. Use theory and cases to illustrate and explore the concept of operations and technology strategy. Covers strategic decisions on technology, facilities, vertical integration, human resources, global operations and social issues.
Prereq: Enrollment in MBA, WPMB, or MAcc program. Not open to students with credit for 834.

7251.02 Operations and Technology Strategy  G  1½
Develop a unifying framework for analyzing strategic issues in operations. Use theory and cases to illustrate and explore the concept of operations and technology strategy. Covers strategic decisions on technology, facilities, vertical integration, human resources, global operations and social issues.
Prereq: Enrollment in MBA, WPMB, or MAcc program. Concur: BusML 7218.02. Not open to students with credit for 834.

7252 Technology Management  G  1½
Introduces the critical elements of designing and developing innovative products and services for strategic competitive advantage. Focus on tools, techniques and concepts necessary for designing, developing and managing innovation process.
Prereq: Enrollment in MBA or WPMB program.
7269 MBOE Change & Innovation for Ops Excellence
Course is designed to familiarize students with the application of lean principles in three additional key areas of the organization. The total lean transformation requires a change in the way we lead throughout the organization. Prereq: Enrollment in MBOE. Not open to students with credit for 487.

7270 MBOE Managing the Extended Value Stream
A focus on working across functions, companies and cultures and managing the Extended Value Stream. Prereq: Enrollment in MBOE. Not open to students with credit for 487.

7701 Managing Business Operations for Health Sciences
Many firms have demonstrated that operations management can be an effective competitive weapon. In conjunction with well-conceived marketing and financial plans, these firms have made major penetrations into markets worldwide. This course is designed to address the key operations issues in service and manufacturing organizations that have strategic as well as tactical implications. Prereq: Enrollment in the Graduate Business Minor in Health Sciences.

7717 Capstone: Healthcare Business Solution Teams
This class focuses on diagnosing and solving real-world problems in life science and healthcare business practices. Prereq: 7701, BusFin 7702, and BusMHR 7703.

7800 Advanced Topics in Management Sciences for EMBA
Advanced Topics in Management Sciences for students in the Executive MBA Program. Prereq: Enrollment in EMBA program. Repeatable to a maximum of 15 cr hrs or 7 completions.

7999 Research in Management Sciences: Thesis
Research for thesis purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 4 completions. This course is progress graded (SU).

8230 Seminar in Operations Strategy
Doctoral research seminar: critical analysis of research studies in different areas of operations management; practice in formulating and conducting research; presentation of original research of publishable quality. Prereq: Enrollment in PhD program in Business Administration. Repeatable to a maximum of 3 cr hrs.

8231 Seminar in Technology and Innovation
Doctoral research seminar: critical analysis of research in different areas of technology and innovation; practice in developing research question and formulating hypotheses; presentation of original research of publishable quality. Prereq: Enrollment in PhD program in BusAdmin. Repeatable to a maximum of 3 cr hrs.

8232 Seminar in Operations Planning and Control I
Survey "Operations Analysis" topics including forecasting, independent demand inventory, dependent demand inventory, unknown demand, quantity discounts, purchasing, master scheduling, Just-In-Time systems, operations scheduling, supply chain coord. Prereq: Enrollment in PhD program in BusAdmin. Repeatable to a maximum of 3 cr hrs.

8233 Seminar in Operations Planning and Control II
Doctoral research seminar: Critical analysis of research studies in different areas of supply chain management; practice in formulating and conducting research; presentation of original research or publishable quality. Prereq: Enrollment in PhD program in BusAdmin. Repeatable to a maximum of 3 cr hrs.

8234 Seminar in Behavioral Operations Management
Doctoral research seminar: Critical analysis of research in different areas of behavioral operations; practice in developing research question and formulating hypotheses; presentation of original research of publishable quality. Prereq: Enrollment in PhD program in BusAdmin. Repeatable to a maximum of 3 cr hrs.

8235 Seminar in Operations Research Applications to OM
This seminar will examine cutting edge topics of operations research. Participants will be provided a baseline of seminal papers that review cutting edge methodologies that have been effectively applied to conduct research in operations management. Prereq: Enrollment in PhD program in BusAdmin. Repeatable to a maximum of 3 cr hrs.

8236 Seminar in Econometric Applications in OM
Seminar will examine cutting edge empirical research in operations management. Participants will be provided a baseline of seminal papers that review econometric methodologies that have been effectively applied to conduct research in operations mgmt. Prereq: Enrollment in PhD program in BusAdmin. Repeatable to a maximum of 3 cr hrs.

8237 Seminar in Psychometric Applications in OM
Cutting edge empirical research in operations management. Participants will be provided a baseline of seminal papers that review psychometric methodologies that have been effectively applied to conduct research in operations mgmt. Prereq: Enrollment in PhD program in BusAdmin. Repeatable to a maximum of 3 cr hrs.

8999 Research in Management Sciences: Dissertation
Research for dissertation purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 48 cr hrs or 8 completions. This course is progress graded (SU).

3150 Foundations of Marketing
Presents the concepts, framework and tools of market-based management. Topics include the marketing concept and the role that product, price, promotion and distribution play in marketing strategy and implementation. Prereq: Econ 2001.01 (200), or equiv. Not open to students with credit for 3250 (650) or 450. Not open to students in BSB.

3193 Individual Studies
Topics in Marketing and Logistics.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 6 completions. This course is graded SU.

3194 Group Studies
Topics in Marketing and Logistics.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 6 completions.

3241 Introduction to Entrepreneurial Marketing
Focuses on marketing concepts of entrepreneurs leading growth-oriented companies. Typically these are small, young companies with ambitions to become major enterprises. Prereq: Econ 2001.01 (200) or AED/Econ 200, or equiv, and Math 1130 (130), or equiv. Not open to students with credit for 4241 or 490.

3250 Principles of Marketing
Presents the concepts, framework and tools of market-based management to deliver superior customer satisfaction, value and profitability. The focus of the course is on identifying, creating, delivering and measuring value creation. Prereq: Econ 2001.01 (200), or equiv. Not open to students with credit for 3150 (650) or 450 or to students enrolled in UUSUS, UExp or PreBSBA-PR.

3250H Principles of Marketing
Presents the concepts, framework and tools of market-based management to deliver superior customer satisfaction, value and profitability. The focus of the course is on identifying, creating, delivering and measuring value creation. Prereq: Honors standing in the Business Admin Honors cohort program, and Econ 2001.01 (200) or equiv. Not open to students with credit for 3150 (450), 3250 (650), or 650H.

3380 Logistics Management
Concepts and methods used to plan and manage logistics activities in a business environment. Understanding of the components of logistics management and tradeoffs required to manage the integrated flow of goods through the supply chain. Prereq: Econ 2001.01 (200), or equiv. Not open to students with credit for 780 or to students enrolled in UUSUS, UExp or PreBSBA-PR.

4193 Individual Studies
Topics in Marketing and Logistics.
Prereq: Permission of instructor. This course is graded SU.

4194.51 Group Studies
Topics in Marketing and Logistics.
Prereq: Permission of instructor.

4194.52 Group Studies
Topics in Marketing and Logistics.
Prereq: Permission of instructor.

4194.53 Group Studies
Topics in Marketing and Logistics.
Prereq: Permission of instructor.

4201 Consumer Behavior
Examines how and why people behave as consumers. Its goals are to provide an understanding of consumer behavior and to provide experience in the application of this knowledge to marketing management and social policy decision making. Prereq: 3250 (650), BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 750.

4202 Marketing Research
Course examines the role of marketing research in the formulation and solution of marketing problems. Emphasis is placed on problem formulation, research design, data collection methods (instruments, sampling, operations) and analysis techniques. Prereq: 3250 (650), BusMgt 2220 (330), 2221 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 750.

4203 Marketing Strategy
This case course focuses on strategic planning examining how environmental factors affect long-term marketing strategies, how firms adapt to opportunities and threats in dynamic environments and how to assess development of competitive advantages. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 752.
### Business Admin: Marketing & Logistics

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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>4204</td>
<td>Marketing Projects</td>
<td>U 3</td>
<td>In this advanced marketing course students will act as a consulting team and work with a client firm on a marketing problem, produce a report and present their work. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv; or enrollment in regional campus General Business Program.</td>
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<tr>
<td>4210</td>
<td>Advanced Market Research</td>
<td>U 1½</td>
<td>Applications of modern marketing research procedures to variety of marketing problems. Emphasis placed on survey design and sampling, attitude measurement, perceptual mapping, market segmentation, conjoint analysis, and measurement of customer satisfaction. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv.</td>
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<tr>
<td>4211</td>
<td>Market Analysis, Development &amp; Forecasting</td>
<td>U 1½</td>
<td>Before a new product can be launched, or new customers targeted a firm must assess the size and demand for an offering. Methods used to forecast consumer behavior, market share, and sales (for production and inventory control) will be examined. Prereq: 4201 (750) or 4202 (758), or equiv, and BusMHR 2292 (BusAdm 499.01).</td>
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<tr>
<td>4212</td>
<td>Customer Relationship Management</td>
<td>U 1½</td>
<td>Examines the theories of methods used to identify profitable customers, understand their needs and wants, and how to build a bond with them by developing customer-centric products and services directed toward providing customer value. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv.</td>
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<tr>
<td>4220</td>
<td>Sales Management</td>
<td>U 1½</td>
<td>Provides an overview of the sales management process. It covers topics, such as sales force planning, budgeting, recruiting, selection, training, compensation, supervision, deployment and control. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 759.</td>
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<tr>
<td>4221</td>
<td>Professional Selling</td>
<td>U 1½</td>
<td>Provides a practical, hands-on understanding of the professional selling process. Students will learn how companies use personal selling to enhance their business and develop the skills necessary to be an effective account manager. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 781.</td>
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<tr>
<td>4222</td>
<td>Services Marketing</td>
<td>U 1½</td>
<td>Examines customer touch point analysis, brand consistency and integrating customer information across the organization. Issues addressed: understanding service failure and recovery, management of service employees and the establishment of a service culture. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 760.</td>
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<tr>
<td>4230</td>
<td>Advertising Management</td>
<td>U 1½</td>
<td>Provides the tools needed to develop, manage and evaluate an integrated marketing communication campaign. Communication fundamentals, goal setting, creative and media strategy, campaign development and measurement issues are explored. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 755.</td>
</tr>
<tr>
<td>4231</td>
<td>Promotional Strategy</td>
<td>U 1½</td>
<td>Examines how marketers utilize promotional campaigns to enhance marketing efforts. The tools needed to design, evaluate and analyze effectiveness of promotions, sponsorships, events and branded entertainment programs are explored. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 755.</td>
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<tr>
<td>4232</td>
<td>Digital Marketing</td>
<td>U 1½</td>
<td>Examines the how marketers can utilize emerging media (electronic, online, social and mobile) to promote customer engagement, enhance their traditional marketing mix, and measure the effectiveness of marketing efforts. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 755.</td>
</tr>
<tr>
<td>4240</td>
<td>New Product Management</td>
<td>U 1½</td>
<td>Examines strategies for development of successful new products. The five modules of the process (i.e., opportunity identification, concept generation, concept evaluation, product design and development, and launch) will be covered. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 755.</td>
</tr>
<tr>
<td>4241</td>
<td>Entrepreneurial Marketing</td>
<td>U 1½</td>
<td>Examines best practices in Entrepreneurial Marketing including analysis of marketing opportunities, identification of target audience, development of marketing strategy, brand positioning and an integrated marketing plan. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01).</td>
</tr>
<tr>
<td>4251</td>
<td>Retail Management</td>
<td>U 1½</td>
<td>Examines contemporary distribution channels, focus on strategic decisions for successful retail practices; examine industry trends to highlight how companies design and manage retail and e-tail environments. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 755.</td>
</tr>
<tr>
<td>4252</td>
<td>Social Marketing &amp; Public Policy</td>
<td>U 1½</td>
<td>Examines social marketing, which seeks to benefit a targeted population and the general society rather than a marketer or firm. Non-profit, cause marketing, corporate social responsibility, and sustainability issues are explored. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv.</td>
</tr>
<tr>
<td>4253</td>
<td>Global Marketing</td>
<td>U 1½</td>
<td>Examines the theory of marketing across national borders, as well as marketing and market research within different foreign environments, including the development of marketing strategies by the international company. Marketing majors only. Prereq: 4201 (750), 4202 (758), and BusMHR 2292 (BusAdm 499.01), or equiv. Not open to students with credit for 4254 (757).</td>
</tr>
<tr>
<td>4254</td>
<td>International Marketing</td>
<td>U 3</td>
<td>For International Business majors only. Examines theory and practice of marketing across national borders, marketing and market research within different foreign environments, and development of marketing strategies by the international company. Does not count as elective credit for the Marketing major. Prereq: 3260 (650) and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 4253 (757).</td>
</tr>
<tr>
<td>4380</td>
<td>Advanced Logistics Management</td>
<td>U 1½</td>
<td>Advanced coverage of the concepts and methods used to plan and manage logistics activities in a business environment; in-depth understanding of the components of logistics management and tradeoffs required to manage the integrated flow of goods. Prereq: 3380 and BusMHR 2292 (BusAdm 499.01).</td>
</tr>
<tr>
<td>4382</td>
<td>Logistics Analytics</td>
<td>U 3</td>
<td>Will equip student with the tools and skills necessary to recognize, analyze and solve significant problems in the operation of a logistics system through the application of techniques using spreadsheet analysis, optimization and simulation. Prereq: 4380, BusMgt 2320 (330), 2321 (331), and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 781.</td>
</tr>
<tr>
<td>4383</td>
<td>Supply Chain Management</td>
<td>U 1½</td>
<td>Focuses on distinction between logistics and supply chain management; cross-functional integration of key business processes within the firm and across network of firms that comprise supply-chain, framework for supply chain management. Prereq: 3380 and BusMHR 2291 (BusAdm 499.01). Not open to students with credit for BusML 785.</td>
</tr>
<tr>
<td>4384</td>
<td>Supply Chain Management Tools</td>
<td>U 1½</td>
<td>Focuses on tools and methods for assessing and improving the collaboration that takes place between functions within the firm and companies within the supply chain; implementation of cross-functional processes to manage the supply chain. Prereq: 4383 and BusMHR 2292 (BusAdm 499.01).</td>
</tr>
<tr>
<td>4385</td>
<td>Building a Sustainable Supply Chain</td>
<td>U 1½</td>
<td>Focuses on understanding how to measure and impact the long-term sustainability of a company's supply chain operations; learn practices for reducing carbon footprints and creating a more resilient supply chain, while meeting financial goals. Prereq: 3380 and BusMHR 2292 (BusAdm 499.01).</td>
</tr>
<tr>
<td>4386</td>
<td>Logistics Technology and Application</td>
<td>U 1½</td>
<td>Focus on the operational use of logistics software technologies such as transportation management systems, warehouse management systems, and inventory management systems. Course taught in a lab environment with tools for lectures, exercises and HW. Prereq: 3380 and BusMHR 2291 (BusAdm 499.01).</td>
</tr>
<tr>
<td>4387</td>
<td>Lean Logistics</td>
<td>U 1½</td>
<td>Examines the use of Lean tools and techniques to streamline and improve the processes of manufacturing and operational processes in order to improve efficiency. Prereq: 4380 and BusMHR 2292 (BusAdm 499.01).</td>
</tr>
<tr>
<td>4388</td>
<td>Warehouse Operations</td>
<td>U 1½</td>
<td>Study of general warehouse operations, focusing on facility layout, financial analysis, labor relations, warehouse management systems, productivity improvement and measurement; impact of corporate and industry strategies on warehouse operations. Prereq: 3380 and BusMHR 2292 (BusAdm 499.01).</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research in Marketing &amp; Logistics</td>
<td>U 1-3</td>
<td>Undergraduate Research in Marketing &amp; Logistics for non-honors students. Prereq: BusAdm 2281 or 499, and Jr standing, and permission of instructor. Repeatable to a maximum of 12 or hrs or 4 completions. This course is progress graded.</td>
</tr>
<tr>
<td>4998H</td>
<td>Honors Research</td>
<td>U 1-4</td>
<td>Special Topics Research in Marketing and/or Logistics. Research evaluated through papers, theses, and/or special examinations. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions. This course is progress graded.</td>
</tr>
</tbody>
</table>
Business Admin: Marketing & Logistics

7205 Services Marketing
Focus on equipping students to become more effective leaders of service organizations as well as more enlightened customers of service firms.
Prereq: MBA 6252 (840).

7205.01 Services Marketing
Focus on equipping students to become more effective leaders of service organizations as well as more enlightened customers of service firms.
Prereq: MBA 6250, 6252, or 6253. Not open to students with credit for 7205.02 or 7205.

7205.02 Services Marketing
Focus on equipping students to become more effective leaders of service organizations as well as more enlightened customers of service firms.
Prereq: MBA 6250, 6252, or 6253. Not open to students with credit for 7205.01 or 7205.

7206 Brand Management
The brand management process, strategic targeting, constructing compelling brand platforms, brand portfolio management, building and sustaining brand equity, brand equity metrics and strategic brand communications.
Pre: MBA 6250 or MBA 6252 (840). Not open to students with credit for 852.

7207 Pricing Strategy
Focus on microeconomic theory, statistics and psych to shed light on pricing. Explore foundation of sound pricing decisions: costs, customer and competition, and then move on to current pricing strategies, tactics and their application.
Pre: MBA 6250 or 6252 (840). Not open to students with credit for 851.

7208 Digital Marketing
Management of digital marketing assets in order to develop strategies and execute tactics associated with cross-channel marketing in the digital era.
Pre: MBA 6250 or MBA 6252 (840).

7208.01 Advertising, Promotion, and Digital Marketing II
Management of digital marketing assets in order to develop strategies and execute tactics associated with cross-channel marketing in the digital era.
Pre: MBA 6250, 6252, or 6253. Concur: BusMHR 7231.02. Not open to students with credit for 7208.01 or 7208.

7208.02 Advertising, Promotion, and Digital Marketing II
Management of digital marketing assets in order to develop strategies and execute tactics associated with cross-channel marketing in the digital era.
Pre: MBA 6250, 6252, or 6253. Concur: BusML 7203.02. Not open to students with credit for 7208.01 or 7208.

7209 Strategic Sales Force Management
Focuses on management of the sales function and its coordination with other components of marketing strategy including pricing, product development, promotion, and distribution.
Pre: MBA 6252 (840).

7210 Promotions Management
Learning and applying core theories, strategies, and practices of effective promotions management and will cover sales promotions, trade promotions, direct marketing, publicity and PR, and measuring promotion effectiveness.
Pre: MBA 6250 or MBA 6252 (840). Not open to students with credit for 846.

7211 Consumer Psychology
Course delves into consumer psych, and the means by which consumer behavior can be influenced or altered. Course will explore the psychological underpinnings of consumer information processing, attitude formation and persuasion, learning and memory.
Pre: MBA 6250 or MBA 6252 (840).

7212 Business Development: Client Acquisition & Retention
Explore the value process in business to business relationships, leading such relationships; facilitating alliances; leading customer solutions; understanding interfaces with other functions; and quantifying/ measuring value.
Pre: MBA 6250 or MBA 6252 (840).

7213 Innovation Practice
Develop skills, and understanding of, the theory and application of innovation processes and a framework for its commercial application across various types and formats of businesses.
Pre: Enrollment in MBA, WP MBA, or MAcc programs.

7214 Cross Channel Marketing
Examines the unique challenges of bringing a service brand to life across multiple channels. Understanding the methods, processes and approaches to creating holistic experiences that resonate with the target audience is covered.
Pre: MBA 6252 (840).

7215 Global Marketing and Sustainability
Review core concepts of global marketing including, pricing, research, positioning, strategy, social responsibility, communicating with world consumers, and management team development from a sustainability viewpoint.
Pre: MBA 6250 or MBA 6252 (840). Not open to students with credit for 845.

5381 Transportation Management
Issues and strategies in transportation management and policy; emphasis on study of modes of transportation, intermodal and international transportation, capacity management, competitive relations between modes, aspects of carrier management.
Prereq: 3380 and BusMHR 2292 (BusAdm 499.01), or enrollment in MBLE. Not open to students with credit for 784.

5389 Logistics Decision Making
Analysis of logistics decision making in the context of the business environment; application of the solution methods needed to meet business goals. Capstone designed to expand on previous courses and prepare students to implement logistics concepts.
Prereq: 4390. Prereq or concurs: 4392 and BusMHR 2292 (BusAdm 499.01). Not open to students with credit for 782.

6250 Marketing Management
Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment.
Prereq: Enrollment in SMB-Marketing program. Not open to students with credit for 751.

7193 Individual Studies
Topics in Marketing and Logistics.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 6 completions. This course is graded S/U.

7194.51 Group Studies
Topics in Marketing and Logistics.
Prereq: Permission of instructor.

7194.52 Group Studies
Topics in Marketing and Logistics.
Prereq: Permission of instructor.

7200 Marketing Strategy
This course uses case analysis to study the development of strategies to position firms with respect to customers and competitors and the integration of the relevant marketing concepts, principles, and activities into effective implementation plan.
Prereq: MBA 6252 (840).

7201 Marketing Research and Analytics
Exploration of issues related to data analysis for marketing decisions: costs/benefits of analysis in aggregate; difference between descriptive and structural models; complexities of imperfect information.
Prereq: MBA 6252 (840). Not open to students with credit for 847.

7202 Consumer Behavior
Development of the consumer decision process and its application to marketing strategy decisions.
Prereq: 6250 or MBA 6252 (840). Not open to students with credit for 854.

7203 Advertising Strategy and Management
The advertising process, partnership with an ad agency, uncovering consumer insight to drive advertising strategy, formulating and guiding advertising strategy, media planning concepts, and measuring advertising effectiveness.
Prereq: 6250 or MBA 6252 (840). Not open to students with credit for 846.

7203.01 Advertising, Promotion, and Digital Marketing I
The advertising process, partnership with an ad agency, uncovering consumer insight to drive advertising strategy, formulating and guiding advertising strategy, media planning concepts, and measuring advertising effectiveness.
Prereq: 6250, MBA 6252 (840), or 6253. Not open to students with credit for 7203.02 or 7203.

7203.02 Advertising, Promotion, and Digital Marketing I
The advertising process, partnership with an ad agency, uncovering consumer insight to drive advertising strategy, formulating and guiding advertising strategy, media planning concepts, and measuring advertising effectiveness.
Prereq: MBA 6250, 6252, or 6253. Concur: BusML 7208.02. Not open to students with credit for 7203.01 or 7203.

7204 Quantitative Product and Pricing Analysis
Tools for predicting the effects of product re-formulation. A choice simulator is constructed to investigate the source of volume and effect of targeted marketing actions. A comparison to, and the integration of, marketplace data is examined.
Prereq: 6250 or MBA 6252 (840).

7204.01 Customer Management, Pricing, and Analytics II
Tools for predicting the effects of product re-formulation. A choice simulator is constructed to investigate the source of volume and effect of targeted marketing actions. A comparison to, and the integration of, marketplace data is examined.
Prereq: MBA 6250, 6252, or 6253. Concur: BusML 7219.02. Not open to students with credit for 7204.01.

7204.02 Customer Management, Pricing, and Analytics II
Tools for predicting the effects of product re-formulation. A choice simulator is constructed to investigate the source of volume and effect of targeted marketing actions. A comparison to, and the integration of, marketplace data is examined.
Prereq: MBA 6250, 6252, or 6253. Concur: BusML 7219.02. Not open to students with credit for 7204.01.
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7216 Social Marketing & Public Policy
Examination of social marketing, which seeks to benefit a targeted population and the general society rather than a marketer or firm. Non-profit, cause marketing, corporate social responsibility, and sustainability issues are explored.
Prereq: MBA 6252 (840).

7217 Marketing Projects
Students work in teams as consultants, apply marketing concepts and principles to actual client problems, and present their recommendations to executives of their client organization.
Prereq: MBA 6252 (840). Not open to students with credit for 849.

7218 New Product Management
Strategies and tools for the development of successful new products. Emphasis is placed on opportunity identification, concept generation and testing, product design, and development and launch.
Prereq: MBA 6252 (840).

7218.01 New Product Management
Strategies and tools for the development of successful new products. Emphasis is placed on opportunity identification, concept generation and testing, product design, and development and launch.
Prereq: MBA 6252 or 6253. Not open to students with credit for 7218.02 or 7218.

7218.02 New Product Management
Strategies and tools for the development of successful new products. Emphasis is placed on opportunity identification, concept generation and testing, product design, and development and launch.
Prereq: MBA 6252 or 6253. Not open to students with credit for 7218.01 or 7218.

7219 Customer Satisfaction and Loyalty Analysis
Tools for the analysis of survey and marketplace data. Topics include the design of surveys, scale development, analysis of the recency, frequency and monetary value of transactions, web-based ‘click-stream’ data and others.
Prereq: MBA 6250 or 6252 (840).

7219.02 Customer Management, Pricing, and Analytics I
Tools for the analysis of survey and marketplace data. Topics include design of the surveys, scale development, analysis of the recency, frequency and monetary value of transactions, web-based ‘click-stream’ data and others.
Prereq: MBA 6250, 6252, or 6253. Concur: BusMgt 7251.02. Not open to students with credit for 7219.01 or 7219.

7220 Market Segmentation and Prospect Analytics
Introduces students to in-depth analysis of markets and prospective customers. Students obtain an understanding of wants and needs and their relationship to current and potential marketplace demand through multivariate analysis and competitive mapping.
Prereq: 6250 or MBA 6252 (840).

7221 Marketing Research and Analytics
Exploration of issues related to data analysis for marketing decisions: cost/benefits of analysis in aggregate; difference between descriptive and structural models; complexities of imperfect information.
Prereq: 6250, and enrollment in SMB-Marketing program. Not open to students with credit for 947.

7222 Consumer Behavior
Development of the consumer decision process and its application to marketing strategy decisions.
Prereq: 6250, and enrollment in SMB-Marketing program. Not open to students with credit for 854.

7223 Customer Insights and Analytics
Course will explore the contributions and limitations of stat. concepts, theory and methods within mktg research. Information is presented in context of philosophy of science and scientific method. Attention to value of research problem formulation.
Prereq: 6250 or MBA 6252 (840), or enrollment in SMB-Marketing program.

7224 Special Topics in Marketing
Specialized topics within the field of marketing.
Prereq: 6250 or MBA 6252 (840). Repeatable to a maximum of 6 or hrs or 6 completions.

7225 Marketing Metrics
Marketing Metrics are critical for assessing the Return On Investment (ROI) of marketing actions and for making and justifying marketing mix decisions. This course is designed to a) identify key marketing metrics, b) illustrate how these metrics can be used in managerial decision-making, c) show the link between marketing and financial metrics, and d) teach skills to develop a marketing dashboard.
Prereq: MBA 6251 and 6252.

7226 Marketing Simulation
Student teams analyze a business case and formulate their strategy for the firm. Within the context of a realistic and complex business simulation, students will implement their strategy through submission of marketing variable decisions and analysis of market response.
Prereq: 7201, and MBA 6252 or 6253.

7380 Strategic Logistics Management
Develop an understanding of key drivers of logistics performance and their inter-relationships with strategy and other functional areas. Focus on developing analytic, problem-solving, and cost trade-off management skills.
Prereq: Enrollment in MBA, MBLE, or MAcc.

7380.01 Strategic Logistics Management
Develop an understanding of key drivers of logistics performance and their inter-relationships with strategy and other functional areas. Focus on developing analytic, problem-solving, and cost trade-off management skills.
Prereq: Enrollment in MBA or MBLE. Not open to students with credit for 7380.02 or 7380.

7380.02 Strategic Logistics Management
Develop an understanding of key drivers of logistics performance and their inter-relationships with strategy and other functional areas. Focus on developing analytic, problem-solving, and cost trade-off management skills.
Prereq: Enrollment in MBA or MBLE program. Concur: 7381.02. Not open to students with credit for 7380.01 or 7380.

7381 Logistics Decision Making
This case-based course will prepare students to make data-driven decisions on key logistics issues and then make these decisions actionable through a focus on appropriate solution methods needed to achieve firm financial goals.
Prereq: 7380.01 or 7380. Not open to students with credit for 7381.02 or 7381.

7381.01 Logistics Decision Making
A case-based course that will prepare students to make data-driven decisions on key logistics issues and then make these decisions actionable through a focus on appropriate solution methods needed to achieve firm financial goals.
Concur: 7380.02. Not open to students with credit for 7381.01 or 7381.

7382 Logistics Analytics
Focuses on the application of quantitative techniques. Problems addressed include demand forecasting, inventory control, and network design using spreadsheet analysis, optimization and simulation.
Prereq or concur: 7380.

7383 Supply Chain Management
Students learn the distinction between logistics and supply chain management (SCM) and develop SCM skills with a focus on cross-functional integration of key processes within the firm and across the network of firms that comprise the supply chain.
Prereq: MBA 6252 (840), or enrollment in MAcc program, or enrollment in MBLE program.

7384 Supply Chain Management Tools
Focuses on tools and methods for assessing and improving the collaboration that takes place between functions within the firm and companies within the supply chain.
Prereq: 7383.

7385 Building a Sustainable Supply Chain
Students will learn how to measure and impact the long-term sustainability of a company’s supply chain operations; reduce carbon footprints; and create a more resilient supply chain while meeting a firm’s financial objectives.
Prereq or concur: 7380.

7386 Logistics Technology and Application
Focus on the operational use and appropriate contextual use of logistics software technologies such as transportation management systems, warehouse management systems, inventory management and network design.
Prereq: 7380.

7387 Lean Logistics
Examines using Lean tools and insights to remove bottlenecks and impediments to efficient, effective logistics, resulting in reduced logistics costs and improved service.
Prereq: 7380.

7388 Field Problems in Logistics
Advanced graduate studies course where students work in groups as consultants to solve actual business problems for clients. Objectives include developing problem solving skills and gaining practical experience.
Prereq: 7380.

7389 Attracting and Retaining Customers in Health Sciences
This class focuses on the process of attracting and retaining customers in the health sciences industry. Students will explore how to drive growth through new patient acquisition and retention as well as by understanding the practice’s ability to provide value, and the patient’s needs in relation to that value.
Prereq: BusMgt 7051, BusFin 7400, and BusMHR 7264; and enrollment in the Graduate Business Minor in Health Sciences.
Advanced Topics in Marketing and Logistics for EMBA  
**U**  
Advanced Topics in Marketing and Logistics for students in the Executive MBA Program. Prereq: Enrollment in Executive MBA program. Repeatable to a maximum of 15 cr hrs or 7 completions.

Research in Marketing: Thesis  
**G**  
Topics in Marketing and Logistics. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is progress graded (S/U).

Consumer Behavior  
**G**  
Study of the academic literature on consumer behavior with emphasis on the theoretical and empirical contributions of consumer research. Prereq: Doct standing in BusAdm, or permission of instructor. Repeatable to a maximum of 8 cr hrs.

Marketing Strategy  
**G**  
Foundations of strategy research in marketing. Prereq: Enrollment in Doct program in BusAdm, or permission of instructor. Repeatable to a maximum of 8 or 9 hrs.

Recent Advancements in Marketing Research  
**G**  
A study of recent model-based research in the marketing literature; emphasis on the strengths and weaknesses of various modeling approaches in specific problem areas and evaluation of model-based research. Prereq: Doct standing in BusAdm, or permission of instructor. Not open to students with credit for 951. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is progress graded.

Research Seminar in Logistics  
**G**  
Research issues in logistics. For each topic, key literature will be reviewed and discussed to understand the current state of research in the area, evaluate the research methodologies employed, and identify gaps in the academic literature. Prereq: 7380 and 7381, and enrollment in Fisher College of Business PhD program. Repeatable to a maximum of 9 or 10 hrs.

Research Seminar in Supply Chain Management  
**G**  
Focuses on research issues in supply chain management. Prereq: 7380 (880) and 7381 (885). Repeatable to a maximum of 9 or 10 hrs.

Research Seminar in Transportation  
**G**  
Research issues in Transportation. For each topic, key literature will be reviewed and discussed to understand the current state of research in the area, evaluate the research methodologies employed, and identify gaps in the academic literature. Prereq: 7380 and 7381, and enrollment in Fisher College of Business PhD program. Repeatable to a maximum of 9 or 10 hrs.

Optimization Modeling in Logistics  
**G**  
Focus on the application of optimization modeling techniques to logistics problems. The goal is to familiarize students with advanced modeling techniques and learn how they have been applied to solve logistics problems in the academic literature. Prereq: 7380 and 7381. Repeatable to a maximum of 9 or 10 hrs.

Research in Marketing and Logistics: Dissertation  
**G**  
Topics in Marketing and Logistics. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is progress graded (S/U).

Business Technology

Personal Financial Management  
**U**  
Personal financial strategies that will enable individuals to manage their financial resources. Prereq: Not open to students with credit for 141T. This course is available for EM credit.

General Economics  
**U**  
Study of macro and micro-economic principles applicable to business, agricultural and personal financial decision making. Prereq or conc: GenMath 1040T or Math 1050 or Math Placement Level R or higher. Not open to students with credit for AEDEcon 2001. This course is available for EM credit.

Exploring Business  
**U**  
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

Software Applications  
**U**  
An overview of basic computer skills and study of the features and capabilities of presentations, word processing, spreadsheet and database software as decision management aids. Prereq: Not open to students with credit for 202T. This course is available for EM credit.
84 Business Technology

2249T Fundamentals of Business Finance U 3
A study of basic finance principles, such as financial institutions, time value of money, financial analysis, risk and return, budgeting, and investments.
Prereq: AEDEcon 2105 (BuTec 101T or 102T), Prereq or concur: 1151T (151T) or AEDEcon 2001 (101T). Not open to students with credit for 249T. This course is available for EM credit.

2250T Fundamentals of International Business U 3
An overview of international business including the environment, strategies, issues, decisions, and challenges that global businesses encounter.
Prereq: AEDEcon 2105 (BuTec 101T or 102T), Prereq or concur: 1151T (151T) or AEDEcon 2001 (2001). This course is available for EM credit.

Catalan

5501 Catalan for Spanish Speakers I U G 3
Rapid introduction to Catalan language. Intended for students with at least High Intermediate-level Spanish skills.
Prereq or concur: Spanish 3401, 3403, or 3404, or equiv; or permission of instructor.

5502 Catalan for Spanish Speakers II U G 3
Continuation of Catalan 5501. Intended for students with at least High Intermediate-level Spanish skills.
Prereq: 5501.

Center for the Study and Teaching of Writing

2094 Audio Production for Radio and Podcasting U 1 - 5
Hands-on experience and theoretical instruction on audio production for both radio and internet distribution. Opportunities to observe audio production and discussions with guest lecturers will be provided. Emphasis on video production and writing will also be included.
Prereq: English 1101.xx.

3467S Issues and Methods in Tutoring Writing U 3
Theories and practices in tutoring and writing: explores the writing-learning connections; prepares students to work as writing consultants/tutors for small writing groups.
Prereq: English 1110.01 (110.01), or equiv. Not open to students with credit for HumCol 1467 or English 3467S (467). Cross-listed in English.

Chemical and Biomolecular Engineering

2194 Group Studies in Chemical and Biomolecular Engineering U 1 - 6
Provides groups of students opportunities to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

2200 Process Fundamentals U 4
Application of physicochemical principles to problems of the chemical industry; stoichiometry and material balance.
Prereq: Chem 1220 (123), and Engr 1182 (Engineer 183.01). Prereq or concur: Math 2177 (254), and CPHR 2.0 or above, and permission of department. Not open to students with credit for 200 or 201.

2420 Transport Phenomena I U 4
Introduction to momentum, mass, and heat transfer with emphasis on the analogies between them; practical applications of momentum transfer (fluid flow).
Prereq: 2200 (201), and Math 2177 or 415.01, and enrollment in CBE, FABEng, or EngPhysics major; or Grad standing; or permission of instructor. Not open to students with credit for 420 or 521.

2523 Separation Processes U 3
The application of mass and energy balances and transport phenomena such as fluid, heat, and mass transfer to chemical engineering separation operations of distillation, absorption, evaporation, extraction, drying, etc.
Prereq: 2200 (201), and enrollment in CBE major. Prereq or concur: 2420 (420), or permission of instructor or Grad standing. Not open to students with credit for 523.

3189 Professional Practice in Industry U 1 - 3
Preparation of a comprehensive report based on employment experience in a co-op or job in industry.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

3508 Thermodynamics U 4
Application of the fundamental concepts and laws of thermodynamics to problems of the chemical industry; stress on computational problem work.
Prereq: or concur: 2420 (420), and enrollment in CBE, FABEng, or EngPhysics major; or permission of instructor. Not open to students with credit for 509.

3521 Transport Phenomena II U 4
Emphasis on conduction, convective and radiation heat transfer, mass transfer and stagewise operations with applied computational problems.
Prereq: 2420 (420), and enrollment in CBE, FABEng, or EngPhysics major; or permission of instructor or Grad standing. Not open to students with credit for 522.

3610 Kinetics and Reactor Design U 4
Chemical and engineering principles for the design and operation of chemical reactors; kinetics of simple homogeneous systems and introduction to heterogeneous catalysis.
Prereq: 3521 (522), 3508 (509), or Chem 4310 (532), and enrollment in CBE, FABEng, or EngPhysics major; or permission of instructor; or Grad standing. Not open to students with credit for 610.

3631 Chemical and Biomolecular Engineering Unit U 2
Operations Laboratory I
Laboratory investigation of the operating characteristics and efficiency of chemical engineering equipment such as distillation, absorption, heat exchangers, and three phase mixing dynamics with mass transfer.
Prereq or concur: 2523 (523) and 3610 (610), and enrollment in CBE major. Not open to students with credit for 630 or 4630.

3632 Chemical and Biomolecular Engineering Unit U 2
Operations Laboratory II
Laboratory investigation of the operating characteristics and efficiency of chemical engineering equipment such as distillation, absorption, heat exchangers, and three phase mixing dynamics with mass transfer.
Prereq or concur: 2523 (523) and 3610 (610); and enrollment in CBE major. Not open to students with credit for 630 or 4630.

4193 Individual Studies in Chemical and Biomolecular Engineering U 1 - 12
Provides the opportunity to pursue special studies or research in biomedical engineering not otherwise covered.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 10 completions. This course is graded S/U.

4184 Group Studies in Chemical and Biomolecular Engineering U 1 - 6
Provides groups of students opportunities to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

4610 Kinetics and Reactor Design U 4
Chemical and engineering principles for the design and operation of chemical reactors; kinetics of simple homogeneous systems and introduction to heterogeneous catalysis.
Prereq: Grad standing in Engineering, or permission of instructor. Not open to students with credit for 3610 (610).

4624 Chemical Process Dynamics and Control U 3
Study of the dynamics and control of chemical processes; mathematical models of simple processes, including feedback control, are derived, analyzed, and simulated.
Prereq: 2523 (523) or 3610 (610), and enrollment in CBE major; or Grad standing, or permission of instructor. Not open to students with credit for 624.

4760 Chemical Engineering Economy and Strategy U 4
Economic and strategy considerations in research, development, design, and manufacturing in the chemical process industry.
Prereq: 3610 (610), and enrollment in CBE or EngPhysics major; or Grad standing; or permission of instructor. Not open to students with credit for 762.

4764 Chemical and Biomolecular Engineering Process Design and Development U 4
Process design studies on selected chemical processes encompassing a broad spectrum of fundamental engineering principles; optimization studies utilizing economic and technical simulation.
Prereq or concur: 4760 (760), and enrollment in CBE major. Not open to students with credit for 762.

4998 Undergraduate Research in Chemical and Biomolecular Engineering U 1 - 6
Supervised research in Chemical and Biomolecular Engineering.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4998H Honors Undergraduate Research in Chemical and Biomolecular Engineering U 1 - 6
Supervised honors level research in Chemical and Biomolecular Engineering.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4999 Chemical and Biomolecular Engineering Research for Thesis U 1 - 5
Supervised research and project work arranged individually for students resulting in written thesis.
Prereq: GPA 3.0 or above, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

4999H Chemical and Biomolecular Engineering Research for Honors Thesis U 1 - 5
Supervised research and project work arranged individually for honors students resulting in written honors thesis.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5194</td>
<td>Group Studies in Chemical and Biomolecular Engineering</td>
<td>U G 1 - 6</td>
<td>Provides groups of students opportunities to pursue special studies not otherwise offered. PreReq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions.</td>
</tr>
<tr>
<td>5712</td>
<td>Catalysis and Catalytic Processes</td>
<td>U G 3</td>
<td>Kinetics of catalytic processes, mass transfer in catalysis, catalyst preparation and characterization, deactivation of catalysts, catalytic reactors, and application of catalytic phenomena in industrial processes. PreReq: 3521 (522) and 3610 (610), or Grad standing. Not open to students with credit for 712.</td>
</tr>
<tr>
<td>5713</td>
<td>Fuel Cells and Catalysis</td>
<td>U G 3</td>
<td>An introduction to fuel cells and related concepts with an emphasis on the catalytic phenomena involved in fuel cells. Prereq: Chem 5095, 3610 (610), 509, Chem 4310, or 531, or Grad standing, or permission of instructor. Not open to students with credit for 713.</td>
</tr>
<tr>
<td>5715</td>
<td>Particle Technology</td>
<td>U G 3</td>
<td>Engineering processes involving particulates and powders. Multiphase transport phenomena and fluidization are emphasized. PreReq: 2523 (523), and Math 2177 or Math 415.01, or Grad standing or permission of instructor. Not open to students with credit for 715.</td>
</tr>
<tr>
<td>5717</td>
<td>Interfaces, Colloids and Molecular Self Assembly</td>
<td>U G 3</td>
<td>Interfacial phenomena and colloidal science and engineering, with emphasis on surface tension, adsorption, emulsions, surfactants, molecular self-assembly. PreReq: 3508 or 509, or Chem 2520 or 253, or Grad standing. Not open to students with credit for 717.</td>
</tr>
<tr>
<td>5733</td>
<td>Novel Separation Processes</td>
<td>U G 3</td>
<td>Provides depth in the area of separations applied to chemical and biomolecular processing and introduces some novel techniques that are at the leading edge of separations research. PreReq: 3506 (508) or 2523 (523), or Grad standing, or permission of instructor. Not open to students with credit for 733.</td>
</tr>
<tr>
<td>5734</td>
<td>Molecular Informatics</td>
<td>U G 3</td>
<td>Overview of molecular informatics, with emphasis on its use in modern drug discovery and exploration of chemical structure-property relationships. Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 734.</td>
</tr>
<tr>
<td>5735</td>
<td>Cellular Nanotechnology</td>
<td>U G 3</td>
<td>Application of nanotechnology to cells for sensing and subcellular manipulation. Synthesis and biological modification of quantum dots and magnetic nanостuctures, their unique material properties, and their application. PreReq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 735 or Biomed 769. Cross-listed in Biomed 5635.</td>
</tr>
<tr>
<td>5740</td>
<td>Quantitative Cell Biology for Engineers and Scientists</td>
<td>U G 3</td>
<td>Introduction to the biophysical and biochemical principles underlying the behavior of cellular processes with an emphasis on surveying engineering models and quantitative measurements. Prereq: Permission of instructor. Cross-listed in Physics.</td>
</tr>
<tr>
<td>5755</td>
<td>Cellular Process Safety</td>
<td>U G 3</td>
<td>Familiarizes students with varied topics relating to chemical and industrial process safety. Covers PHA methods and tools. Prereq: Jr, Sr, or Grad standing in CBE. Not open to students with credit for 755.</td>
</tr>
<tr>
<td>5761</td>
<td>Chemical and Biomedical Engineering Processes</td>
<td>U G 3</td>
<td>Integration of fundamentals of chemistry, chemical engineering operations, thermodynamics, reaction kinetics and economics for optimum design and operation of chemical process plants. Prereq: Sr or Grad standing in CBE or Chem. Not open to students with credit for 761.</td>
</tr>
<tr>
<td>5765</td>
<td>Principles of Biochemical Engineering</td>
<td>U G 3</td>
<td>The application of biochemical engineering principles for modern bioprocesses and in the area of industrial biotechnology. PreReq: 2523 (523) or 3610 (610), or Grad standing, or permission of instructor. Not open to students with credit for 765.</td>
</tr>
<tr>
<td>5766</td>
<td>Biotechnology and Bioprocess Engineering</td>
<td>U G 3</td>
<td>Fundamentals of biotechnology and their applications to bioprocessing with emphasis on fermentation and bioprocessing. PreReq: 5765 (765), Biochem 4511 (511), MicroBio 4000 (509), or 4100 (520), or permission of instructor. Not open to students with credit for 766.</td>
</tr>
<tr>
<td>5769</td>
<td>Biomedical Nanotechnology</td>
<td>U G 3</td>
<td>Survey of biomedical nanotechnology with particular emphasis on nanoscale mass transport, nanomechanics, nanofluids, bioconjugates and medical therapeutics. Prereq: Biomede 4610 (461), and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 769 or Biomed 761. Cross-listed in Biomed 5661.</td>
</tr>
<tr>
<td>5771</td>
<td>Air Pollution</td>
<td>U G 3</td>
<td>Introduction to principal aspects of air pollution, including engineering control of stationary sources, atmospheric chemistry, aerosol behavior, transport and dispersion modeling. Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 771.</td>
</tr>
<tr>
<td>5772</td>
<td>Principles of Sustainable Engineering</td>
<td>U G 3</td>
<td>Introduces the principles, techniques, and challenges of environmentally conscious decision making in chemical engineering. A study of systematic methods for the analysis and development of sustainable industrial products and processes. PreReq: 4760 (760), or permission of instructor. Not open to students with credit for 772.</td>
</tr>
<tr>
<td>5773</td>
<td>Introduction to High Polymer Engineering</td>
<td>U G 3</td>
<td>Introduction to polymeric materials, polymerization methods and kinetics, polymer solution properties, molecular weight determination and polymer physical/mechanical properties. PreReq: 3610 (610) or Chem 2510 (251), or permission of instructor. Not open to students with credit for 773.</td>
</tr>
<tr>
<td>5774</td>
<td>Polymer Membranes</td>
<td>U G 3</td>
<td>Membrane separation mechanisms, transport models, permeability computations/measurements, membrane materials/types/modules, membrane contactors/reactors, and applications. PreReq: 3508 (509), or Grad standing; or permission of instructor. Not open to students with credit for 774 or MatScEn 774. Cross-listed in MatScEn 5774.</td>
</tr>
<tr>
<td>5775</td>
<td>Rheology of Fluids</td>
<td>U G 3</td>
<td>Principles of rheology, including the characterization of non-Newtonian materials, rheological equations of state, viscometric flows, measurements, and applications to the flow of industrial materials. PreReq: 2420 (420), or permission of instructor. Not open to students with credit for 775.</td>
</tr>
<tr>
<td>5777</td>
<td>Introduction to Polymer Engineering at Macro-, Micro-, and Nanoscale</td>
<td>U G 3</td>
<td>An introduction to nanomaterials and nanotechnology. Important polymeric micro/nanomaterials and structures, and their manufacturing techniques. PreReq: 3640 (540), 4510 (510), MatScEn 2251 (401), or 3151 (526), or permission of instruction. Not open to students with credit for 777.</td>
</tr>
<tr>
<td>5779</td>
<td>Design and Analysis of Experiments</td>
<td>U G 3</td>
<td>Design and analysis of experiments with emphasis on applications in engineering. Prereq: Jr or Sr standing in CBE. Not open to students with credit for 779.</td>
</tr>
<tr>
<td>5790</td>
<td>Modeling and Simulation</td>
<td>U G 3</td>
<td>Application of chemical and biomolecular engineering principles to construct mathematical models of processes and perform simulations. Prereq: Jr, Sr, or Grad standing in CBE. Not open to students with credit for 790.</td>
</tr>
<tr>
<td>6999</td>
<td>Thesis Research in Chemical and Biomolecular Engineering</td>
<td>G 1 - 15</td>
<td>Research for thesis. PreReq: Grad standing. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8189</td>
<td>Teaching Mentorship in Chemical and Biomolecular Engineering</td>
<td>G 3</td>
<td>Expose students who are interested in academic careers to the classroom environment, while having minimal impact upon the overall course. PreReq: FABEng 7220 or 810; and at least 1 IA or TA experience.</td>
</tr>
<tr>
<td>8194</td>
<td>Group Studies in Chemical and Biomolecular Engineering</td>
<td>G 1 - 6</td>
<td>Designed to give the student an opportunity to pursue special studies and topics not otherwise offered. PreReq: Permission of instructor. Repeatable to a maximum of 18 or hrs or 18 completions.</td>
</tr>
<tr>
<td>5781</td>
<td>Research Communications in Chemical and Biomolecular Engineering</td>
<td>G 2</td>
<td>Analysis and critique of chemical and biomolecular engineering research literature. Training and practice in written and oral communication of research ideas. PreReq: Grad standing. Not open to students with credit for 811.</td>
</tr>
<tr>
<td>8780</td>
<td>Teaching Practicum in Chemical and Biomolecular Engineering</td>
<td>G 1 - 6</td>
<td>Teaching and instructional development under faculty guidance in the chemical and biomolecular engineering curriculum. PreReq: Grad standing. International students for whom English is not the first language must first become certified in English, either through the SPEAK or Mock Teaching Test. Repeatable to a maximum of 20 or hrs or 20 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8800</td>
<td>Advanced Special Problems in Chemical and Biomolecular Engineering</td>
<td>G 1 - 15</td>
<td>A minor problems course covering chemical engineering operation, instrumentation, thermodynamics, kinetics, transport fields, and chemical technology. PreReq: Satisfactory courses in field of problem undertaken, and permission of instructor. Repeatable to a maximum of 15 or hrs or 15 completions.</td>
</tr>
<tr>
<td>8801</td>
<td>Analysis of Chemical and Biomolecular Engineering Problems</td>
<td>G 3</td>
<td>Modern techniques for the theoretical analysis of chemical and biomolecular engineering problems. PreReq: Grad standing. Not open to students with credit for 801.</td>
</tr>
</tbody>
</table>
86  Chemical and Biomolecular Engineering

8808  Advanced Thermodynamics I  G  3
Detailed discussion of the thermodynamic properties of pure compounds and mixtures; computer-aided work emphasizes the application of industrial problems.
Prereq: 3508 (508), and Grad standing; or permission of instructor. Not open to students with credit for 808.

8809  Advanced Thermodynamics II  G  3
Continuation of CBE 8808 and special topics of thermodynamics that are of interest to chemical and biomolecular engineering.
Prereq: 8806 (808), and Grad standing; or permission of instructor. Not open to students with credit for 809. Repeatable to a maximum of 6 cr hrs.

8812  Advanced Kinetics I  G  3
Chemical engineering kinetics from the viewpoint of industrial chemical processes.
Prereq: 2523 (523) and 3610 (610), and Grad standing; or permission of instructor. Not open to students with credit for 812.

8813  Advanced Kinetics II  G  3
A continuation of Advanced Kinetics I but with emphasis on deeper study of topics taken up in the first course.
Prereq: 8812 (812), or permission of instructor. Not open to students with credit for 813. Repeatable to a maximum of 9 or hrs.

8815  Advanced Transport  G  3
Momentum and mass transfer theory at both the macroscopic and microscopic levels utilizing integral and differential conservation equations.
Prereq: Grad standing in ChemEng, or permission of instructor. Not open to students with credit for 815.01 or 815.08.

8816  Advanced Mass Transfer  G  3
Advanced theories and applications of mass transfer at the graduate level.
Prereq: 8815, and Grad standing; or permission of instructor. Not open to students with credit for 815.01.

8817  Advanced Heat Transfer  G  3
An advanced course on heat transfer phenomena including heat conduction, heat convection and thermal radiation.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 815.05.

8818  Advanced Momentum Transfer  G  3
An advanced momentum transfer course taught at the graduate level. It is assumed that all students have an equivalent background of undergraduate fluid mechanics and graduate advanced transport.
Prereq: 8815, and Grad standing; or permission of instructor. Not open to students with credit for 815.09.

8890  NSEC Seminar  G  1
Formal lectures and discussion on topics related to the Center for Affordable Nanoeengineering of Polymeric Biomedical Devices.
Prereq: Grad standing. Repeatable to a maximum of 18 cr hrs.

8895  Seminar in Chemical and Biomolecular Engineering  G  1
Formal lectures and discussion of state of the art research and development in chemical and biomolecular engineering.
Prereq: Grad standing. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

8999  Dissertation Research in Chemical and Biomolecular Engineering  G  1 - 15
Research for dissertation purposes only.
Prereq: Grad standing. Repeatable. This course is graded S/U.

Chemical Physics

7998  Graduate Research  G  1 - 10
Laboratory and/or theoretical research on an individual basis on topics of current interest.
Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 6 completions. This course is progress graded (S/U).

7999  Masters Degree Research in Chemical Physics  G  1 - 12
Research for Masters thesis purposes only.
Prereq: Permission of instructor. Repeatable. This course is progress graded (S/U).

8880.01  Frontiers in Spectroscopy  G  1½ - 3
An overview of both fundamental and applied topics on the frontier of spectroscopy.
Prereq: Physics 7501 (828), Chem 6510, or 882, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 6 completions. This course is progress graded (S/U).

8880.02  Frontiers in Spectroscopy  G  1½ - 3
An overview of both fundamental and applied topics on the frontier of spectroscopy.
Prereq: Physics 7501 (828), Chem 6510, or 882, or permission of instructor.

8999  Research in Chemical Physics  G  1 - 12
Research for doctoral dissertation purposes only.
Prereq: Permission of instructor. Repeatable. This course is progress graded (S/U).

Chemistry

1100  Chemistry and Society  U  3
Terminology, methods, and principles of chemistry; examination of the roles of chemistry in our modern technological society.
Prereq: Math 1050 (075 or 076) or an ACT math subscore of 22 or higher that is less than two years old, or satisfactory score on Ohio State Math Placement Test. Not open to students with credit for 1110 (101), 1210 (121), 1910H (201H), or 100, or any Chem course that uses these courses as prerequisites. GE nat sci phys course (BA in ASC only).

1110  Elementary Chemistry  U  5
Introductory chemistry for non-science majors, including dimensional analysis, atomic structure, bonding, chemical reactions, states of matter, solutions, chemical equilibrium, acids and bases, along with topics in organic and biological chemistry.
Prereq: Eligibility to enroll in Math 1116 (116), Not open to students with credit for 1210 (121), 1250, 1610 (161), 1910H (201H), or 102. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1210  General Chemistry I  U  5
First course for science majors, covering dimensional analysis, atomic structure, the mole, stoichiometry, chemical reactions, thermochemistry, electron configuration, bonding, molecular structure, gases, liquids, and solids.
Prereq: One unit of high school chemistry, and Math Placement Level L or M; or a grade of C- or above in Math 1130 (130), 1131 (131), 1148 (148), 1150 (150), or above. Not open to students with credit for 1250, 1610 (162), 1910H (202H), 122, or 125. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1215  General Chemistry  U  2
Chemistry 1215 is a bridge course designed for students who have successfully completed the first quarter course of General Chemistry (Chem 121) and intend to move onto the second semester of General Chemistry (Chem 1220). Topics covered are the behavior and properties of gases, liquids and solids. Prereq: 121, 161, or 201H, and eligibility to enroll in Math 1150 (150). Not open to students with credit for 1210, 122, or 125. This course is available for EM credit. GE nat sci phys course.

1220  General Chemistry II  U  5
Continuation of 1210 for science majors, covering solutions, kinetics, chemical equilibrium, solubility and ionic equilibria, qualitative analysis, thermodynamics, electrochemistry, descriptive chemistry, coordination compounds, and nuclear chemistry.
Prereq: 1210, 1215, 1250, 1610 (162), 1910H (202H), or 122, and Math Placement Level L or M; or a grade of C- or above in Math 1130 (130), 1131 (131), 1148 (148), or 1150 (150), or above. Not open to students with credit for 1250, 1610 (162), 1910H (202H), 122, or 125. This course is available for EM credit. GE nat sci phys course. NS Admis Cond course.

1250  General Chemistry for Engineers  U  4
First course for engineering majors, covering dimensional analysis, atomic and molecular structure, the mole, stoichiometry, chemical reactions, states of matter, solutions, kinetics, equilibrium, acids and bases, thermodynamics, and electrochemistry.
Prereq: One unit of high school chemistry, and Math Placement Level L or M; or a grade of C- or above in Math 1130 (130), 1131 (131), 1148 (148), or 1150 (150), or above. Not open to students with credit for 1210, 1610, 1910H, or 125. This course is available for EM credit. GE nat sci phys course.

1610  General Chemistry for Majors I  U  5
First course for chemistry and biochemistry majors, covering dimensional analysis, atomic structure, the mole, stoichiometry, chemical reactions, thermochemistry, electron configuration, bonding, molecular structure, gases, liquids, and solids.
Prereq: One unit of high school chemistry, and Math Placement Level L or M; or a grade of C- or above in Math 1130 (130), 1131 (131), 1148 (148), or 1150 (150), or above, and enrollment in Chemistry or Biochemistry major; or permission of department. Not open to students with credit for 1210 (122) or 1910H (202H). GE nat sci phys course. NS Admis Cond course.

1620  General Chemistry for Majors II  U  5
Continuation of 1610 for science majors, covering solutions, kinetics, chemical equilibrium, solubility and ionic equilibria, qualitative analysis, thermodynamics, electrochemistry, descriptive chemistry, coordination compounds, and nuclear chemistry.
Prereq: 1210, 1215, 1250, 1610, 1910H, 122, 125, 162, or 202H, and Math Placement Level L or M; or a grade of C- or above in Math 1130 (130), 1131 (131), 1148 (148), or 1150 (150), or above. Not open to students with credit for 1210, 1610, 1910H, or 125. This course is available for EM credit. GE nat sci phys course.

1910H  Honors General Chemistry I  U  5
Fundamental chemical principles and the chemistry of nonmetals for selected students.
Prereq: ACT composite score of 30 or above, and ACT mathematics score of 30 or above, and ACT science reasoning score of 28 or above. Prereq or concur: Math 1151 (151) or above. Not open to students with credit for 1210, 1610, or 202H. GE nat sci phys course. NS Admis Cond course.

1920H  Honors General Chemistry II  U  5
Continuation of Chem 1910H for selected students covering fundamental principles and the chemistry of metals.
Prereq: 1910H (202H). Not open to students with credit for 203H, 1220 or 1620. GE nat sci phys course. NS Admis Cond course.
2193 Individual Studies  U  1 - 5
A qualified student may conduct a minor investigation in chemistry. Prereq: Satisfactory courses in field of the problem and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

2194 Group Studies  U  1 - 6
Designed for students to pursue special studies in chemistry. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

2210 Analytical Chemistry I: Quantitative Analysis  U  5
Quantitative chemical analysis for chemistry majors; quantitative analysis of the elemental and molecular composition of complex systems. Prereq: 1220 (123), 1620 (163), or 1920H (203H), and Math Placement Level L, or a grade of C- or above in Math 1148 and 1149, or 1130 (130), 1131 (131), or 1150 (150), or above. Not open to students with credit for 2210H (221H). GE data only course.

2210H Honors Analytical Chemistry I: Quantitative Analysis  U  5
Honors version of quantitative chemical analysis for chemistry majors; quantitative analysis of the elemental and molecular composition of complex systems. Prereq: Honors standing, or permission of department or instructor; and 1220 (123), 1620 (163), or 1920H (203H), and Math Placement Level L, or a grade of C- or above in Math 1148 and 1149, or 1130 (130), 1131 (131), or 1150 (150), or above. Not open to students with credit for 2210 (221). GE data only course.

2310 Introductory Organic Chemistry  U  4
A condensed presentation of organic chemistry organized by functional groups with an emphasis on practical applications. Prereq: 1110, 1220 (123), 1250 (125), 1620, or 1920H. Not open to students with credit for 2510 (251), 2610, or 2910H.

2510 Organic Chemistry I  U  4
Introduction to structure, nomenclature, physical properties, preparation and reactions of alkanes, alkenes, alkynes, alcohols, ethers, epoxides, aldehydes and ketones. Other topics include stereochemistry, acids, bases, and reaction mechanisms. Prereq: 1220 (123), 1620 or 1920H (203H). Not open to students with credit for 252.

2520 Organic Chemistry II  U  4
Continuation from 2510, including aromatic systems, carboxylic acids, carboxylic acid derivatives, amines, carbon-carbon bond-forming reactions, polymers, carbohydrates and amino acids. Prereq: 2510, 2610 (252) or 2910H (252H). Not open to students with credit for 2620 (253) or 2920H.

2540 Organic Chemistry Laboratory I  U  2
Introduction to spectroscopic characterization, scientific writing, computerized chemistry, and the laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds. Prereq or concur: 2510, 2610 or 2910H.

2550 Organic Chemistry Laboratory II  U  2
Introduction to spectroscopic characterization, scientific writing, computerized chemistry, and the laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds. Prereq: 2540 or 2540H. Prereq or concur: 2520, 2620 or 2920H.

2610 Organic Chemistry for Majors I  U  4
Introduction to structure, nomenclature, physical properties, preparation and reactions of alkanes, alkenes, alkynes, alcohols, ethers, epoxides, aldehydes and ketones. Other topics include stereochemistry, acids, bases, and reaction mechanisms. Prereq: 1220 (123), 1620 (163), or 1920H (203H); and Chemistry or Biochemistry major, or permission of Department. Not open to students with credit for 252.

2620 Organic Chemistry for Majors II  U  4
Continuation from 2610, including aromatic systems, carboxylic acids, carboxylic acid derivatives, amines, carbon-carbon bond-forming reactions, polymers, carbohydrates and amino acids. Prereq: 2510 (252), 2610, or 2910H; and Chemistry or Biochemistry major, or permission of Department. Not open to students with credit for 2520 (253), or 2920H.

2910H Honors Organic Chemistry I  U  4
Honors introduction to structure, nomenclature, physical properties, preparation and reactions of alkanes, alkenes, alkynes, alcohols, ethers, epoxides, aldehydes and ketones, including stereochemistry, acids, bases, and reaction mechanisms. Prereq: 1220 (123), 1620 (163), or 1920H (203H); Honors program or permission of department or instructor. Not open to students with credit for 2510, 2610, or 252H.

2920H Honors Organic Chemistry II  U  4
Continuation from 2910H, including aromatic systems, carboxylic acids, carboxylic acid derivatives, amines, carbon-carbon bond-forming reactions, polymers, carbohydrates and amino acids. Prereq: Honors standing, and 2910H (252H) or 252; or permission of department or instructor. Not open to students with credit for 2520, 2620, or 252H.

2940H Honors Organic Chemistry Laboratory I  U  2
Honors course for introduction to spectroscopic characterization, scientific writing, computational chemistry, and the laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds. Prereq or concur: Honors standing, and 2910H (252H), and permission of department or instructor. Not open to students with credit for 2540.

2950H Honors Organic Chemistry Laboratory II  U  2
Honors course for introduction to spectroscopic characterization, scientific writing, computational chemistry, and the laboratory techniques of organic chemistry, including synthesis, isolation, purification, and identification of organic compounds. Prereq: 2940H; Prereq or concur: 2920H. Honors program; or permission of department or instructor. Not open to students with credit for 2550.

3510 Inorganic Chemistry  U  3
Introduction to the principles of inorganic structure and bonding, including molecular symmetry, atomic structure, ionic bonding, coordination complexes, magnetic properties, thermodynamics and reactivity, bioinorganic chemistry, and nanoparticles. Prereq: 2520 (253), 2620 (253), or 2920H (253H); or permission of instructor. Not open to students with credit for 652.

4193 Individual Studies  U  1 - 5
A qualified student may conduct a minor investigation in chemistry. Prereq: Satisfactory courses in field of the problem and permission of instructor. Repeatable to a maximum of 15 or hours or 5 completions. This course is graded S/U.

4194 Group Studies  U  1 - 6
Designed for students to pursue advanced special studies in chemistry. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

4200 Fundamentals of Physical Chemistry I  U  3
The principles of physical chemistry for students in the biological sciences and for BA students majoring in chemistry. Prereq: Biology 1113, Math 1152 (153), 1172, 1181H, or 2162 (162), and Physics 1201 (113) or 1251 (133). Prereq or concur: Chem 2520 (253), 2620, or 2920H. Not open to students with credit for 4300 or 521 or Biochem 5721.

4210 Fundamentals of Physical Chemistry II  U  3
A continuation of 4200 for students in the biological sciences and for BA students majoring in chemistry. Prereq: 4200. Not open to students with credit for 4310.

4300 Physical Chemistry I  U  3
Quantum chemistry and chemical kinetics. Prereq: 2210 (221), 2510 (251), 2610, 2910H, or equiv, and Math 2153 (254), and Physics 1201 (113) or 1251 (133). Prereq or concur: Math 2255 (255). Not open to students with credit for 531.

4310 Physical Chemistry II  U  3
Statistical mechanics, thermodynamics, and thermodynamic equilibrium. Prereq: 4300. Not open to students with credit for 532.

4410 Physical Chemistry Laboratory  U  3
Quantitative measurements of chemical phenomena and the application of chemical principles to their interpretation. It is recommended that students complete 1 physical chemistry course before taking this course. Prereq or concur: 4200 (520) or 4300 (530). Not open to students with credit for 541.

4550 Inorganic Chemistry Laboratory  U  2
Preparation and characterization of inorganic compounds employing a variety of synthetic techniques. Prereq: 3510 (651), or an undergraduate degree with Chem major, or permission of instructor. Not open to students with credit for 755.

4870 Analytical Chemistry II: Instrumental Analysis  U  3
Applications of physico-chemical principles to problems in qualitative and quantitative chemical analysis. Prereq or concur: 4870 (587), or permission of instructor. Not open to students with credit for 588.

4998 Undergraduate Research  U  1 - 10
Undergraduate research or creative activities in various topics. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 15 completions.

4998H Honors Undergraduate Research  U  1 - 10
Honors undergraduate research or creative activities in various topics. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 20 or hrs or 15 completions.

4999 Undergraduate Thesis Research  U  1 - 10
Undergraduate research or creative activities in various topics, culminating in a research thesis and oral defense. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisite(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4999H</td>
<td>Honors Undergraduate Thesis Research</td>
<td>U 1-10</td>
<td>Honors undergraduate research or creative activities in various topics, culminating in a research thesis and oral defense. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 or hrs or 5 completions.</td>
</tr>
<tr>
<td>5193</td>
<td>Individual Studies</td>
<td>U G 1-10</td>
<td>Individual Studies. Prereq: Permission of instructor. Repeatable.</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies</td>
<td>U G 1-10</td>
<td>Group Studies. Prereq: Permission of instructor. Repeatable.</td>
</tr>
<tr>
<td>5420</td>
<td>Spectroscopy of Organic Compounds</td>
<td>U G 1½</td>
<td>Exploration of the use of spectroscopic techniques for the determination of the structure of organic molecules, including UV/Vis, IR, NMR, and MS. Prereq: 2520 (253), 2620 (253), or 2920H (253H), or equiv. Not open to students with credit for 632.</td>
</tr>
<tr>
<td>5430</td>
<td>Carbohydrate Chemistry</td>
<td>U G 3</td>
<td>Introduction to synthesis, conformation, and biological importance of carbohydrates and oligosaccharides, including nomenclature, protecting groups, glycoside synthesis, biosynthesis and biology, and NMR methods. Prereq: 2520 (253), 2620, or 2920H (253H), or equiv.</td>
</tr>
<tr>
<td>5440</td>
<td>Introduction to Computational Chemistry</td>
<td>U G 3</td>
<td>Introduction to fundamental concepts in computational chemistry, including molecular modeling, molecular dynamics, and semi-empirical and ab initio calculations. Prereq: 2520 (253), 2620 (253), or 2920H (253H), or equiv. Not open to students with credit for 644.</td>
</tr>
<tr>
<td>5450</td>
<td>Practical NMR Spectroscopy</td>
<td>U G 1</td>
<td>This course focuses on the application of NMR Spectroscopy to the structure determination and dynamics of primarily synthetic organic and organometallic products. The practical aspects of acquiring optimized, high-quality data are still beneficial for analysis of these spectra and will be presented as lectures and demonstrations. Prereq: 5420, or permission of instructor.</td>
</tr>
<tr>
<td>5520</td>
<td>Nanochemistry</td>
<td>U G 3</td>
<td>Introduction to fundamental concepts of nanoscience, exploring strategies for complex assemblies of molecules and developing computational techniques for the investigation of nanotube structures. Prereq: 1220 (123), 1620 (163), or 1920H (203H), and permission of instructor. Not open to students with credit for 611.</td>
</tr>
<tr>
<td>6050</td>
<td>Modeling Instruction in Chemistry</td>
<td>G 4</td>
<td>An inquiry-based course addressing both content learning and supporting pedagogy in chemistry instruction suitable for high school instructors implementing a modeling-based approach. Repeatable to a maximum of 12 or hrs.</td>
</tr>
<tr>
<td>6110</td>
<td>Survey of Instrumental Methods</td>
<td>G 1½</td>
<td>Introduction to instrumental analytical methods, including optical spectroscopy, mass spectrometry, surface spectrometry, microprobe methods, and separation science concepts relevant to chemical analysis. Not available for undergraduate credit.</td>
</tr>
<tr>
<td>6120</td>
<td>Analytical Data Treatment - Statistical and Numerical Analysis</td>
<td>G 1½</td>
<td>Principles and practice of data acquisition, processing, and analysis in chemical research. Prereq: 4870 (878) or equiv. Not open to students with credit for 720.</td>
</tr>
<tr>
<td>6210</td>
<td>Chemistry at the Interface of Biology</td>
<td>G 1½</td>
<td>An introduction to structure and function of proteins, nucleic acids, lipids, and carbohydrates. Course not available for undergraduate credit.</td>
</tr>
<tr>
<td>6310</td>
<td>Fundamentals of Coordination Chemistry</td>
<td>G 1½</td>
<td>Fundamental concepts of coordination chemistry, including properties, coordination number &amp; isomerism, complex stability &amp; the chelate effect, ligand substitution reactions, electron transfer, coordination chemistry &amp; catalysis, magnetic phenomena.</td>
</tr>
<tr>
<td>6320</td>
<td>Synthetic Principles in Inorganic Chemistry</td>
<td>G 1½</td>
<td>Synthesis, structure, and application of electron counting rules to organometallic clusters. Synthesis and structure of main group and transition metal hydrides. Applications in catalysis. Prereq: 3510 or equiv, or permission of instructor. Not open to students with credit for 753.</td>
</tr>
<tr>
<td>6330</td>
<td>Group Theory and Bonding</td>
<td>G 1½</td>
<td>Introduction to groups and group representations, application to pi-bonding in organic molecules, molecular orbital theory, bonding in transition metal complexes, molecular vibrations, and electronic spectroscopy. Prereq: 3510 or equiv, or permission of instructor. Not open to students with credit for 851.</td>
</tr>
<tr>
<td>6340</td>
<td>Physical Methods in Inorganic Chemistry</td>
<td>G 1½</td>
<td>Exploration of techniques for measuring structure and properties of small inorganic molecules and assemblies, including elemental composition, structural characterization, and physical properties. Prereq: 3510 or equiv, or permission of instructor. Not open to students with credit for 752.</td>
</tr>
<tr>
<td>6410</td>
<td>Basic Organic Reaction Mechanisms</td>
<td>G 1½</td>
<td>Fundamental aspects of organic reaction mechanisms, including substitution &amp; elimination reactions, alkene addition reactions, aromatic substitution, radical reactions, carbonyl chemistry, &amp; pericyclic reactions. Not available for undergrad credit.</td>
</tr>
<tr>
<td>6420</td>
<td>Stereochemistry and Conformational Analysis</td>
<td>G 1½</td>
<td>Fundamental principles of stereochemistry, including stereoisomerism, enantiomer resolution, conformational analysis of C-C and C-heteroatom bonds, cyclic stereochemistry, the stereochemistry of dynamic processes, and stereoelectronic effects. Prereq: 2520 (253), 2620 (253), 2920H, or equiv. Not open to students with credit for 730.</td>
</tr>
<tr>
<td>6430</td>
<td>Introduction to Organic Synthesis</td>
<td>G 1½</td>
<td>Principles and reactions in the synthesis of organic molecules, acidity and basicity, chemistry of carbonyl groups, oxidation and reduction, electrophilic and nucleophilic reagents, functional group interconversions, and protecting group chemistry. Prereq: 2520, 2620, 2920H, or equiv. Not open to students with credit for both 832 and 833.</td>
</tr>
<tr>
<td>6440</td>
<td>Introduction to Physical Organic Chemistry</td>
<td>G 1½</td>
<td>Fundamental principles and concepts in physical organic chemistry, including structure and bonding, strain and stability, solvation and non-covalent interactions, acid-base chemistry, and methods for studying reaction mechanisms. Prereq: 2520 (253), 2620 (253), 2920H, or equiv, and 4210 (521), 4310 (531), or equiv; or permission of instructor. Not open to students with credit for both 731 and 831.</td>
</tr>
<tr>
<td>6510</td>
<td>Quantum Mechanics and Spectroscopy</td>
<td>G 1½</td>
<td>Introduction to the fundamentals of quantum mechanics with applications to chemical dynamics and spectroscopy, suitable for graduate students and advanced undergraduates from all areas of chemistry. Not available for undergraduate credit.</td>
</tr>
<tr>
<td>6520</td>
<td>Thermodynamics</td>
<td>G 1½</td>
<td>Fundamental aspects of chemical thermodynamics, including spontaneous change, 1st, 2nd, and 3rd laws of thermodynamics, free energy, and thermochemical calculations. Prereq: 4310 (532) or equiv. Not open to students with credit for 775.</td>
</tr>
<tr>
<td>6530</td>
<td>Kinetics</td>
<td>G 1½</td>
<td>Description of the rate of chemical reactions, including rate equations, mechanism, and transition state theory. Prereq: 4310 (532) or equiv. Not open to students with credit for 775.</td>
</tr>
<tr>
<td>6540</td>
<td>Introduction to Electronic Structure</td>
<td>G 1½</td>
<td>Introduction to electronic structure of atoms and molecules, and quantum-chemical calculations, including self-consistent field methods, molecular orbital theory, density functional theory, and other methods for describing electron correlation. Prereq: 4310 or equiv. Not open to students with credit for 866.</td>
</tr>
<tr>
<td>6550</td>
<td>Atmospheric Chemistry</td>
<td>G 3</td>
<td>Chemistry of the lower atmosphere, including air pollution and climate change, chemistry and kinetics of atmospheric oxidants, heterogeneous chemical mechanisms, tropospheric and stratospheric gas and particulate phases relative to ozone depletion. 231 or 251 recommended.</td>
</tr>
<tr>
<td>6570</td>
<td>Faculty Research Presentations</td>
<td>G 1</td>
<td>Presentation of faculty research programs and projects to incoming doctoral students. Not available for undergraduate credit. This course is graded S/U.</td>
</tr>
<tr>
<td>6580</td>
<td>Laboratory Safety</td>
<td>G 1</td>
<td>Principles of safety in the chemical laboratory. Prereq: Not open to students with credit for 685. This course is graded S/U.</td>
</tr>
<tr>
<td>6682</td>
<td>Ethics in Scientific Research</td>
<td>G 1</td>
<td>An examination of the ethical principles operative in modern scientific research. This course is graded S/U.</td>
</tr>
<tr>
<td>7120</td>
<td>Electrochemistry</td>
<td>G 3</td>
<td>Electrochemical methods for trace analysis of species, including current/voltage relationships based on activation and diffusion control, electrode kinetics, and reaction mechanisms. Prereq: Not open to students with credit for 821.</td>
</tr>
<tr>
<td>7130</td>
<td>Fundamentals and Techniques of Separation Science</td>
<td>G 3</td>
<td>Introductory course in analytical separation science: principles of chromatographic and electrophoretic processes. Prereq: Not open to students with credit for 822.</td>
</tr>
<tr>
<td>7140</td>
<td>Analytical Spectroscopy</td>
<td>G 3</td>
<td>Principles for measurement of interactions of electromagnetic radiation with matter, including classical &amp; quantum mechanical principles, group theory, and principles and applications of atomic and molecular spectroscopy. Prereq: Not open to students with credit for 823.</td>
</tr>
<tr>
<td>7150</td>
<td>Mass Spectrometry</td>
<td>G 3</td>
<td>Advanced course on modern mass spectrometric methods and applications to chemical and biological sciences. Prereq: Not open to students with credit for 825.</td>
</tr>
</tbody>
</table>
7160 Nuclear Magnetic Resonance Spectroscopy  G  3
Introduction to NMR spectroscopy for structural studies including nuclear magnetic resonance spectroscopy in the context of chemical and biochemical structural studies. Prereq: Not open to students with credit for 824.

7170 Analytical Surface Science  G  1½
Introduction to instrumentation and techniques for the chemical and physical analysis of surfaces.

7220 Bioorganic Chemistry of Enzymes and Catalysis  G  1½
Organic catalysts and enzymes, with an emphasis of the organic chemical aspects of catalysis. Prereq: Not open to students with credit for 733.

7230 Chemical Biology  G  1½
Graduate-level treatment of the fundamentals of chemical biology, including enzymes, drug and probe design, diversification methodology, and proteomics.

7320 Organometallic Chemistry  G  1½
Chemistry of organometallic compounds, main group elements (Li, Mg, Al, Sn, Pb), comparisons of Zn, Hg, & Mg, multiple bonding, transition metals, classification of ligands, pi-bonding, metallocenes, carbenes, carbynes, H2, and agostic complexes. Prereq: Not open to students with credit for 751.

7330 Solid State Chemistry  G  1½
Structures of extended solids, including defects and phase diagrams and phase transitions. Prereq: Not open to students with credit for 754.

7340 Diffraction Methods  G  1½
Exploration of techniques and application for determination of solid state structures, including X-ray absorption and diffraction methods, neutron diffraction methods, single crystal structure determination, and powder diffraction.

7350 Inorganic Photochemistry  G  1½
Fundamental aspects of molecular photophysical processes, including energy and electron transfer, photochemistry of inorganic complexes, and applications.

7360 Bioinorganic Chemistry  G  1½
Study of the role of metals in biological systems, including iron and copper proteins, other metals including Zn, Co, Ni, Mg, and Ca, metal ion homeostasis, metals and nucleic acids, and cellular toxicity and medical applications of heavy metals. Prereq: Not open to students with credit for 752.

7370 Nanochemistry and Nanomaterials  G  1½
Advanced study of nanostructures and nanomaterials, including the basic physics for nanoscience and nanotechnology, synthesis and self-assembly, and nanotechnology in energy conversion and storage.

7380 Inorganic Materials  G  1½
Study of the electronic and magnetic properties of extended solids, including organic and metal-organic arrays. Prereq: Not open to students with credit for 754.

7390 Advanced Inorganic Laboratory  G  3
Laboratory techniques of relevance to synthetic and physical inorganic chemistry, and applications to the study of bioinorganic and materials chemistry. Prereq: Not open to students with credit for 755.

7430 Advanced Organic Synthesis  G  1½
Advanced aspects of organic synthesis/synthetic design, including advanced carbanion chemistry, synthesis of alkenes, special topics in oxidations and reductions, nucleophilic reagents, pericyclic and dipolar reactions, and free radical chemistry. Prereq: 6430.

7440 Kinetics, Catalysis, and Transition State Theory  G  1½
Principles of kinetics, including energy surfaces and transition state theory, rate equations and rate constants, isotope effects, linear free energy relationships, and catalysis for the study of the chemical reactions of organic molecules. Prereq: 6440.

7450 Metals in Organic Synthesis  G  1½
Organometallic complexes in organic synthesis, including organotransition metal chemistry and homogeneous catalysis and the chemistry of organic complexes of B, Cu, low valent Zr and Ti, Pd, Ni, Ru, and Mo. Prereq: 7430. Not open to students with credit for 832 or 833.

7460 Advanced Organic Reaction Mechanisms  G  1½
Advanced study of physical aspects of reactions of organic compounds, including addition and elimination reactions, substitution reactions, photochemical reactions, and quantum mechanical approaches to chemical bonding. Prereq or concur: 7440. Not open to students with credit for 831.

7470 Computational Chemistry  G  1½
A practical and theoretical treatment of advanced computational chemistry, from molecular mechanics to electronic structure methods and with an examination of the application of computational methods for providing guidance to experimental studies. Prereq: Permission of instructor. Not open to students with credit for 944.

7480 Advanced Organic Synthesis Laboratory  G  3
A laboratory involving advanced synthetic techniques in organic chemistry. Prereq: Not open to students with credit for 835 or 836.

7520 Advanced Molecular Quantum Mechanics and Spectra  G  3
Advanced study of the quantum mechanics of atoms and molecules, including quantum postulates and operators, time evolution, perturbation theory and variational methods, calculation of matrix elements, representations, and multiplet theory. Prereq: Not open to students with credit for 862 or 863.

7530 Spectra and Structure of Molecules  G  3
Application of quantum mechanics to the description and interpretation of molecular spectroscopic data, with an emphasis on the spectra of polyatomic molecules. Prereq: Not open to students with credit for 863 or 866.

7540 Chemical Dynamics  G  3
Advanced chemical dynamics in the gas and condensed phase, including the fundamental theory of chemical reactions, molecular energy transfer, and electron and proton transfer reactions. Prereq: Not open to students with credit for 876.

7550 Statistical Thermodynamics  G  3
Treatment of equilibrium & non-equilibrium stat mech, including fundamentals, statistical basis of thermodynamics, partition functions, thermal behavior of atoms & molecules, free energy, time-dependent stat mec, and linear response theory. Prereq: Not open to students with credit for 880.

7560 Introduction to Astrochemistry  G  1½
Treatment of the chemistry occurring in regions outside of the solar system including interstellar clouds, areas of star formation, and envelopes and atmospheres of stars. Prereq: 6510, 6520, and 6530, or equiv. Not open to students with credit for 740. Cross-listed in Physics 6740.

7570 Aerosol Science  G  1½
Study of behavior and properties of aerosols; particle size distributions, particle motion, aerosol dynamics, nucleation, condensation & evaporation, coagulation, particle structure, thermodynamics of particulate systems, optics of small particles. Prereq: Permission of instructor.

7580 Lasers, Optics, and Optical Instrumentation  G  3
Fundamentals of lasers, optics, and optical instrumentation used in modern experimental research in chemistry and physics including: lasing and gain, pulse generation, geometric and Gaussian optics, spatial modes, and detection.

7590 Molecular Simulation of Materials  G  3
Advanced theoretical foundation and techniques for molecular dynamics and Monte Carlo simulation of condensed phases, including interaction models, dynamical foundations, equilibrium properties, biological systems, and transport coefficients. Prereq: Permission of instructor. Not open to students with credit for 896.

8199 Advanced Topics in Analytical Chemistry  G  1½ - 3
Advanced, specialized topics in Analytical Chemistry. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions.

8399 Advanced Topics in Inorganic Chemistry  G  1½ - 3
Advanced, specialized topics in Inorganic Chemistry. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions.

8499 Advanced Topics in Organic Chemistry  G  1½ - 3
Advanced, specialized topics in Organic Chemistry. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions.

8599 Advanced Topics in Physical Chemistry  G  1½ - 3
Advanced, specialized topics in Physical Chemistry. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions.

8699 Advanced Topics in Theoretical Chemistry  G  1½ - 3
Advanced, specialized topics in Theoretical Chemistry. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions.

8811 Analytical Chemistry Seminar  G  1
Seminar in Analytical Chemistry. Repeatable to a maximum of 14 cr hrs. This course is graded S/U.

8892 Biochemistry Seminar  G  1
Seminar in Biochemistry. Repeatable to a maximum of 14 cr hrs. This course is graded S/U.

8893 Inorganic Chemistry Seminar  G  1
Seminar in Inorganic Chemistry. Repeatable to a maximum of 14 cr hrs. This course is graded S/U.

8894 Organic Chemistry Seminar  G  1
Seminar in Organic Chemistry. Repeatable to a maximum of 14 cr hrs. This course is graded S/U.
90 Chemistry

8895 Physical Chemistry Seminar G 1
Seminar in Physical Chemistry. Repeatable to a maximum of 14 or hrs. This course is graded S/U.

8896 Departmental Seminar G 1
Seminars on topics of interest in chemistry and biochemistry. Repeatable to a maximum of 14 or hrs. This course is graded S/U.

8899 Doctoral Seminar G 1
Seminar presented by post-candidacy doctoral students on thesis/dissertation research. Prereq: Post-candidacy graduate standing, and permission of instructor. Repeatable to a maximum of 2 or hrs.

8998 Non-thesis Research G 1 - 15
Non-thesis graduate research. Repeatable. This course is graded S/U.

8999 Thesis/Dissertation Research G 1 - 15
Graduate research for thesis or dissertation. Repeatable. This course is graded S/U.

Chinese

1101.01 Level One Chinese I: Classroom Track U 4
Mandarin Chinese spoken communication and writing system. Classroom Track. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Au Sem. Prereq: Not open to students with credit for 101 and 102. This course is available for EM credit. GE for lang course.

1101.02 Level One Chinese I: Summer Intensive Track U 4
Mandarin Chinese spoken communication and writing system. Summer Intensive Track. Admission to SPEAC is required for registration. Students must complete 4 cr hrs during the first 3.5 weeks of the summer session. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: Admission to SPEAC program. Not open to students with credit for 101 or 102. This course is available for EM credit. GE for lang course.

1101.51 Level One Chinese I: Individualized Track U 1 - 4
Mandarin Chinese spoken communication and writing system. Individualized Track. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Au, Sp, Su Sem. Prereq: Not open to students with credit for 101 and 102. Repeatable to a maximum of 4 or hrs or 4 completions. This course is available for EM credit. GE for lang course.

1102.01 Level One Chinese II: Classroom Track U 4
Continuation of 1101.01. Classroom Track. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: 1101.01 or 1101.02, or 4 cr hrs of 1101.51, or permission of instructor. Not open to students with credit for 102. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102.02 Level One Chinese II: Summer Intensive Track U 4
Continuation of 1101.02. Summer Intensive Track. Admission to SPEAC is required for registration. Students must complete 4 credits during the second 3.5 weeks of the summer session. Not open to native speakers of this language or to students with 3 or more years of study in this language in high school.
Prereq: 1101.01 or 1101.02, or 4 cr hrs of 1101.51, or permission of instructor; and admission to SPEAC program. Not open to students with credit for 1102 (102). This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102.03 Level One Chinese II: Bridge2 U 3
Continuation of 1101.01 (102). Bridge course for students transitioning from the quarter to semester system. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: 102 or permission of instructor. Not open to students with credit for 1102.01, 1102.02, or 4 cr hrs for 1102.51. GE for lang course. FL Admis Cond course.

1102.05 Level One Chinese II: Bridge U 5
Continuation of 1101.01 (102). Bridge course for students transitioning from the quarter to semester system. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: 101 or permission of the instructor. Not open to students with credit for 1101.01, 1101.02, 1102, or 4 hrs for 1101.51. GE for lang course. FL Admis Cond course.

1102.51 Level One Chinese II: Individualized Track U 1 - 4
Continuation of 1101.51. Individualized Track. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: 1101.01 or 1101.02, or 4 cr hrs of 1101.51, or permission of instructor. Not open to students with credit for 1102 (102). Repeatable to a maximum of 4 or hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.01 Level Two Chinese I: Classroom Track U 4
Mandarin Chinese second level spoken communication, development of reading skills, and written composition. Classroom Track. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: 1102.01 or 1102.02, or 4 sem or hrs of 1102.51, or permission of instructor. Not open to students with credit for 1103 or 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.51 Level Two Chinese I: Individualized Track U 1 - 4
Mandarin Chinese second level spoken communication, development of reading skills, and written composition. Individualized Track. Progress is sequential from one cr hr to the next with a demonstrated proficiency at the level of 80% required for advancement. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Prereq: 1102.01 or 1102.02, or 4 hrs of 1102.51, or permission of instructor. Not open to students with credit for 1103 or 104. Repeatable to a maximum of 4 or hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

2102 Level Two Chinese II: Classroom Track U 5
Continuation of 1103. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Sp Sem. Prereq: 1103. Not open to students with credit for 2102 (205 and 206). This course is available for EM credit. FL Admis Cond course.

2102.01 Level Two Chinese II: Bridge U 3
Continuation of 1103. Bridge course designed for students who have completed through 205 and who wish to enroll in 2102. Also designed for students who completed only a portion of Intensive Level Two Chinese.
Au Sem. Prereq: 205. FL Admis Cond course.

2411.01 Intensive Level Two Chinese-Oral: Classroom Track U 4
First course in the sequence of intensive intermediate Chinese language courses focusing on speaking and listening. Admission to SPEAC is required for registration. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Au Sem. Prereq: 1102.01 or 1102.02, or 4 cr hrs in 1102.51, or permission of instructor. Not open to students with credit for 2103.xx, 2411.02, 210, 210.02, 310, or 310.02. This course is available for EM credit. GE for lang course. FL Admis Cond course.

2411.02 Intensive Level Two Chinese-Oral: Summer Intensive Track U 4
First course in the sequence of intensive intermediate Chinese language courses focusing on speaking and listening. Admission to SPEAC is required for registration. Closed to native speakers of this language, or to students with 3 or more years of study in this language in high school.
Au, Sp, Su Sem. Prereq: 1102.01 or 1102.02, or 4 cr hrs in 1102.51, or permission of instructor. Not open to students with credit for 1102 (210) or 2411 (310). This course is available for EM credit. GE for lang course. FL Admis Cond course.

2151.01 Intensive Level Two Chinese-Written: Classroom Track U 5
First in the sequence of intensive intermediate Chinese language courses focusing on written Chinese. Classroom track.
Au sem. Prereq: 1102.01 or 1102.02, or 4 hrs for 1102.51, or permission of instructor. Not open to students with credit for 1103 (211) or 2151 (311).01. This course is available for EM credit. FL Admis Cond course.

2151.51 Intensive Level Two Chinese-Written: Individualized Track U 1 - 5
First in the sequence of intensive intermediate Chinese language courses focusing on written Chinese. Individualized Track.
Prereq: Post-candidacy graduate standing, and permission of instructor. Not open to students with credit for 1103 (211) or 2151 (311). Repeatable to a maximum of 5 or hrs or 5 completions. This course is available for EM credit. FL Admis Cond course.

2231 Traditional Chinese Culture U 3
Chinese institutions, philosophical trends, religion, literature, and visual and performing arts prior to the 20th century.
Prereq: Not open to students with credit for 231. GE cultures and ideas and diversity global studies course.

2232 Modern Chinese Culture U 3
Modern Chinese culture as reflected in family life, language, literature, art, and film viewed from the perspective of modern Chinese history. Taught in English.
Prereq: Not open to students with credit for 232. GE cultures and ideas and diversity global studies course.

2283 Chinese Calligraphy U 3
Techniques of writing Chinese characters with a brush; practice in different styles from oracle bone to grass; introduction to its importance in the Chinese culture, and its relationship with Chinese philosophy, poetry, and painting.
Prereq: Not open to students with credit for 283.
2451 Chinese Literature in Translation U 3
Representative masterpieces of pre-modern Chinese literature in English translation, including
poetry, prose, fiction, and/or drama.
Prereq: Not open to students with credit for 251. GE lit and diversity global studies course.
2797.01 Study Abroad in China U 3
The China Gateway Study Abroad Program introduces the dynamic nature of an important
segment of contemporary Chinese culture by combining the themes of Ethnic Diversity and
the Environment in Southwest China. The tandem themes are designed to allow students to
experience a diverse and dynamic mix of ethnic, rural, and urban cultures in a historic and
geo-politically varied region of China. GE education abroad course.
4101 Level Three Chinese I U 5
Continued study of spoken communication, reading Chinese publications, and development of
written composition. Au Sem. Prereq: 2102, or permission of instructor. Not open to
students with credit for 507 or 508. This course is available for EM credit. FL Admis Cond
course.
4102 Level Three Chinese II U 5
Continuation of 4101. Sp Sem. Prereq: 4101, or permission of instructor. Not open to
students with credit for 508 or 509. This course is available for EM credit. FL Admis Cond
course.
4102.51 Level Three Chinese: Bridge U 2
Continuation of 4101. Bridge course designed for students who completed 508, but not 509
(in quarter system) and wish to go on to 4102. Also designed for students who completed only
part of Intensive Level Three Chinese.
Au Sem. Prereq: 508. FL Admis Cond course.
4142.01 Intensive Level Three Chinese-Oral: Classroom Track U 5
Continuation of 2141.01. Sp Sem. Prereq: 2141.01 or 2141.02, or permission of instructor.
Not open to students with credit for 310 and 510.01. This course is available for EM credit. FL
Admis Cond course.
4142.02 Intensive Level Three Chinese-Oral: Summer Intensive Track U 5
Continuation of 2141.02. Summer Intensive Track. Admission to SPEAC is required for
registration. Students must complete 5 credits during the second 3.5 weeks of the Summer
Session. Prereq: 2141.01 or 2141.02, or permission of instructor. Not open to students with credit for
310 and 510.02. This course is available for EM credit. FL Admis Cond course.
4152.01 Intensive Level Three Chinese-Written: Classroom Track U 5
Continuation of 2151.01.
Sp Sem. Prereq: 2151.01, or 4 cr hrs or 2151.51, or permission of instructor. Not open to
students with credit for 311.01, 511.01, 5 qtr cr hrs or 311.51, or 5 qtr cr hrs of 511.51. This course is
available for EM credit. FL Admis Cond course.
4152.51 Intensive Level Three Chinese-Written: Individualized Track U 1 - 5
Continuation of 2151.51. Progress is sequential from one cr or hr to the next with a
demonstrated proficiency at the level of 80% required for advancement.
Au, Sp, Su Sem. Prereq: 2151.01, or 4 cr hrs or 2151.51, or permission of instructor. Not
open to students with credit for 311 or 511. Repeatable to a maximum of 5 or 5 cr hrs.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.
4193 Individual Studies U 1 - 3
Directed study to meet individual research needs of students in Chinese studies. Not a
substitute for regular language courses.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.
4194 Group Studies U 1 - 3
Group investigation of issues in Chinese studies. Varying topics.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.
4301 Conversational Cantonese for Mandarin Speakers I U 3
A conversational Cantonese language course for speakers of Mandarin, and is open to both
advanced learners and native speakers of Mandarin Chinese. The course develops basic
skills in speaking and listening comprehension for functioning in everyday, Cantonese-
speaking environments. Not open to native speakers of Cantonese, or to students with 2 or
more years of study in Cantonese in high school.
4302 Conversational Cantonese for Mandarin Speakers II U 3
The second semester of conversational Cantonese language for speakers of Mandarin, and is
open to both advanced learners and native speakers of Mandarin Chinese. The course develops
basic skills in speaking and listening comprehension for functioning in everyday, Cantonese-
speaking environments. Not open to native speakers of Cantonese, or to students with 2 or
more years of high school Cantonese.
Prereq: 4301, or equiv knowledge of conversational Cantonese.
4380 The Chinese Language U 3
Important elements of the Chinese language -- its structure, dialects, writing system -- as well
as history of the language, language acquisition, language planning, and language use in
society; taught in English.
Prereq: 1102 or equiv, or permission of instructor. Not open to students with credit for 580.
4381 The Chinese Language and Its History U 3
Examination of the history and development of the Chinese language over the millennia;
topics include language change (sound changes, lexical changes), dialect formation, and
language reform; taught in English.
Prereq: 1102 or equiv, or permission of instructor.
4382 The Chinese Language and Its Script U 3
Examination of the Chinese script, covering its origin, classification, composition, and
development, as well as such topics as standardization, script reform, romanization, and
internet language; taught in English.
Prereq: 1102 or equiv, or permission of instructor.
4401 Chinese Poetry in Translation U 3
Major themes and genres in classical and/or modern Chinese poetry, time period decided by
responsible instructor. Taught in English.
Prereq: Not open to students with credit for 501. GE lit and diversity global studies course.
4402 Traditional Chinese Fiction in Translation U 3
Examines novels and short stories from the Ming and Qing dynasties. Taught in English.
Prereq: Not open to students with credit for 502. GE lit and diversity global studies course.
4403 Modern Chinese Literature in Translation U 3
Chinese fiction and/or drama from the late 19th century to the present. Taught in English.
Prereq: Not open to students with credit for 503. GE lit and diversity global studies course.
4404 Chinese Drama U 3
Representative works of Chinese drama in translation, taught with a focus either on
premodern drama or on modern drama, depending on the instructor's area of interest and
expertise. Taught in English.
Prereq: Not open to students with credit for 504. GE lit and diversity global studies course.
4405 China in Chinese Film U 3
An overview of Chinese cinema, with a focus on how film represents issues of nationhood,
national identity, and national trauma. Taught in English, no Chinese required.
Prereq: English 1110 or equiv. Not open to students with credit for 505. GE VPA and diversity
global studies course.
4406 China Pop: Contemporary Popular Culture and Media in Greater China U 3
Introduces students to contemporary popular culture and media from Greater China,
encouraging independent research and critical discussion of topics covered.
Prereq: Not open to students with credit for 506.
4407 Eco-literature in China U 3
Addresses changing conceptions of the environment in China as expressed in oral and written
literature.
4408 Undergraduate Research Project U 3
Focused research toward completion of an original project.
Prereq: Permission of Instructor. Repeatable to a maximum of 6 cr hrs. This course is graded
S/U.
4499 Undergraduate Research Thesis U 3
Focused research toward completion of an original project.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs.
This course is graded S/U.
4499H Honors Undergraduate Research Project U 3
Focused research toward completion of an original project.
Prereq: Permission of Instructor. Repeatable to a maximum of 6 cr hrs. This course is graded
S/U.
4499H Honors Undergraduate Research Thesis U 3
Focused research toward completion of an original project. This course is graded S/U.
5101.01 Level Four Chinese I: Classroom Track U G 3
Level Four Chinese; continuation of 4102, or 4142 or 4152. Classroom Track.
Au Sem. Prereq: 4152.01; and 4102 or 4142.01 or 4142.02 or 4 cr hrs for 4152.51, or
permission of instructor. Not open to students with credit for 610 and 611.01. This course is
available for EM credit. FL Admis Cond course.
5101.51 Level Four Chinese I: Individualized Track U G 1 - 3
Level Four Chinese; continuation of 4102, or 4142 and 4152. Individualized Track. Progress
is sequential from one hr to the next with a demonstrated proficiency at the level of 80%
required for advancement.
Prereq: 4152.01; and 4102 or 4142.01 or 4142.02 or 4 cr hrs for 4152.51, or written
permission of instructor. Not open to students with credit for 610 or 611.01. Repeatable to
a maximum of 3 cr hrs or 3 completions. This course is available for EM credit. FL Admis Cond
course.
5102.01 Level Four Chinese II: Classroom Track U G 3
Level Four Chinese; continuation of 5101.01.
Sp Sem. Prereq: 5101.01, or 3 cr hrs for 5101.51, or permission of instructor. Not open to
students with credit for 611 or 612.01. This course is available for EM credit. FL Admis Cond
course.
5102.51 Level Four Chinese II: Individualized Track U G 1 - 3
Level Four Chinese; continuation of 5101.01, or 5101.51, or permission of instructor. Not open to
students with credit for 611 or 612.01. This course is available for EM credit. FL Admis Cond
course.
5103.01 Level Four Chinese III: Classroom Track U G 3
Level Four Chinese; continuation of 5102.01, or 5102.51, or permission of instructor. Not open to
students with credit for 615 or 616.01. This course is available for EM credit. FL Admis Cond
course.
5103.51 Level Four Chinese III: Individualized Track U G 1 - 3
Level Four Chinese; continuation of 5102.01, or 5102.51, or permission of instructor. Not open to
students with credit for 615 or 616.01. Repeatable to a maximum of 6 cr hrs or 6 completions. This
course is available for EM credit. FL Admis Cond course.
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7385 Chinese Dialects G 3
Investigation of the linguistic structures of major Chinese dialects from a cross-dialectal, comparative approach, related topics in multilingualism, language planning, language contact, code-switching, vernacular literacy and dialect-writing. Prereq: 6380; or permission of instructor.

7386 Chinese Semantics G 3
Introduction to the semantic description and analysis of the Chinese language, including related topics such as Chinese pragmatics and syntax-semantics interface. Prereq: 5380; or permission of instructor.

7461 Modern Chinese Poetry G 3
Lectures and readings covering major poets since 1900. Prereq: 6452; or permission of instructor. Not open to students with credit for 761.

7462 Modern Chinese Prose G 3
Studies of various kinds of prose literature from 1800 to the present. Prereq: 6451, 6452; or permission of instructor. Not open to students with credit for 762.

7463 Modern Chinese Fiction G 3
Introduction to the history of Chinese fiction from the late Qing to 1949. Prereq: 6451, 6452; or permission of instructor. Not open to students with credit for 763.

7464 Modern Chinese Drama G 3
Lectures on and readings in works by major playwrights of the 20th and 21st centuries. Prereq: 6452 or permission of instructor. Not open to students with credit for 764.

7465 Literature in Socialist/Postsocialist China G 3
Introduction to the literature, film, and culture of China after 1949. Prereq: 7463; or permission of instructor.

7466 Lu Xun G 3
Readings in the essays, prose poetry, and fiction of Lu Xun. Prereq: 7463; or permission of instructor.

7467 Taiwan Literature G 3
Introduction to the literature of Taiwan from 1900 to the present. Prereq: 6451, 6452, 7463; or permission of instructor.

7468 Chinese Film G 3
Examination of Chinese film history from its beginnings to the present. Prereq: 7463; or permission of the instructor.

7470 Ethnic Literature and Culture in China G 3
Examines poetry, prose, and other cultural expressions related to ethnic minority groups in China. Prereq: 6451, 6452, or 7463; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

7615 Chinese Perspectives on Chinese Civilization G 3
Level seven Chinese. Mainstream Chinese perspectives on major issues in Chinese civilization. Commonly recognized ways to presenting viewpoints and arguments on relevant topics. Chinese only. Prereq: 5104 or equiv. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

7617 Analysis of Contemporary Chinese Media G 3
Level six Chinese. Developing familiarity with major contemporary Chinese media and the ability to analyze chosen topics from a specific medium. Chinese only. Prereq: 5104 or equiv. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

7650 Negotiating in Chinese Culture G 3
Level Seven Chinese. Chinese in spontaneous professional discourse, emphasizing oral presentation based on readings in Chinese business practices and professional negotiation. Prereq: 5104; or permission of instructor. Not open to students with credit for 750. This course is available for EM credit.

7655 Language in China G 3
Level six Chinese. Language issues in China, including language variation, writing systems, minority languages, and Chinese language issues in the information age. Chinese only. Prereq: 5104 or equiv. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

7660 Interpersonal Relations and Professional Networking G 3
Level six Chinese. Exploration of assumptions and expectations motivating behaviors in Chinese and American cultures when developing interpersonal relations and professional networks. Prereq: 5104 or equiv. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

7670 Literary Language in Modern Mandarin G 3
Level seven Chinese. Use of literary Chinese in modern speech and writing. Chinese only. Prereq: 5104 or equiv. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

7671.51 Familiarity with Domain Resources and Research G 5
Level five Chinese. Individualize research with mentor. Development of research topic. Chinese only. Prereq: 5105 or equiv. Not open to students with credit for 771.51. This course is available for EM credit. This course is progress graded.

7672.51 Domain Research and Presentation of a Project G 5
Level six Chinese. Individualize research with mentor. Development of research project. Chinese only. Prereq: 5104 or equiv. Not open to students with credit for 772.51. This course is available for EM credit. This course is progress graded.

8382 Studies in Chinese Historical Phonology G 3
Critical study of the rhyming dictionaries and other historical sources, reconstruction of the phonology of different stages of the Chinese language and their relations to modern Chinese dialects; and topics related to sound change, language contact. Prereq: 7382; or permission of instructor. Not open to students with credit for 882.

8384 Studies in Chinese Historical Syntax G 3
Problems of Chinese historical syntax; grammatical structures of classical Chinese; grammaticalization; syntactic rules found in selected texts from various ancient writings. Prereq: 7384; or permission of instructor. Not open to students with credit for 884.

8471 Traditional Chinese Poetry G 3
Lectures on and readings of ancient poems and songs and the later shi and ci poetry. Prereq: 6451, or 6452; or written permission of instructor. Not open to students with credit for 871.

8472 Traditional Chinese Fiction G 3
Lectures on, readings in, and analysis of classical and vernacular fiction. Prereq: 6451, or 6452; or written permission of instructor. Not open to students with credit for 872.

8473 Traditional Chinese Drama G 3
Lectures on, readings in, and analysis of Yuan, Ming, and Qing drama and/or song traditions. Prereq: 6451, or 6452; or written permission of instructor. Not open to students with credit for 873.

8474 Traditional Chinese Prose G 3
Lectures on, readings in, and analysis of various types of prose. Prereq: 6451, or 6452; or written permission of instructor. Not open to students with credit for 874.

8475 Chinese Literary Criticism G 3
The historical development of Chinese literary theories and literary thought, with concentration on major critics. Prereq: 6451, or 6452; or permission of instructor. Not open to students with credit for 875.

8500 Chinese Bibliography and Research Methods G 3
An introduction to bibliographies and reference works in Chinese Studies; general and specific problems for research. Prereq: Not open to students with credit for 800.

8889 Interdepartmental Seminar G 3
Two or more departments present seminars on subjects of mutual interest; topics to be announced. Prereq: Permission of instructor(s), with permission of dept. Repeatable to a maximum of 9 or hrs or 3 completions.

8897 Departmental Seminar G 1 - 3
Seminar in Chinese literature, linguistics, or pedagogy; topic varies. Prereq: 5111 or 5112; or 6451 or 6452; or permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions.

8996 Research in Chinese: Project G 1 - 3
Research leading to the completion of a project other than a conventional dissertation. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8999 Research in Chinese: Dissertation G 1 - 3
Research leading to the completion of a dissertation. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 8 completions. This course is graded S/U.

1100 CRP Survey U 1
Introduction to the University, the Knowlton School of Architecture and the professions of architecture, city and regional planning, and landscape architecture. Prereq: Not open to students with credit for 1100, 100, Arch 1100 (100), 1100E, 100H, LArch 1100 (100), 1100E, or any survey course. Cross-listed in Arch and LArch.
1100E CRP Survey U 1
Introduction to the University, the Knowlton School of Architecture and the professions of architecture, city and regional planning, and landscape architecture. Honors section. Prereq: Honors standing. Not open to students with credit for 1100 (100), Arch 1100 (100), Arch 1100E, Arch 100H, LArch 1100 (100), LArch 1100E, or any survey course. Cross-listed in Arch and LArch.

2000 Introduction to City and Regional Planning U 3
How transportation, housing, and land use work together to create vibrant cities and regions. Prereq: Not open to students with credit for 310.

2100 Reading the City through History and Law U 3
An intensive investigation of cities’ complex cultures and societal rules and the role of history and law in shaping their development. Prereq: Not open to students with credit for 210 and 350.

2110 Creating Innovative Cities and Regions U 3
Successful cities rely on innovation to keep them forward-moving. Emerging trends and unmet market needs are studied to generate innovative planning solutions. Prereq: Not open to students with credit for 2110H or 110.

2110H Creating Innovative Cities and Regions U 3
Successful cities rely on innovation to keep them forward-moving. Emerging trends and unmet market needs are studied to generate innovative planning solutions. Prereq: Honors standing. Not open to students with credit for 2110 (110).

2200 Sustainable Infrastructure Planning U 3
Beneath the streets is a whole system of infrastructure that requires sustainable planning.

2210 Sustainable Urbanism U 3
Globalization is changing cities, economies, social networks, and the environment. Technological innovation, entrepreneurship, and policy making guides the future of sustainable cities. Prereq: Not open to students with credit for 2210E.

2210E Sustainable Urbanism U 3
Globalization is changing cities, economies, social networks, and the environment. Technological innovation, entrepreneurship, and policy making guides the future of sustainable cities. Prereq: Honors standing. Not open to students with credit for 2210.

2600 Designing Communication for Planning U 4
Graphic tools and techniques used for effective visual communication in planning. Projects focus on creative problem solving to communicate planning to a mass audience.

2700 Technology in Design U 1 - 5
Software tools, information theory, and technology to aid in preparing for the professional planning workplace. Repeatable to a maximum of 20 cr hrs or 4 completions.

2798 Comparative Studies in Planning U 3
Planning issues are global in context. Through direct experience studying globalization, migration, sustainability, and public participation, critically understand planning on a global and community scale. Repeatable to a maximum of 9 cr hrs.

3000 Planning Resilient Environments U 3
Environmental resilience requires a comprehensive planning approach. Through planning techniques and practices, identify practical applications for creating resilient environments. Prereq: Math 1148 (148), or permission of instructor. Not open to students with credit for 745 or 722.

3100 Analyzing the City U 3
Spatial, economic, and demographic tools aid in forecasting the future of cities and regions. These tools serve as a foundation for imagining the future. Prereq: Math 1118 (117) or 1151 (151) or 1131 (131), and CRPlan 3000; or permission of instructor. Not open to students with credit for 3100H (340).

3100H Analyzing the City U 3
Spatial, economic, and demographic tools aid in forecasting the future of cities and regions. These tools serve as a foundation for imagining the future. Prereq: Honors standing, and Math 1118 (117) or 1151 (151) or 1131 (131), and CRPlan 3000; or permission of instructor. Not open to students with credit for 3100 (340).

3194 Group Studies in City and Regional Planning U 1 - 15
Group-based study of city and regional planning topics within the frame of an instructor guided course. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

3200 Place Making U 4
Vibrant public places and sustainable communities are realized when planners visualize and understand spatial relationships at the site, neighborhood and community level. Prereq: 1100 (110), 1100E, 2000 (310), 2110, 2110E, Arch 1100 (100), 1100E, 100H, LArch 1100 (100), or 1100E, or permission of instructor. Not open to students with credit for 3200E or 330.

3200E Place Making U 4
Vibrant public places and sustainable communities are realized when planners visualize and understand spatial relationships at the site, neighborhood and community level. Prereq: Honors standing, and 1100 (110), 1100E, 2000 (310), 2110, 2110E, Arch 1100 (100), 1100E, 100H, LArch 1100 (100), or 1100E; or permission of instructor. Not open to students with credit for 3200 (330).

3300 Planning for and with People U 3
Application of skills and techniques of community participation, emphasizing education, group formation and dynamics, consultation, engagement, and creative change within groups. Prereq: 2000 (310), 2110 (110), or 2110H (110H); or permission of instructor.

3400 Planning for Sustainable Economic Development U 3
Understand the intersection of economics, the environment, and development in order to use planning tools to promote sustainable economic development. Prereq: Econ 2001 (210), 2001H (220), 2001JSH, or ADEcon 2001.

3500 The Socially Just City U 3
Too many cities are split between the haves and the have-nots. Explore how to reduce poverty, increase access to public services, and create a high quality of life for all residents. GE soc sci or poli and diversity soc div in the US course.

3510 Murder by Design U 3
The way cities are designed influences criminal activity. Crime mapping, siting of businesses, and neighborhood design are explored to create saferspaces. Prereq: Jr standing.

3520 Planning Ethics U 1
Planners work in complicated environments that can result in ethical and moral dilemmas. The planning code of ethics provides a framework for decision making. Prereq: Jr standing.

3600 Land Development Planning U 3
Planners shape cities. The land development process requires understanding the impacts of new development and redevelopment in order to reimage more vibrant sites. Prereq: Not open to students with credit for 745 or 780.

3610 Sex and the City U 3
Explores sex in the city, examining spaces, institutions, and policies that influence sex as a land use.

3620 The Underground City U 3
If the surface of the Earth became uninhabitable, people could be forced to live underground to survive. A plan will be conceived and developed in order to perpetuate the human race. Prereq: 3500.

4110 Transportation and Land Use Planning U 3
Communities integrate transportation while promoting economic development and land-use policies to manage growth. Improve the efficiency of travel and contain infrastructure costs. Prereq: 2110 (110), 2110H, 2000, or 310. Not open to students with credit for 774.

4191S Planning Internship U 1
Internship seminar providing students with an opportunity to reflect and learn about career opportunities in city and regional planning. Prereq: Permission of instructor. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

4193 Independent Studies in City and Regional Planning U 1 - 15
Study a specialized topic in city and regional planning with an instructor based on mutual interests. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

4194 Group Studies in City and Regional Planning U 1 - 15
Group-based study of city and regional planning topics within the frame of an instructor guided course. Prereq: Jr or Sr standing. Repeatable to a maximum of 15 cr hrs or 4 completions.

4200 Arts and Entertainment Planning U 3
Planning for arts and entertainment districts, from the neighborhood art studio to entire cities as entertainment destinations.

4430 Workshop in City and Regional Planning U 3
New trends, techniques and processes in planning are generated on a continual basis. This workshop explores the latest advances in planning. Prereq: Jr standing. Not open to students with credit for 780.

4597 The Global Environment in Planning U 3
A review of challenges in developed and developing countries, examining planning issues associated with economic development, social equity, growth and rural development. Prereq: Not open to students with credit for 597. GE cross-disciplinary seminar course.

4700 Urban Transportation Demand Forecasting U 3
Planners forecast traffic demand to relieve congestion and improve the travel experience. Prereq: Math 1118 (118) or 1152 (152). Not open to students with credit for 775.
5200 Metropolitan and Regional Planning U G 3
Cities and towns are becoming increasingly dependent on each other. Progressive approaches to regional planning directly influence the economy and quality of life.
PreReq: Sr or Grad standing. Not open to students with credit for 753.

5300 Airport Planning, Design and Development U G 3
A comprehensive study of airport planning, design and development, the role of the airport and its components as part of the overall air transportation system, the issues related to the planning, design, and development of the airport and its system.
PreReq: Aviatn 3000. Not open to students with credit for Aviation 674. Cross-listed in Aviatn and CivilEn.

5400 Planning for Housing U G 3
Housing - including its uses, meaning, design, and role. The creation of a range of housing to support growth and revitalization of cities and regions.
PreReq: Not open to students with credit for 320, 752, or PubAfS 5400. Cross-listed in PubAfS.

5420 Planning Places with People in Mind U G 3
People experience places in many ways. Design, plan and manage places of different types and scales to create quality experiences for the public.
PreReq: Sr or Grad standing. Not open to students with credit for 732 or 733.

5500 Energy Planning U G 3
Energy makes cities run, from renewable and non-renewable sources. Energy is a driving opportunity and constraint in urban development.
PreReq: Grad standing, or 3000. Not open to students with credit for 720.

5700 Urban Transportation Demand Forecasting U G 3
Introduction and applications for quantitative demand forecasting in urban transportation.
PreReq: Math 1118 or equiv, or Grad standing. Not open to students with credit for 775 or CivilEn 5700 (775). Cross-listed in CivilEn.

5798 Planning Study Abroad U G 1 - 15
Rapid globalization of cities creates new opportunities to explore, investigate and analyze urban development internationally.
Repeatable to a maximum of 15 cr hrs or 2 completions.

5800 Microfinance for Planners U G 1
Why and how microfinance operations have grown to provide financial services to poor and low-income people on a sustainable basis.
PreReq: Jr or Grad standing. This course is graded S/U.

5880 Interdepartmental Seminar U G 1 - 15
Interdepartmental seminar; topics to be announced. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in Arch and LArch.

5890 Workshop in City and Regional Planning U G 1 - 15
Workshop on city and regional planning issues. Repeatable to a maximum of 15 cr hrs or 5 completions.

5900 Food System Planning and the Economy U G 3
Examines the social, environmental and economic costs and benefits of our food production, distribution, and consumption.
PreReq: Not open to students with credit for AEDEcon 5900 or PubAfS 5900. Cross-listed in AEDEcon and PubAfS.

5960 Design Competition U G 1 - 6
Interdisciplinary teams develop design proposals to solve problems in the natural or built environment.
PreReq: Jr, Sr, or Grad standing. Repeatable to a maximum of 9 cr hrs or 3 completions. Cross-listed in Arch and LArch.

6000 Historical Foundations of Planning U G 3
The people, movements, and principles which have shaped contemporary planning practice. Historical successes and failures mean for the future of planning.
PreReq: Grad standing, or permission of instructor. Not open to students with credit for 643.

6010 Innovation in City and Regional Planning U G 3
Successful cities are innovative and forward-thinking. Challenges students to focus on generation of truly innovative ideas to improve cities and regions.
PreReq: Grad standing, or permission of instructor. Not open to students with credit for 742.

6089 Advanced GIS for Professional Planning Practice U G 4
In-depth and hands-on training in GIS applications for city and regional planning.
PreReq: 5001 and Grad standing, or permission of the instructor. Not open to students with credit for 608 or 609.

6100 Participation and Advocacy in Planning U G 3
Planning theories that support the planner's role in engaging and advocating for the public. Skills in public engagement techniques and tools.
PreReq: Grad standing, or permission of instructor. Not open to students with credit for 712.
6191S Professional Development  G  1
Provides successful candidates with a broad but intensive learning experience in various areas of city and regional planning. The program is designed to prepare individuals for professional planning positions.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

6193 Independent Studies in City and Regional Planning  G  1 - 15
Study a specialized topic in City and Regional Planning with an instructor based on mutual interests.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

6194 Group Studies in City and Regional Planning  G  1 - 15
Group-based study of City and Regional Planning topics within the frame of an instructor guided course.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

6200 Graphic Visualization  G  4
Fundamental skills in graphics and graphic technology commonly used in planning, including on-line, print, document, poster, and video layout and design. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 702.

6210 Planning For Effective Communication  G  3
The ability to effectively frame communications for specific audiences is a valuable skill a planner brings to their career. Build finesse in your communication style. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 4980 (810).

6300 Law and Planning I: Land Use  G  3
The impact of law on planning, with an emphasis on the regulation of land use. 
Prereq: Grad standing, or permission of the instructor. Not open to students with credit for 761.

6310 Law and Planning II: Environment and Society  G  3
The role of social and environmental justice and other societal considerations in the establishment of a legal framework in planning. 
Prereq: 6300 (761), and Grad standing; or permission of instructor. Not open to students with credit for 705 or 766.

6320 Seminar in Land Use Policy  G  3
Advanced seminar on topics in land use law and policy. Topics vary.
Prereq: 6300 (761), and Grad standing; or permission of instructor. Not open to students with credit for 867. Repeatable to a maximum of 15 cr hrs.

6350 The Socially Just City  G  3
Poverty reduction, access to public services and improving quality of life are goals to achieving the socially just city. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 3500.

6400 Site Planning and Development  G  4
Effective site planning can lead to the development of a strong community. Learn the design, environmental and infrastructure elements that are needed to generate a feasible development project. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 745.

6410 Planning for Sustainable Development  G  3
Sustainable development is a broad concept; translated into reality through relevant theory and the implementation of key design, policy and project based solutions. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 724.

6420 Infrastructure Planning  G  3
Infrastructure development plans address the planning, budgeting and programming challenges of making cities run. 
Prereq: Grad standing, or permission of instruction. Not open to students with credit for 783.

6430 Urban Design  G  3
Vibrant cities contribute to quality of life, through urban design and urban form. Site analysis, context sensitive design and impacts of design choices are explored. 
Prereq: Grad standing, or permission of the instructor. Not open to students with credit for 731.

6440 Research Methods for Urban Design and Planning  G  3
Behavioral research and evaluation (research design, validity, reliability, data gathering techniques) methods for urban design and planning questions. 
Prereq: Grad standing, or permission of the instructor. Not open to students with credit for 734.

6450 Planning and Evaluating Environments for Human Use  G  3
Introduction to user-oriented facility programming and evaluation for planners and designers; application of methods to specify characteristics of a place required to support user behavior. 
Prereq: Grad standing, or permission of the instructor. Not open to students with credit for 735.

6460 Real Estate Finance for Planners  G  3
Realize plans by understanding the financial mechanisms to fund projects. Explore how public-private partnerships create opportunities for affordable housing, downtown revitalization, and neighborhood improvement. 
Prereq: Grad standing, or permission of instructor.
6998 Research in City and Regional Planning G 1 - 15
Research on city and regional planning issues. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

6999 Research for Thesis in City and Regional Planning G 1 - 12
Research for Thesis in City and Regional Planning. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is progress graded (S/U).

7000 Contemporary Planning Research G 3
Introduction and overview of topics and techniques in planning research. Prereq: Grad standing. Not open to students with credit for 871.01.

7100 City & Regional Planning Theory G 3
Critical inquiry into the dominant theories related to city and regional planning research and practice. Prereq: Grad standing. Not open to students with credit for 864.01.

7110 Development Theory G 3
Critical inquiry into the classic debates and critiques of development theory related to planning research and practice in developing countries. Prereq: Grad standing.

7130 Creative Placemaking I: Building Creative Communities, Economies and Analyses G 3
First in a sequence of two courses that train students to understand how to effectively and efficiently integrate community development, economic development and cultural development.

7131 Creative Placemaking II: Building Capacity, Making Space and Marketing G 3
Second in a sequence of two courses that train students to understand how to effectively and efficiently integrate community development, economic development and cultural development. Prereq: 7130, or permission of instructor.

7132 Creative Placemaking Studio G 1
Studio capstone course for creative placemaking certification. Prereq: 7130 and 7131, or permission of instructor.

7194 Group Studies in City and Regional Planning G 1 - 15
For group-based study of city and regional planning topics within the frame of an instructor guided course. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

7200 Static Optimization Methods in Planning Research G 3
Discussion of Static Optimization techniques used in contemporary planning research. Prereq: Grad standing. Not open to students with credit for 870.01.

7210 Dynamic Optimization Methods in Planning Research G 3
Discussion of Dynamic Optimization techniques used in contemporary planning research. Prereq: Grad Standing. Not open to students with credit for 870.02.

7220 Statistical Methods in Planning Research G 3
Discussion of statistical techniques used in contemporary planning research. Prereq: Grad standing. Not open to students with credit for 870.03.

7230 Foundations of Spatial Models in Planning G 3
Discussion of economic foundations of spatial modeling. Prereq: Grad standing. Not open to students with credit for 881.

7240 Decision Analysis Methods in Planning Research G 3
Discussion of Decision Analysis techniques used in contemporary planning research. Prereq: Grad standing. Not open to students with credit for 834.

7250 Metropolitan and Regional Planning Models G 3
Discussion of modeling techniques used in contemporary metropolitan and regional planning research. Prereq: Grad standing. Not open to students with credit for 753.

7260 Discrete Choice Analysis in Planning G 3
Study of discrete choice models and their applications, model formulation, testing, forecasting, and hands-on experience by estimating discrete choice models with real world data. Prereq: Grad standing.

7270 Environmental and Energy Modeling G 3
Application of related land use, environmental, and energy models to assess the impacts of urban development on the environment. Prereq: Grad standing. Not open to students with credit for 835.

7300 Planning Dissertations and Theses from Start to Finish G 3
Covers the full dissertation/thesis process: topic selection, refinement, proposal development, literature review, methods, data collection/analysis, presenting and publishing, getting a job, life on the job. Prereq: Grad standing. Not open to students with credit for 871.09.

7400 Contemporary Topics in Planning G 3
An examination of current issues in planning from both research and practice points of view. Prereq: Grad standing. Not open to students with credit for 816. Repeatable to a maximum of 15 cr hrs.

7500 Resolving Social Conflict G 3
Multidisciplinary examination of social conflict; its dynamics and negotiated and consensual resolution; offers broad-based framework for diagnosing and managing conflict; applied to legal, environmental, organizational, and geopolitical conflicts. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 750, ENR 750, or BusAdm 750. Cross-listed in ENR and BusMH.

8133 Independent Studies in City and Regional Planning G 1 - 15
Study a specialized topic in City and Regional Planning with an instructor based on mutual interests. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8194 Group Studies in City and Regional Planning G 1 - 15
Group-based study of City and Regional Planning topics within the frame of an instructor guided course. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

8200 Teaching Practicum in City and Regional Planning G 3
A hands on teaching experience in conjunction with a city and regional planning faculty member. Includes syllabus development, course preparation, lecture, discussion experience, and grading review. Prereq: Grad standing. Not open to students with credit for 990.

8300 General Practicum in City and Regional Planning G 3
Supervised field experience in city and regional planning; analysis and critique of field experience. Prereq: Grad standing. Not open to students with credit for 990.

8880 Interdepartmental Seminar G 1 - 15
Interdepartmental seminar related to city and regional planning issues. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

8890 Workshop in City and Regional Planning G 1 - 15
Workshop on city and regional planning issues. Prereq: Grad standing. Not open to students with credit for 780. Repeatable to a maximum of 15 cr hrs or 5 completions.

8988 Research in City and Regional Planning G 1 - 15
Research on city and regional planning topics. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8999 Research for Dissertation in City and Regional Planning G 1 - 15
Research for Doctoral Dissertation Purposes. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

Civil Engineering

2050 Probabilistic Applications and Data Interpretation in Civil and Environmental Engineering U 3
Fundamentals of probability and statistical analysis for applications and data interpretation in Civil and Environmental Engineering design and analysis. Prereq: Enrollment in CivilEn or EnvEng major. Not open to students with credit for 405.

2060 Numerical Analysis Methods for Civil and Environmental Engineering Applications U 4
Implement numerical solution techniques using computer programming in MATLAB and apply them to a variety of problems related to Civil Engineering. Prereq: 2950 (405), and Math 2173, 2177, 2255 (255), or 2415 (415), and enrollment in CivilEn or EnvEng major. Not open to students with credit for 406.

2090 Professional Aspects of Civil and Environmental Engineering U 1
Topics in Civil and Environmental Engineering ethics and practice. Must be taken as soon as possible upon entering the major. Prereq: Enrollment in CivilEn or EnvEng major. Not open to students with credit for 460 or EnvEng 460. Cross-listed in EnvEng.

2193 Individual Studies in Civil Engineering U 1 - 5
Individual conferences, assigned readings, and reports on minor investigations. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

2194 Group Studies in Civil Engineering U 1 - 5
Provides groups of students opportunities to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.
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2410 Introduction to Surveying U 3
An introduction to surveying and geomatics, with an emphasis on basic spatial data collection and construction layout using ground-based measurement techniques. Must be taken as soon as possible upon entering the major. Prereq or concur: 2050 (405), and enrollment in CivilEn major. Not open to students with credit for 400.

2810 Construction Engineering and Management: An Introduction U 3
Basic engineering and management concepts of construction operations of various foundations, concrete, and steel buildings and bridges. Prereq: Enrollment in CivilEn major. Not open to students with credit for 682.

3080 Economic Evaluation and Optimization in Civil and Environmental Engineering U 3
Fundamentals of engineering economics and optimization for civil and environmental engineering planning and design. Prereq or concur: 2060 (406), and enrollment in CivilEn or EnvEng major. Not open to students with credit for 576 or EnvEng 576. Cross-listed in EnvEng.

3130 Fluid Mechanics U 3
An introduction to fluid mechanics; topics include: fluid properties; fluid statics; flow concepts; continuity, energy, and momentum equations; dimensional analysis; basic pipe flow; lab experiments. Prereq or concur: 2050 (405) and MechEng 2030 (430); or enrollment in FABEng major; or permission of department chairperson. Not open to students with credit for 413 or EnvEng 413.

3160 Water Resources Engineering U 3
Pipe systems, introduction to open channel flow, basic hydrology, demographic studies, water supply, and wastewater flows. Prereq: 3130 (413) or EnvEng 413; and CSE 1221 (205) or 1222 (202) or EnGraph 167 or Engr 1221 or 1222 or 1281H or Engineer; and enrollment in CivilEn or EnvEng major. Not open to students with credit for 518 or EnvEng 518.

3310 Structural Engineering Principles U 3
Structural forms and loads, statically determinate structures, and stresses, internal loadings developed, influence lines for statically determinate structures, cables and arches, elastic beam deflections, energy methods. Prereq: MechEng 2020 (420), and enrollment in CivilEn major. Prereq or concur: 2050 (405), or permission of department chair. Not open to students with credit for 431.

3510 Civil Engineering Materials U 3
Composition and Characterization of civil engineering materials - concretes, asphalts, plastics, fiber-reinforced composites; elastic, plastic, visco-elastic, and failure characterization under various environmental and mechanical loading conditions. Prereq or concur: 2050 (405), and MechEng 2020 (420) or 440, and enrollment in CivilEn major; or permission of department chairperson. Not open to students with credit for 451.

3540 Geotechnical Engineering U 3
Properties of natural soil deposits and subsoil exploration; engineering solutions to problems of slope stability, foundation settlement, and earth pressure. Prereq: MechEng 2020 (420) or 2040, and enrollment in CivilEn or EnvEng major. Prereq or concur: 2050 (405), or enrollment in FABEng major, or permission of department chairperson. Not open to students with credit for 554.

3700 Transportation Engineering and Analysis U 3
Introduction to mathematical analysis and design of various transportation engineering topics: scheduled services, sight distance, geometric design, freeway capacity, traffic flow and queueing, signalized intersections. Prereq: 2050 (405), and enrollment in CivilEn major; or permission of department chairperson. Not open to students with credit for 570.

3900.01 Civil Engineering Design Competition: Steel Bridge U 1
Studies in analysis, design, testing, fabrication and construction of steel bridges. Prereq: Jr standing in Engineering, or permission of instructor. Repeatable to a maximum of 2 completions.

3900.02 Civil Engineering Design Competition: Timber Bridge U 1
Studies in analysis, design, test, fabrication, and construction. Prereq: Jr standing in Engineer, or permission of instructor. Repeatable to a maximum of 2 or hrs.

3900.03 Civil Engineering Design Competition: Concrete Canoe U 1
Studies in analysis, design, testing, and construction of concrete canoes. Prereq: Jr standing in Engineering, or permission of instructor. Repeatable to a maximum of 2 or hrs.

4000.01 Civil Engineering Capstone 1 U 2
Part 1 of the two semester course sequence for the culminating design component in the curriculum for students in Civil Engineering. Must be taken in semester preceding 4000.02, with sequence completed as close to graduation as possible. Prereq: Sr standing. Not open to students with credit for CivilEn 660.01.

4000.02 Civil Engineering Capstone 2 U 2
Part 2 of the two semester course sequence for the culminating design component in the curriculum for students in Civil Engineering. Must be taken in semester immediately following 4000.01, with sequence completed as close to graduation as possible. Prereq: 4000.01 (660.01), and Sr standing. Not open to students with credit for 660.02.

4193 Individual Studies in Civil Engineering U 1 - 5
Individual conferences, assigned readings, and reports on minor investigations. Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions. This course is graded S/U.

4194 Group Studies in Civil Engineering U 1 - 5
Provides groups of students opportunities to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions.

4310 Structural Analysis U 3

4320 Structural Steel Design U 3
Design of steel tensile members, compression members, beams, beam-columns, and bolted and welded connections based on AISC Specifications. Design problem solving, introduction to computer-aided design. Prereq: 3310 (431), and enrollment in CivilEn major. Not open to students with credit for 532.

4340 Behavior of Structural Element U 3
Mechanics of beams - symmetrical bending and unsymmetrical bending; shear stresses and shear center for thin flange beams; buckling of columns; pressure vessels and combined loadings. Prereq: 3310 (431). Not open to students with credit for 534.

4350 Reinforced Concrete Design U 3
Analysis and design of reinforced concrete beams, one-way slabs and columns under flexure, shear and axial loads. Prereq: 3310 (431), and enrollment in CivilEn major. Not open to students with credit for 535.

4552 Design and Construction of Flexible Pavements U 3
The design, manufacturing, placement, compaction and maintenance of hot mix asphalt for roadways with coverage on how to determine and specify which mixture to use for a given application. Sustainable roadway design is also covered. Prereq: 3510 (451); and Math 2250 (230), 2415 (415) or 2177. Not open to students with credit for 552.

4998 Undergraduate Research in Civil Engineering U 1 - 5
Opportunity for undergraduate students to conduct research in Civil and Environmental Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions. This course is graded S/U.

4998H Undergraduate Research in Civil Engineering U 1 - 5
Opportunity for undergraduate honors students to conduct research in Civil and Environmental Engineering. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions. This course is graded S/U.

4999 Civil Engineering Research for Thesis U 1 - 5
Supervised research and project work. Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions. This course is graded S/U.

4999H Civil Engineering Research for Thesis U 1 - 5
Supervised research and project work arranged individually for honors students. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions. This course is graded S/U.

5001 Introduction to Geographic Information Systems U 4 G
Introduction to the basic principles of geographic information systems and their use in spatial analysis and information management. Prereq: 2050 (405), and Sr standing; or permission of instructor. Not open to students with credit for 607, GeodSci 607, GeodSci 607, CRPlan 607, GeoSci 607, ENR 607, NatRes 607, or Geog 685. Cross-listed in CRPlan.

5130 Applied Hydrology U 3 G
Hydrologic cycle, meteorology, streamflow, evapotranspiration, hydrographs, runoff relations, runoff hydrographs, groundwater, unit hydrographs, flood routing, frequency and duration studies, and application of hydrologic techniques. Prereq: 3160 (516) or EnvEng 516. Not open to students with credit for 613 or EnvEng 613.

5162 Introduction to Laminated Composite Materials U 3 G
Introduction to anisotropic material behavior and failure assessment of laminated composite materials. Classical lamination theory, beams, plates and shells. Prereq: MechEng 2020 (420) or 2040; or Grad standing in Engineering; or permission of instructor. Not open to students with credit for 662, 762, MechEng 5162, 662, or 762. Cross-listed in MechEng.
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5168 Introduction to the Finite Element Method U G 3
Basic concepts, formulation, and application of finite element techniques for numerical solution of problems of engineering and scientific interest. Prereq: 2060 (406), Math 2568 (568), or MechEng 2560 (250), or equiv; or Grad standing in Engineering or Math. Not open to students with credit for 768, MechEng 5168 (768), or Math 5168. Cross-listed in MechEng and Math.

5194 Group Studies in Civil Engineering U G 1 - 5
Provides groups of students opportunities to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

5220 Open Channel Hydraulics U G 3
Flow classifications, channel properties, energy and momentum principles, critical flow, uniform flow formulas, erodible and nonerodible channel design, and gradually-varied profile computations. Prereq: 3160 (516) or EnvEng 516, and Math 2177, or 2415 and 2568. Not open to students with credit for 722.

5230 Transport Phenomena in Water Resources Engineering U G 3
Study of the mechanisms by which momentum, heat, and mass are transported in fluid systems of interest to water resources engineers. Prereq: 3160 (516) or EnvEng 516, and Math 2173, 2177, 2225 (255), or 2415 (415). Not open to students with credit for 723.

5240 Groundwater Engineering U G 3
The role of groundwater in the hydrologic cycle, water supply, construction, and contamination. Includes principles describing subsurface water movement (porous, saturated, and unsaturated flow). Emphasis on gaining a working knowledge of techniques used in applied engineering practice to estimate groundwater parameters for design purposes. Applications include well design, pumping, and drains. Prereq: 3130, or Grad standing; or permission of instructor. Not open to students with credit for 750.

5300 Airport Planning, Design, and Development U G 3
A comprehensive study of airport planning, design & development, the role of the airport and its components as part of the overall Air Transportation System, and the issues related to the planning, design, and development of the airport and its systems. Prereq: Aviat 3000. Not open to students with credit for Aviation 674. Cross-listed in Aviatn and CRPlan.

5310 Matrix Structural Analysis U G 3
Analysis of frame structures by force and displacement methods using matrices. Prereq: 4310 (531). Not open to students with credit for 735.

5320 Intermediate Structural Steel Design U G 3
Design of bolted and welded building connections; structural behavior in the nonlinear range; plastic analysis and design of steel structures. Prereq: 4310 (531) and 4320 (532). Not open to students with credit for 738.

5350 Intermediate Reinforced Concrete Design U G 3
Analysis and design of reinforced concrete systems and components. Prereq: 4350 (535). Not open to students with credit for 731.

5360 Bridge Engineering U G 3
Types of bridges; aesthetics in bridge design; loads on bridges; selection of bridge type; AASHTO specifications for bridge design; design of steel bridges. Prereq: 4310 (531) and 4320 (532). Not open to students with credit for 736.

5370 Prestressed Concrete Design U G 3
Design applications for prestressed concrete members and structures. Basic concepts to be covered include flexural and shear design, stress analysis, deflections, and prestress losses. Prereq: 4350 (535). Not open to students with credit for 737.

5390 Knowledge-Based Systems in Engineering U G 2
Overview of biologically-inspired computing paradigms including symbolic processing, artificial intelligence, expert systems, machine learning, evolutionary computing/genetic algorithms, and neurocomputing with applications in engineering. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 739.

5410 Engineering Surveying U G 3
Surveying applications for engineering, construction, mining and transportation work. Route surveying and geometric design; topographic site surveys and mapping; earthwork computations. Prereq: 2410, GeoSci 410, or 450, and enrollment in CivilEn major; or permission of instructor. Not open to students with credit for GeoSci 502.

5411 Legal Aspects of Surveying U G 4
History of measurement; development of land survey systems; milestones in technology; Land Surveyor's role; types of land surveys; retracement principles; laws on surveying practices. Prereq: 2410 (400), and enrollment in CivilEn major; or permission of instructor. Not open to students with credit for GeoSci 560 and 561.

5412 Land Boundary & Development Principles U G 4
Analysis of evidence and procedures for boundary location; preparing land boundary descriptions; process of subdividing and platting land. Prereq: 5411, or 560 and 561, and enrollment in CivilEn major; or permission of instructor. Not open to students with credit for GeoSci 561 and 562.

5420 Remote Sensing of Environment U G 3
The energies of the natural and cultural environment, current remote sensing systems and case histories of applications in measuring the environment. Prereq: 2410 (400), or permission of instructor. Not open to students with credit for 603 or 606.

5421 Spatial Analysis Techniques for Civil Engineering U G 3
Principles of spatial analysis techniques for application to civil engineering, particularly in the water resources and geotechnical areas. Prereq: 5001 (607), or permission of instruction. Not open to students with credit for 608.

5422 Terrain Analysis U G 3
Principles and applications of photo pattern analysis, geologic and geomorphologic patterns, terrain studies, and land use suitability and capability mapping. Prereq: 2505 (405), or permission of instructor. Not open to students with credit for 604.

5431 GIS and Cartographic Engineering U G 4
Introduction to GIS and Cartographic Science and Engineering principles emphasizing the technical aspects of spatial information infrastructure, coordinate systems, projections, spatial databases, and cartographic design. Prereq: Enrollment in the Mapping minor or CivilEn major; or Grad standing; or permission of instructor. Not open to students with credit for GeoSci 630.

5441 Introduction to GPS: Theory and Applications U G 3
Introduction to reference systems; fundamentals of GPS design and operation; GPS observables, error analysis and handling; data collection and data processing; interdisciplinary applications of GPS. Prereq: Math 1172 or 1544 (154) or 2153 (254), and Jr standing or above; or Grad standing; or permission of instructor. Not open to students with credit for GeoSci 608.

5461 Geospatial Numerical Analysis U G 4
Application of adjustment techniques to geo-spatial information including but not limited to GPS, Photogrammetry GIS and remote sensing. Prereq: 2410 (400), or Grad standing. Not open to students with credit for GeoSci 650 or 651.

5561 Principles of Soil and Rock Mechanics U G 3
Stress-strain properties of soil and rock. Strength of cohesive and non-cohesive materials under a variety of loads. Settlement and stability analyses of soil and rock slopes in both in-situ and reconstituted materials. Prereq: 3540 (554), or Grad standing. Not open to students with credit for 651 or 653.

5571 Principles of Foundation Analysis and Design U G 3
The forces imposed on the soil and rock that support the foundations of structures will be studied. Structural foundations that account for the behavior of the soil and rock and the interactions between soil and structure will be designed. Comparisons of the performances of different designs will be made and optimal designs identified. Prereq: 5561 (651), or permission of instructor. Not open to students with credit for 751.

5700 Urban Transportation Demand Forecasting U G 3
Introduction and applications of quantitative demand forecasting in urban transportation. Prereq: 3700 (570), or Grad standing in CivilEn, or permission of instructor. Not open to students with credit for 775 or CRPlan 5700 (775). Cross-listed in CRPlan.

5720 Transportation Engineering Data Collection Studies U G 3
Methods of collecting and analyzing transportation data with empirical applications. Prereq: 3700 (570), or Grad standing in CivilEn, or permission of instructor. Not open to students with credit for 872.

5730 Highway Location and Design U G 3
Methods of route location; design standards for highways, interchanges, freeways, and interchanges; discussion of computer methods for highway design. Prereq: 3700 (570), or Grad standing in CivilEn, or permission of instructor. Not open to students with credit for 873.

5740 Design and Operation of Road Traffic Facilities U G 3
Traffic laws and ordinances; operational design of streets, intersections, parking, and terminal facilities, design and operation of traffic control devices. Prereq: 3700 (570), or Grad standing in CivilEn, or permission of instructor. Not open to students with credit for 774.

5750 Instrumentation, Signals, and Control in Transportation U G 3
Applications
An interdisciplinary course bringing together electrical engineering tools and transportation applications. Students gain valuable experience working in teams while learning traffic flow, surveillance and control. Prereq: 3700 (570), or Grad standing in Engineering or Science, or permission of instructor. Not open to students with credit for 675 or ECE 5400 (675). Cross-listed in ECE 5400.
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5760 Network Metrics and Control in Transportation Systems U G 3
Course covers fundamental analysis tools including: time space diagram, queuing theory, traffic flow theory, and further network theory. Includes application to intersection control (signal timing).
Prereq: 3700 (570), or Grad standing in CivEn, or permission of instructor. Not open to students with credit for 776.

5770 Urban Public Transportation U G 3
Urban public transportation service planning, design, and operations with a focus on modeling and analysis for bus and rail modes.
Prereq: 3700 (570), or Grad standing in CivEn, or permission of instructor. Not open to students with credit for 670.

5780 Seminar in Transportation Engineering and Planning U G 1
Speakers from and site visits to transportation agencies, organizations, and companies. Prereq: 3700 (570), or Grad standing in CivEn, or permission of instructor. Repeatable to a maximum of 3 cr hrs.

5810 Construction Safety and Forensics U G 3
Practical aspects of identifying construction and structural problems, construction accidents, mechanisms of failures and accidents, methods of avoidance and forensic engineering.
Prereq: 2810 (682), or permission of instructor. Not open to students with credit for both 683 and 688.

5820 Construction Estimating U G 3
Practical aspect in estimating real construction projects encompassing highway, foundation, buildings, and bridges.
Prereq: 2810 (682), or permission of instructor. Not open to students with credit for 685.

5830 Construction Scheduling U G 3
Practical aspects in identifying construction activities and their relations, establishing visual representation of a project schedule, and computing the completion date of the project.
Prereq: 2810 (682), or permission of instructor. Not open to students with credit for 684.

5840 Construction Contracts and Claims U G 3
Practical aspects of the development and interpretation of contracts and claims focusing on the construction industry.
Prereq: 2810 (682), or permission of instructor. Not open to students with credit for 668.

5860H Sustainable Ancient Constructed Facilities U G 3
Honors course for the construction operations of ancient facilities and the assessment of the sustainability of constructed facilities.
Prereq: Honors standing, and English 1110, or Grad standing.

5880 Civil Engineering Seminar U G 1
Seminar course which presents current research findings on Civil Engineering. Prereq: Jr, Sr, or Grad standing in CivEn, and permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

6193 Individual Studies in Civil Engineering G 1 - 5
Individual conferences, assigned readings, and reports on minor investigations. Topics selected to give the advanced student opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

6194 Group Studies in Civil Engineering G 1 - 5
Provides groups of students opportunities to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

6230 Numerical Models in Water Resources Engineering G 3
Lake, river, and coastal contaminant or heat numerical transport model formulation; averaging; finite difference and finite volume methods; errors, stability; data requirements, verification procedures.
Prereq: 5230. Not open to students with credit for 623.

6451 Introduction to Photogrammetry G 4
Analytical and digital photogrammetry, bundle block adjustment, analytical camera calibration, aerotriangulation, image acquisition systems, GPS controlled aerotriangulation, quality control and network design, DEMs and orthophotography.
Prereq: Not open to students with credit for 725 and 728.

6999 Civil Engineering Research for Thesis G 1 - 15
Research for thesis purposes only.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

7330 Earthquake Engineering G 3
Analysis and design of structures subject to seismic loading; case studies of behavior of structures during earthquakes; design of structures to minimize earthquake damage; earthquake-resistant systems for highrise buildings; vibration control. Prereq: A course in structural dynamics or vibrations, or permission of instructor. Not open to students with credit for 830.

7332 Advanced Behavior and Design of Metal Structures G 3
Torsion, lateral torsional buckling, design of plate girders, building connections, braced and unbraced frames, design of rigid frames, design of composite-steel-concrete floors, highrise and superhighrise buildings, CAD/CAD, design optimization.
Prereq: 5320. Not open to students with credit for 832.

7350 Advanced Reinforced Concrete G 3
Advanced topics in reinforced concrete structural modeling, analysis, design and detailing.
Prereq: 5350. Not open to students with credit for 831.

7432 Advanced Spatial Databases G 4
Introduction to spatial algorithms; spatial data generation; 3-D spatial modeling; spatial indexing; spatial relational operators; normalization and confirmation; and spatial applications.
Prereq: 5001, 5421, 6431, or permission of instructor. Not open to students with credit for 787 or GeodSci 797.

7433 GIS Analysis and Projects G 3
Using GIS and cartography principles to develop spatial analysis functions and to develop and implement a fully functional GIS application system.
Prereq: 5001 or 6431, or permission of instructor. Not open to students with credit for GeodSci 634.

7442 Fundamentals of GPS and Reference Systems G 4
Operational concepts of the Global Positioning System, the theory of positioning with satellites and fundamental concepts of reference frames and systems.
Prereq: 5461, GeodSci 650, or equivalent; or permission of instructor. Not open to students with credit for 607, or GeodSci 650.

7452 Spatial Geometry and Spectral Analysis G 4
Projective Geometry of sensors; surface reflectance models; map generation; spectral analysis as applied in photogrammetry; pattern analysis for feature and object classification in digital photogrammetry.
Prereq: 6451.

7453 Photogrammetric Computer Vision G 3
Fundamental processes of digital photogrammetry. Advanced DEM and orthophoto methods. Extraction of high level features such as lines curves and segments; Matching high level features.
Prereq: 6451.

7461 Advanced Geospatial Numerical Analysis G 3
Advanced geospatial numerical methods, stochastic approaches to solving mathematical equations by highlighting convergence, complexity, conditioning, compression, and orthogonality.
Prereq: 5441, 6431, and 7453. Not open to students with credit for GeodSci 650.

7730 Transportation Demand Modeling G 4
Various applications of demand modeling in transportation, with emphasis on discrete choice demand modeling.
Prereq: 5700, CRPlan 5700, or permission of instructor. Not open to students with credit for 873.

7740 Urban Transportation Network Analysis G 4
Various networks concepts and applications in transportation, with emphasis on equilibrium-based traffic assignment.
Prereq: 5700, CRPlan 5700, or permission of instructor. Not open to students with credit for 874.

7760 Transportation Management Systems G 3
Concepts and methods for the management of unscheduled and scheduled urban transportation systems. Emphasizes network performance and travel demand interactions, and real-time applications.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 878.

7770 Infrastructure Systems Analysis G 3
Presents a systems approach to infrastructure provision and management with a focus on the uncertainty inherent to large-scale and long-lived facilities.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 777.

7780 Graduate Student Seminar in Transportation Engineering and Planning G 1
Students will present their research to one another to gain experience presenting, learn what other students are doing, and provide feedback to one another.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7790 Transportation Practicum G 4
Practical experience and perspective on practice of transportation engineering and planning. Prereq: Grad standing in CivEn and CRPlan Dual M.S. Degree Program, and permission of instructor. Not open to students with credit for 900. This course is graded S/U.

8193 Individual Studies in Civil Engineering G 1 - 5
Individual conferences, assigned readings, and reports on minor investigations. Topics selected to give the advanced student opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.
8194 Group Studies in Civil Engineering G 1 - 5
Provides groups of students opportunities to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

8420 Radiometric Measurements and Modeling G 3
Theory and models used in remote sensing measurements of spectral radiation. Prereq: 5420, or written permission of instructor. Not open to students with credit for 804 or 805.

8421 Integrating Remote Sensing with Engineering Databases G 3
Issues for integrating remote sensing data with digital data sources for use with engineering models. Linkages between remote sensing, digital data sources and formats, and how these can be incorporated into engineering models. Prereq: 5420, or permission of instructor. Not open to students with credit for 808.

8434 Advanced Planetary Mapping and Exploration G 3
Introduction to advanced localization techniques, navigation methodologies and mapping capabilities in Planetary Mapping with the most recent advances in planetary missions. Prereq: 5001 and 6431, or permission of instructor.

8443 Advanced Topics in GPS G 3
Advanced topics in GPS focused on science, engineering and navigation applications of GPS. Positioning algorithms; Remote sensing with GPS; GPS atmospheric studies; GPS integration with other navigation and imaging sensors (digital cameras, LIDAR). Prereq: 7442, 8461, or GeoSci 650, 651, or equivalent; or permission of instructor. Not open to students with credit for GeoSci 816.

8454 Videogrammetry G 3
Optical flow; neural processing; measuring motion field; geometry of motion field; camera motion; rigid and nonrigid body motion; measurements from motion; block adjustment using motion. Prereq: 6451 and 7442.

8462 Advanced Geospatial Sensors and Methods G 4
Technologies, methods and sensors for geospatial information acquisition using land-based, airborne and spaceborn platforms. Methods and techniques of data processing and analysis, error characteristics, sensor calibration and integration. Prereq: 7461 and 8443, or permission of instructor.

8810 Construction Intelligent System and Simulation I G 3
Applications of intelligent system to construction systems and operations. Simulations include mathematics and computer modeling. Knowledge about computer programming recommended. Prereq: 2810 and 5810, or permission of instructor. Not open to students with credit for 881.

8820 Construction Intelligent System and Simulation II G 3
Applications of intelligent system to construction systems and operations. Simulations include mathematics and computer modeling. Knowledge about computer programming recommended. Prereq: 8810, or permission of instructor. Not open to students with credit for 888.

8998 Graduate Research in Civil Engineering G 1 - 15
Graduate level research in Civil Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

8999 Civil Engineering Research for Dissertation G 1 - 15
Research for dissertation purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

1101 Introduction to Classical Literature U 3
Introductory survey of the Greek and Roman achievement in literature and its contribution to Western thought; selected readings in English translation in major authors from Homer to Boethius. GE lit and diversity global studies course.

1101H Introduction to Classical Literature U 3
Introductory survey of the Greek and Roman achievement in literature and its contribution to Western thought; selected readings in English translation in major authors from Homer to Boethius. Prereq: Honors standing, or permission of instructor. GE lit and diversity global studies course.

2010 Classical Background of Scientific Terminology U 3
An introduction to the Greek and Latin roots of modern scientific terminology, especially medical and pharmaceutical terminology. This is an online-based course. In-person sessions include first-day orientation, midterm, and the final exam. Prereq: Not open to students with credit for Classics 210.

2194 Group Studies U 1 - 9
Topics in classical studies. Au, Sp, Su Sems. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

2194H Group Studies U 1 - 9
Topics in classical studies. Au, Sp, Su Sems. Prereq: Honors standing, or permission of department or instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

2201 Classical Civilization: Greece U 3
A survey of ancient Greek civilization, concentrating upon important facets of literature, history, art, and archaeology. Prereq: Not open to students with credit for Classics 224. GE cultures and ideas and diversity global studies course.

2201H Classical Civilization: Greece U 3
A survey of ancient Greek civilization, concentrating upon important facets of literature, history, art, and archaeology. Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for Classics 224H. GE cultures and ideas and diversity global studies course.

2202 Classical Civilization: Rome U 3
A survey of the civilization of ancient Rome, concentrating upon important facets of literature, history, art, and archaeology. Prereq: Not open to students with credit for Classics 225. GE cultures and ideas and diversity global studies course.

2202H Classical Civilization: Rome U 3
A survey of the civilization of ancient Rome, concentrating upon important facets of literature, history, art, and archaeology. Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for Classics 222 or Classics 225H. GE cultures and ideas and diversity global studies course.

2204 Medicine in the Ancient World U 3
An introduction to the theory and practice of medicine in ancient Greece and Rome. Prereq: Not open to students with credit for Classics 239. GE cultures and ideas and diversity global studies course.

2205 Sports and Spectacles in the Ancient World U 3
The history and social role of gymnastic and athletic competition in Greece and Rome. The evolution of their modern revivals. Prereq: Not open to students with credit for Classics 250. GE cultures and ideas course.

2220 Classical Mythology U 3
Personalities and attributes of the Greek and Roman gods and goddesses, their mythology and its influence on Western culture. Prereq: Not open to students with credit for Classics 222. GE lit and diversity global studies course.

2220H Classical Mythology U 3
Personalities and attributes of the Greek and Roman gods and goddesses, their mythology and its influence on Western culture. Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for Classics 222 or Classics 222H. GE lit and diversity global studies course.

2301 Classical Archaeology U 3
Introduction to the principles, methods, and history of archaeological investigation in the ancient Greek and Roman world, illustrated through a selection of major classical sites. Prereq: Not open to students with credit for Classics 240, History 2210 (240 or 306), or HistArt 2301 (306). GE cultures and ideas and historical study and diversity global studies course. Cross-listed in History 2210 and HistArt 2301.

2401 Introduction to the New Testament: History and Literature U 3
Introductory survey of the New Testament writings in translation, including non-canonical sources of the early Christian movement. GE lit course.

2401E Introduction to the New Testament: History and Literature U 3
Introductory survey of the New Testament writings in translation, including non-canonical sources of the early Christian movement. Prereq: Not open to students with credit for 2401. GE lit course.

2526 Constantinople: The Imperial Capital of Byzantium U 3
A survey of Byzantine civilization, focusing on life in the capital, literature, and the court, Orthodox Christianity, and the formation of Medieval Europe. Prereq: Not open to students with credit for 2203 (Classics 226) or MedRen 2526 (226). GE cultures and ideas and diversity global studies course. Cross-listed in MedRen.

2798.02 Byzantium - Constantinople - Istanbul: Crossroads of East and West U 3
Traces the evolution of culture, religion, and power in the eastern Mediterranean, focusing on the reception of classical culture by the Byzantine and Ottoman empires and the modern nations of Turkey and Greece. The class will examine how places endowed with cultural and religious meaning have been appropriated or rejected by their successive owners throughout history.
102 Classics

2890H Honors Seminar: Topics in Ancient Literature and Society
A discussion-oriented exposure to some of the most renowned works of ancient literature and/or ancient cultural issues.
Prereq: Honors standing, or permission of department or instructor. Not open to students with credit for Classics 223H.

3000 From Rome to Europe and Beyond
Survey of the influence Latin as a literary language had on Western cultures from the Middle Ages to the present day. GE cultures and ideas and historical study course.

3100 Topics in Ancient Literature and Culture
In depth analysis of selected topics in ancient literature and culture. Varies. Repeatable to a maximum of 6 cr hrs.

3101 Greek and Roman Epic
Study of Greek and Roman epic based on extensive readings in English translation of works by authors such as Homer, Apollodorus, Virgil and Ovid.
Prereq: Not open to students with credit for Classics 301.

3102 Greek and Roman Drama
Study of Greek and Roman drama based on extensive readings in English translation of the plays of such authors as Sophocles, Euripides, Menander, Plautus, or Seneca.
Prereq: Not open to students with credit for Classics 302.

3103 Comic Spirit in Antiquity
Study of the comic literature of the Greco-Roman world based on extensive readings in English translation drawn from epic, drama, satire, and the novel.
Prereq: Not open to students with credit for Classics 303.

3104 The Ancient Novel: Narrative Fiction in Greece and Rome
Study of the origins and development of the novel in the ancient world.

3202 Slavery in the Greco-Roman World
Study of slavery as an institution and ideology of ancient Greece and Rome, including its importance in the ancient family, economy, and culture. GE culture and ideas and historical study course.

3203 War in Ancient Greek and Roman Literature
Study of ancient warfare as a complex political, social, cultural, and economic process through the lens of Greek and Latin literary texts. GE lit course.

3215 Sex and Gender in the Ancient World
Introductory survey of women, gender, and sexual relations in the ancient Mediterranean world, especially Greece and Rome.
Prereq: Not open to students with credit for Classics 323. GE historical study course.

3401 Ancient Greek Religion
Study of ancient Greek religions, including the beginnings of Christianity.
Prereq: Not open to students with credit for Classics 327. GE literature course.

3402 Ancient Gods Changing Identities
Study of how the ancient Greek gods were represented in art of literature of their own and later historical periods.
Prereq: Not open to students with credit for Classics 325.

3403 The Hero in Classical Mythology
The development and interpretation of the major cycles of classical saga based on extensive readings in Greek and Roman epic and drama.
Prereq: Not open to students with credit for Classics 322.

3404 Magic in the Ancient World
An introduction to the theory and practice of magic in the ancient Mediterranean, how people viewed it, and how it survived in later epochs.
Prereq: Not open to students with credit for 324. GE cultures and ideas and diversity global studies course.

3405 Christians in the Greco-Roman World
The origins and development of Christianity in its historical, social, and cultural context.
Prereq: Not open to students with credit for Classics 325.

3407 Paul and His Influence in Early Christianity
Survey of the life and thought of the apostle Paul in translation, and his influence on the formation of Christianity.
Prereq: Not open to students with credit for Classics 325.

3408 Ancient Roman Religion
Study of religious life and institutions in the Roman Republic and Empire, with due attention to the primary sources, in translation, and their difficulties.
Prereq: Not open to students with credit for Classics 325.

4031 Sacred Texts of the Ancient World
Study of sacred texts from Greece and Rome.

4101 Classical Receptions: Ancient Greece and Rome in the Modern World
Explorations of the reception of ancient culture in the modern world, from creative cultural engagements to comparative political and social topics.

4201 Political Thought and Institutions in the Greco-Roman World
Selected topics concerning the development of ancient political theory.
Prereq: Not open to students with credit for Classics 505.

4204 Greek and Roman Science and Technology
The origins and achievements of Greek and Roman science and technology.
Prereq: Not open to students with credit for Classics 506.

4301 Art of Ancient Greece and Rome
Explores the art of Ancient Greece and the Roman world from the early Bronze Age (c. 3000 BCE) through the era of Constantine (337 CE). While focusing on sculpture, painting and architecture, the approach in this course will also employ the methods of a wide variety of disciplines, including art history, archaeology, anthropology, history, epigraphy and Classical philology.
Prereq: Not open to students with credit for HistArt 4301. Cross-listed in HistArt.

4501 The Good Life: Ancient Ethical Philosophy
Explorations of ancient ethical philosophies, from Socrates to the Hellenistic schools of Epicureanism and Stoicism, including their legacy in later periods.

4597 Nationalism Revisited
Aims at rethinking nationalism by questioning perceived notions of the nation, identity, ethnicity, culture, citizenship and globalization.
Prereq: Jr or Sr standing. Not open to students with credit for 597. GE cross-disciplinary seminar course.

4998 Research
A program of study arranged for each student.
Prereq: Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4998H Honors Research
A program of study arranged for each student.
Prereq: Honors standing, and Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4999 Thesis Research
A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in classics.
Prereq: Jr standing or above, and enrollment in Classics major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.

4999H Honors Thesis Research
A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in classics.
Prereq: Honors standing, Jr standing or above, and Enrollment in Classics Major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.

5051 Latin and the Romance Languages
Examines the socio-historical factors and the linguistic processes that contributed to the formation of the Romance languages and to their divergences. Course taught in English.
Prereq: Equivalent of 1103 in French, Italian, Spanish, Portuguese, Romanian or Latin; or permission of instructor.
Not open to students with credit for French 692, RomLing 5051 (692), or Italian 5051 (692). Cross-listed in Italian and RomLing.

5101 Classical Literature: Theoretical Perspectives and Critical Readings
Introduction to central debates and influential approaches to the study of Classical literature, from ancient literary criticism to modern literary theory.

5194 Group Studies
Topics in classical studies at the upper undergraduate and introductory/intermediate graduate levels.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 27 cr hrs or 9 completions. This course is graded S/U.

5301 Roman Law through the Reign of Justinian
Studies in the origins and development of Roman Law based on original sources in translation.
Prereq: Not open to students with credit for Classics 607.

5302 Studies in Greek or Roman Topography
The topography and archaeology of ancient Athens, Rome, or other sites important to Greco-Roman literature and civilization.
Prereq: Not open to students with credit for Classics 656.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5311</td>
<td>Art and Archaeology of Preclassical Greece</td>
<td>U G 3</td>
<td></td>
<td>Study of the art and archaeology of Ancient Greece from the early Bronze Age (c. 3000 BCE) through the Archaic period (c. 800 BCE). Prereq: HistArt 2001 (201) or 522, or equiv preparation in Classical Studies or Ancient history; or Grad standing. Not open to students with credit for HistArt 5311. Cross-listed in HistArt.</td>
</tr>
<tr>
<td>5312</td>
<td>Art and Archaeology of Classical Greece</td>
<td>U G 3</td>
<td></td>
<td>Study of the art and archaeology of Ancient Greece during the Classical period (c. 800-300 B.C.). Prereq: HistArt 2001 (201) or 2002 (202), or Grad standing; or permission of instructor. Not open to students with credit for HistArt 5312. Cross-listed in HistArt.</td>
</tr>
<tr>
<td>5321</td>
<td>Art and Archaeology of the Hellenistic Mediterranean and Roman Republic</td>
<td>U G 3</td>
<td></td>
<td>Study of the art and archaeology of the Hellenistic Mediterranean, including the Roman Republic. Prereq: HistArt 2001 (201) or 523, or equiv; or Grad standing. Not open to students with credit for HistArt 5321. Cross-listed in HistArt.</td>
</tr>
<tr>
<td>5322</td>
<td>Art and Archaeology of the Roman Empire</td>
<td>U G 3</td>
<td></td>
<td>Study of the art and archaeology of Rome and its empire from the accession of Augustus to the time of Constantine (27 B.C.-338 CE). Prereq: HistArt 2001 (201) or 2002 (202); or Grad standing; or permission of instructor. Not open to students with credit for HistArt 5322. Cross-listed in HistArt.</td>
</tr>
<tr>
<td>5401</td>
<td>Methodologies for the Study of Ancient Religions</td>
<td>U G 3</td>
<td></td>
<td>Introduction to the methodologies and the scholars who have significantly influenced the study of ancient religion. Prereq: Not open to students with credit for NELC 5401. Cross-listed in NELC.</td>
</tr>
<tr>
<td>5402</td>
<td>Jesus and the Gospels</td>
<td>U G 3</td>
<td></td>
<td>Advanced study of the historical Jesus: the origins, development, and functions of gospel traditions in early Christianity. Prereq: Classes 2401, or Grad standing.</td>
</tr>
<tr>
<td>5797</td>
<td>Study at a Foreign Institution</td>
<td>U G 1 - 9</td>
<td></td>
<td>Study at a foreign institution for which the student receives credit from OSU. Prereq: Permission of department chairperson. Repeatable to a maximum of 27 cr hrs or 3 completions. This course is progress graded.</td>
</tr>
<tr>
<td>5798.01</td>
<td>Study Tour: Domestic</td>
<td>U G 3 - 9</td>
<td></td>
<td>Specific content, location, semester(s) of offering, and prerequisites vary. Contact department for details. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>5798.02</td>
<td>Study Tour: Foreign</td>
<td>U G 3 - 9</td>
<td></td>
<td>Specific content, location, semester(s) of offering, and prerequisites vary. Contact department for details. Prereq: Classes 3201.01, 3201.02, or 5302, or permission of department chairperson. Repeatable to a maximum of 27 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>5881</td>
<td>Odysses in the Oculus Rift</td>
<td>U G 3</td>
<td></td>
<td>Team taught with faculty from Dept of Art. Students evaluate intersections of ancient and modern technologies that transform mythical experiences of the future. Use Oculus Rift and other new media technologies to create novel interactions of words, perception and the limits of reality. Create virtual worlds and stories that remix traditional narrative patterns through the technologies of tomorrow. Prereq: Permission of instructor. Not open to students with credit for Art 5881. Cross-listed in Art.</td>
</tr>
<tr>
<td>5890</td>
<td>Workshop</td>
<td>U G 1 - 9</td>
<td></td>
<td>Workshop. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 45 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>6780</td>
<td>History of Philology</td>
<td>G 3</td>
<td></td>
<td>A seminar introducing first-year graduate students to methods, instrument and history of research in ancient studies.</td>
</tr>
<tr>
<td>7881</td>
<td>Interdepartmental Seminar</td>
<td>G 3</td>
<td></td>
<td>Two or more departments organize seminars of common interest on a topic from Greek and/or Roman culture and literature. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>7882</td>
<td>Interdepartmental Studies in the Humanities</td>
<td>G 1 - 3</td>
<td></td>
<td>Two or more departments organize colloquia of common interest on a topic from the ancient world. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7891</td>
<td>Graduate Seminar on Epigraphy</td>
<td>G 3</td>
<td></td>
<td>Graduate research seminar on Greek and/or Latin epigraphy. Prereq: Not open to students with credit for Classics 811.</td>
</tr>
</tbody>
</table>
Lantern Practicum

2223 The practice of journalism as a member of the staff of the Lantern student newspaper and Web news site.
Prereq: 2221 (421 and 422), or permission of instructor. Repeatable to a maximum of 8 or hrs.

Writing for Strategic Communication

2321 Introduction to, and instruction and practice in writing, reporting, and editing for the strategic communication industries.
Prereq: Enrollment in Comm or Journal major. Not open to students with credit for 2221.

Strategic Communication Principles

2331 The role of strategic communication in business, including basic principles of integrated marketing, theory, and ethical standards.
Prereq: Not open to students with credit for 431. GE soc sci indivs and groups course.

Persuasive Communication

2367 Principles of persuasion as reasoned discourse.
Prereq: Soph standing and above, and English 1110 or equiv. Not open to students with credit for 2367H (367H) or 367. GE writing and comm course: level 2.

Persuasive Communication

2367H Principles of persuasion as reasoned discourse.
Prereq: Soph standing and above, and English 1110 (110). Not open to students with credit for Comm 2367 (367). GE writing and comm course: level 2.

Visual Communication Design

2511 The examination of visual symbols, graphics, photographs, art, movies and video, and their impact on society.
Prereq: Enrollment in Comm, Journal or AgrComm major/minor. Not open to students with credit for 311.

Introduction to Communication Technology

2540 Current problems of the technologies markets and policies of new and developing media.
Prereq: Not open to students with credit for 240.

An Introduction to Health, Environment, Risk & Science Communication

2596 Provides a general introduction to the fields of science, risk, environmental and health communication from multiple perspectives including psychological, social, and cultural.
Students will develop a prototype communication intervention or campaign to address a health, safety, or environmental issue drawing on theories and research covered in the course. GE cross-disciplinary seminar course.

Language, Culture & Communication in Latino Health

2704 Examines how language, culture & communication shape the healthcare experiences of Latinos in the US. Considers the individual & social factors contributing to health inequalities and key theories & techniques for developing health communication interventions. Team-taught with a faculty member in the Department of Spanish & Portuguese.
Prereq: Not open to students with credit for Spanish 2504. GE diversity soc div in the US taught with a faculty member in the Department of Spanish & Portuguese.

Foundations of Survey Research

3149 Introduces students to the principles, techniques and problems involved in conducting survey research.
Prereq: Stat 1350 (135) or 1450 (145), or equiv. Not open to students with credit for 449 or PolitSci 3549 (449).

Communication Research Methods

3160 Overview of major empirical methods in communication research.
Prereq: Stats 135, 145, or equiv. Not open to students with credit for 2160H (460H), 2163 (463), 463, 460, or 663.

Communication Research Methods

3160H Overview of major empirical methods in communication research.
Prereq: Honors standing. Not open to students with credit for 2160 (460), 2163 (463), 463H, 660, or 663.

Communication Industry Research Methods

3163 Overview of major empirical methods in communication industry research.
Prereq: Stats 135, 145, or equiv. Not open to students with credit for 2160H (460H), 2160 (460), 463, 660, or 663.

Evaluation and Usability Testing

3165 Application of electronic research through the design, implementation, and reporting of an online data collection or technology-based project.
Prereq: Stats 135, 145, or equiv. Not open to students with credit for 650.

Interviewing

3169 Theories and practices of mediated and face-to-face question-asking as communicative tools for understanding others' views of events, information, policies, systems, and technologies.
Prereq: Stats 1350 (135), 1450 (145), or equiv. Not open to students with credit for 672.

Freelance Journalism Experience

3199 Practicing journalism as a freelance reporter.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

Explanatory Reporting

3205 Focuses on the process of creating long form journalism that attempts to describe and explain the background, process and consequences of complex policy issues facing contemporary society.
Prereq: Not open to students with credit for 605.

Principles of Civic Journalism

3224 The role of traditional practices of journalism in contributing to citizen apathy and disengagement, as well as what can be done to enhance citizen understanding, learning and active participations in democratic society.
Prereq: Not open to students with credit for 424.

Photojournalism

3225 Practice in journalistic and documentary photography.

Multimedia Journalism

3226 Multimedia journalism, including relevant theories and practices, and hands-on instruction and experience creating an original news-oriented web site.
Prereq: 2221 (421 and 422), or permission of instructor. Not open to students with credit for 426.

Quantitative Reasoning for Journalists

3267 Development of skills for analyzing, evaluating, and reporting news stories with quantitative content.
Prereq: Stat 1350 (135), 1450 (145), or equiv. Not open to students with credit for 500.

Introduction to Organizational Communication

3325 Addresses prior and current approaches to the study of organizational communication.
Prereq: Not open to students with credit for 325.

Communication and Conflict Management

3330 An overview of the communication and conflict literature with emphasis on effective conflict management.
Prereq: Not open to students with credit for 3330H (531H) or 531.

Communication and Conflict Mgmt

3330H An overview of the communication and conflict literature with emphasis on effective conflict management.
Prereq: Honors standing. Not open to students with credit for 3330 (531) or 531H.

Communication and Decision Making

3331 Decision-making as a process; comparisons between interpersonal, bargaining-negotiation contexts, and group organizations; descriptive and prescriptive models of decision-making in small groups and organizations.
Prereq: Not open to students with credit for 631.

Risk Communication

3332 Students will learn how to plan, implement and evaluate a risk communication effort. Message design is an integral part of this class.
Prereq: Not open to students with credit for 632.

Crisis Communication

3333 Managing strategic communication efforts during a crisis.

Strategic Message Design

3334 Message development for marketing communications - strategic communications writing.
Prereq: Enrollment in Comm, Journal, or AgrComm major/minor. Not open to students with credit for 634.

Principles of Environmental Campaigns

3340 A seminar on the principles of strategic communication and campaigns around environmental and risk topics such as green marketing & advertising, environmental advocacy, social marketing, and environmental risk.

Strategic Media Planning

3345 Media planning for students interested in careers in advertising, public relations and other forms of strategic communication.
Prereq: 2331 (431), and enrollment in Journ or Comm major, or permission of instructor. Not open to students with credit for 545.

Crime and the News Media

3402 Study of the nature of news coverage of crime and the criminal justice system, and the implications for individuals, social groups, and society.
Prereq: Not open to students with credit for 602.

Media Law and Ethics

3404 Theory, history, and ethical issues associated with case law and freedom of expression.
Prereq: Not open to students with credit for 3404H, 604, 604H, 607, or 607H.

Media Law and Ethics

3404H Theory, history, and ethical issues associated with case law and freedom of expression.
Prereq: Honors standing. Not open to students with credit for 604, 607, or 607H.

Media Entertainment

3413 Explores speculation, theory, and research regarding effects and appeal of media entertainment, emphasizing emotional reactions.
Prereq: Not open to students with credit for 613.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>3245</td>
<td>Media Management</td>
<td>U 3</td>
<td>Not open to students with credit for 425.</td>
</tr>
<tr>
<td>3440</td>
<td>Mass Communication and Society</td>
<td>U 3</td>
<td>Not open to students with credit for 642.</td>
</tr>
<tr>
<td>3442</td>
<td>Violence in Society and Violence in the Media</td>
<td>U 3</td>
<td>Not open to students with credit for 642.</td>
</tr>
<tr>
<td>3443</td>
<td>Global Media</td>
<td>U 3</td>
<td>Not open to students with credit for 643.</td>
</tr>
<tr>
<td>3444</td>
<td>Advertising and Society</td>
<td>U 3</td>
<td>Not open to students with credit for 644.</td>
</tr>
<tr>
<td>3466</td>
<td>Communication and Popular Culture</td>
<td>U 3</td>
<td>Not open to students with credit for 513.</td>
</tr>
<tr>
<td>3513</td>
<td>Video Games and the Individual</td>
<td>U 3</td>
<td>Not open to students with credit for 666.</td>
</tr>
<tr>
<td>3545</td>
<td>Human-Computer Interaction</td>
<td>U 3</td>
<td>Not open to students with credit for 450.</td>
</tr>
<tr>
<td>3554</td>
<td>Social Implications of Communication Technology</td>
<td>U 3</td>
<td>Not open to students with credit for 654.</td>
</tr>
<tr>
<td>3597.01</td>
<td>International Perspectives on Communication</td>
<td>U 3</td>
<td>Not open to students with credit for 597.</td>
</tr>
<tr>
<td>3597.02</td>
<td>Media and Terrorism</td>
<td>U 3</td>
<td>Not open to students with credit for 597.</td>
</tr>
<tr>
<td>3620</td>
<td>Introduction to Interpersonal Communication</td>
<td>U 3</td>
<td>Not open to students with credit for 320.</td>
</tr>
<tr>
<td>3624</td>
<td>Communication in Personal Relationships</td>
<td>U 3</td>
<td>Not open to students with credit for 320.</td>
</tr>
<tr>
<td>3628</td>
<td>Contemporary Persuasion Theory</td>
<td>U 3</td>
<td>Not open to students with credit for 624.</td>
</tr>
<tr>
<td>3629</td>
<td>Language and Social Interaction</td>
<td>U 3</td>
<td>Not open to students with credit for 629.</td>
</tr>
<tr>
<td>3662</td>
<td>Communication and Gender</td>
<td>U 3</td>
<td>Not open to students with credit for 662.</td>
</tr>
<tr>
<td>3667</td>
<td>Nonverbal Communication</td>
<td>U 3</td>
<td>Not open to students with credit for 435.</td>
</tr>
<tr>
<td>3688</td>
<td>Intercultural Communication</td>
<td>U 3</td>
<td>Not open to students with credit for 368.</td>
</tr>
<tr>
<td>4190</td>
<td>Journalism and Communication Co-Operative Learning Experience</td>
<td>U 0 - 12</td>
<td>Allow students to participate in a full immersion professional experience in a career-related position.</td>
</tr>
<tr>
<td>4191</td>
<td>Internship</td>
<td>U 1 - 3</td>
<td>On-the-job internships in communication practice or research conducted under supervision of an intern coordinator through the undergraduate advising office.</td>
</tr>
<tr>
<td>4193</td>
<td>Individual Studies</td>
<td>U 1 - 3</td>
<td>Students make extensive and significant studies in the field of journalism or communication.</td>
</tr>
<tr>
<td>4194</td>
<td>Group Studies</td>
<td>U 1 - 12</td>
<td>Regular class meetings and group discussion of specified problems. Repeatable.</td>
</tr>
<tr>
<td>4202</td>
<td>Magazine Writing</td>
<td>U 3</td>
<td>Non-fiction writing for magazines, commercial and industrial; emphasis on the non-technical full-length magazine article.</td>
</tr>
<tr>
<td>4221</td>
<td>Enterprise Reporting in Diverse Communities</td>
<td>U 4</td>
<td>A capstone experience devoted to exploring diverse communities, and chronicling their unique issues for mainstream presentation through the use of traditional print and multimedia journalism.</td>
</tr>
<tr>
<td>4340</td>
<td>Science Communication</td>
<td>U 3</td>
<td>Explores the structure, meanings and implications of “science communication” with an emphasis on how values, attitudes, social structure, and communication affect public perceptions of science and technology.</td>
</tr>
<tr>
<td>4340H</td>
<td>Science Communication</td>
<td>U 3</td>
<td>Explores the structure, meanings, and implications of “science communication” with an emphasis on how values, attitudes, social structure, and communication affect public perceptions of science and technology.</td>
</tr>
<tr>
<td>4337</td>
<td>Public Communication Campaigns</td>
<td>U 4</td>
<td>Application of management techniques to public relations; public relations strategy; campaign development.</td>
</tr>
<tr>
<td>4401</td>
<td>Mass Communication and Youth</td>
<td>U 3</td>
<td>Introduction to theories and research on the uses and effects of media on children and adolescents, including discussion of interventions.</td>
</tr>
<tr>
<td>4406</td>
<td>Development of Mass Media in America</td>
<td>U 3</td>
<td>Major currents and trends basic in the shaping of the mass media in the United States.</td>
</tr>
<tr>
<td>4406H</td>
<td>Development of Mass Media in America</td>
<td>U 3</td>
<td>Major currents and trends basic in the shaping of the mass media in the United States.</td>
</tr>
<tr>
<td>4445</td>
<td>Stereotypes in Media</td>
<td>U 3</td>
<td>Expose students to the existence and impact of stereotypes in various forms of media.</td>
</tr>
<tr>
<td>4446</td>
<td>Media Economics</td>
<td>U 3</td>
<td>Familiarizes the student with the basic concepts for understanding the economic operation of media organizations and industries.</td>
</tr>
<tr>
<td>4511</td>
<td>User-Centered Communication Design</td>
<td>U 3</td>
<td>Concepts and principles of user-centered design and application of skills to multimedia design.</td>
</tr>
<tr>
<td>4554</td>
<td>Social Media</td>
<td>U 3</td>
<td>Examination of social media and their impact on social interactions.</td>
</tr>
</tbody>
</table>
Communication

4555  Computer Interface and Human Identity  U  3
Surveys computer phenomena such as artificial intelligence, agents, avatars, virtual worlds, and humanoid robots, and identities such as humanness, race, gender and sexuality. Prereq: Not open to students with credit for 655.

4556  Information Technology and Organizational Communication  U  3
Focus on the role of various technologies within organizations and for work team members. Prereq: Not open to students with credit for 656.

4557  Communication Networks  U  3
Introduction to the concepts and principles that underlie contemporary telecommunication networks with the opportunity to apply these concepts to the analysis of novel systems. Prereq: 2540 (240). Not open to students with credit for 657.

4600  Communication and Emotion  U  3
An examination of affect and methods of measuring and manipulating affect in interpersonal and mass mediated contexts.

4635  Small Group Communication  U  3
Examination of selected topics in small group communication such as: communication in decision making, conflict management, effective small group practice, current small group communication concepts and research, use of communication technologies. Prereq: Not open to students with credit for 635.

4665  Communication and Community  U  3
Addresses the role of communication in the establishment, maintenance, and decline of communities. Prereq: Not open to students with credit for 665.

4668  Issues in Intercultural Communication  U  3
An examination of insights provided by recent communication theories about the challenges and difficulties resulting when people of different cultures interact. Prereq: Not open to students with credit for 668.

4736  Health Communication in Interpersonal Contexts  U  3
Study of communication relevant to health care in various face-to-face contexts. Prereq: Not open to students with credit for 636.01.

4737  Health Communication in Mass Mediated Contexts  U  3
Overview of theory and research related to the role of mass media as they affect the public's health behavior. Prereq: Not open to students with credit for 636.02.

4738  Health Communication and New Media  U  3
Focuses on the current and future uses of technology in health communication with an emphasis on technology in both patient-provider relationships and health campaigns. Prereq: Not open to students with credit for 638.

4797  Study at a Foreign Institution  U  1 - 12
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of department chair. Repeatable to a maximum of 36 cr hrs or 36 completions. This course is progress graded.

4798.01  Domestic Study Tour  U  1 - 12
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions.

4798.02  Foreign Study Tour  U  6 - 12
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 4 completions.

4814  Political Communication  U  3
Analysis of the roles played by the mass media, public leaders, and accidental circumstances in the development of issues and images in contemporary American political communication. Prereq: Enrollment in Comm or Journal major, or permission of instructor. Not open to students with credit for 614.

4820  Public Opinion and Communication  U  3
Investigation of public opinion from social, political, and psychological perspectives, and study of the role communication (including the media) plays in the process. Prereq: Not open to students with credit for 620 or 620H.

4820H  Public Opinion and Communication  U  3
Investigation of public opinion from social, political, and psychological perspectives, and study of the role communication (including the media) plays in the process. Prereq: Honors standing. Not open to students with credit for 620H or 620.

4853.01  New Media and Democracy  U  3
Designed to explore political uses of the Web and their impacts on political communication processes. Prereq: Not open to students with credit for 653.

4853.02  Media and Social Movements  U  3
Communication technology and its use in social movements. Prereq: Not open to students with credit for 653.

4998  Undergraduate Research  U  1 - 15
Supervised collaborative research in Communication. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 8 completions. This course is graded S/U.

4999  Thesis Research  U  1 - 12
Individualized instruction in an independent research project. Prereq: A grade of A in at least half of all Comm courses taken and an average B in the remainder, and Jr or Sr standing in Journalism or Communication, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

4999H  Honors Thesis Research  U  1 - 12
Individual advising for an honors thesis project. Prereq: Honors and Sr. standing in Comm or Journal and permission of instructor. Not open to students with credit for 783H. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

6500  Introduction to Graduate Study  G  2
An overview of graduate study in Communication. Research and teaching resources, procedures, and expectations, areas of study and faculty interests. Prereq: Grad standing, or permission of instructor. This course is graded S/U.

6611  Statistical Applications in Communication I  G  3
Fundamental principles of statistics commonly used in communication research. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 661.

6701  Working with Communication Data  G  3
Techniques for coding, entering and maintaining data sets in preparation for thesis or other research activities. Includes logical coding, documentation, mapping responses to numerical representations, assessing reliability, merging files, maintaining confidentiality via ID codes and other topics. Prereq: Grad standing.

6760  Communication Research Methods  G  3
An overview of empirical research methods in communication. Prereq: Grad standing. Not open to students with credit for 760.

6763  Qualitative Methodologies for Communication  G  3
Graduate introduction to qualitative methodologies for empirical study of communication phenomena, emphasizing ethnographic participant observation, in-depth interviewing, focus groups, life narratives, text and discourse analysis. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 763.

6806  Contemporary Theories of Communication  G  3
Overview of contemporary approaches to the study of communication. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 806.

6807  Foundations of Communication Theory  G  3
A historical overview of the major theories and research that led to the development of the field of communication. Prereq: 6866 (806) and Grad standing; or permission of instructor. Not open to students with credit for 807.

7110  Introduction to Social Networks  G  3
Focuses on the theoretical and methodological bases of social network analysis. Prereq: Grad standing, and enrollment in Comm or Social program; or permission of instructor. Not open to students with credit for Sociol 7710. Cross-listed in Sociol.

7111  Design Applications in Human Computer Interaction  G  3
Designing sophisticated media environments that integrate multiple media formats; information architecture, user-centered design and usability testing. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 711.

7112  Seminar in Social Networks  G  3
The theory, substance, and methods for understanding patterns, causes, and consequences of relationships among populations of actors. Sociol 6649 and 6581 recommended. Prereq: Grad standing, and enrollment in Comm or Social program; or permission of instructor. Not open to students with credit for Sociol 7712. Cross-listed in Sociol.

7113  Political Communication  G  3
A graduate-level examination of the role of communication in American politics, acquainting the student with the literature on political communication and stimulating ideas for original research in the field of political communication. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 713. Cross-listed in Polisci 7168.

7789  Survey Research Practicum  G  3
Hands-on applications for students interested in the planning, implementation and analysis of a scientific sample survey. Prereq: Admission to grad survey research, or permission of instructor. Not open to students with credit for 7789 or 789 in Econ, Polisci, Stat, ADEEcon, AgrEcon, BusMgmt, EduPL, Geog, Psych, PubHlth, or PubAfrs. Cross-listed in Polisci, Econ, and Stat.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>7790</td>
<td>Statistical Applications in Communication II</td>
<td>G 3</td>
<td></td>
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<tr>
<td>7802</td>
<td>Narrative and Communication</td>
<td>G 3</td>
<td></td>
</tr>
<tr>
<td>7805</td>
<td>Communication Law and Policy</td>
<td>G 3</td>
<td></td>
</tr>
<tr>
<td>7813</td>
<td>Public Opinion and Communication</td>
<td>G 3</td>
<td></td>
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<tr>
<td>7820</td>
<td>Foundations of Interpersonal Communication</td>
<td>G 3</td>
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<tr>
<td>7830</td>
<td>Foundations of Organizational Communication</td>
<td>G 3</td>
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<tr>
<td>7840</td>
<td>Mass Communication and the Individual</td>
<td>G 3</td>
<td></td>
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<tr>
<td>7841</td>
<td>Mass Communication and the Social System</td>
<td>G 3</td>
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<tr>
<td>7850</td>
<td>Communication Technology</td>
<td>G 3</td>
<td></td>
</tr>
<tr>
<td>7860</td>
<td>Language and Social Interaction</td>
<td>G 3</td>
<td></td>
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<tr>
<td>7870</td>
<td>Media, Campaigns and Health</td>
<td>G 3</td>
<td></td>
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<tr>
<td>7871</td>
<td>Health Communication in Interpersonal Settings</td>
<td>G 3</td>
<td></td>
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<tr>
<td>7890</td>
<td>Colloquium</td>
<td>G 1</td>
<td></td>
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<tr>
<td>7927</td>
<td>Theory Construction</td>
<td>G 3</td>
<td></td>
</tr>
<tr>
<td>7950</td>
<td>Communication and Diversity</td>
<td>G 3</td>
<td></td>
</tr>
<tr>
<td>7998</td>
<td>Directed Research</td>
<td>G 1 - 3</td>
<td></td>
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<tr>
<td>7999</td>
<td>Thesis Research</td>
<td>G 1 - 12</td>
<td></td>
</tr>
<tr>
<td>8193</td>
<td>Directed Reading</td>
<td>G 1 - 3</td>
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</tr>
<tr>
<td>8801</td>
<td>Special Topics in Communication Research Methods</td>
<td>G 3</td>
<td></td>
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<tr>
<td>8930</td>
<td>Special Topics in Interpersonal Communication</td>
<td>G 3</td>
<td></td>
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<tr>
<td>8940</td>
<td>Special Topics in Mass Communication</td>
<td>G 3</td>
<td></td>
</tr>
<tr>
<td>8970</td>
<td>Special Topics in Communication</td>
<td>G 3</td>
<td></td>
</tr>
<tr>
<td>8999</td>
<td>Dissertation Research</td>
<td>G 1 - 6</td>
<td></td>
</tr>
<tr>
<td>1100</td>
<td>Exploring Agricultural Communication, Education, and Leadership</td>
<td>U ½</td>
<td>Basic understanding of global trends within agricultural communication, agricultural education, and community leadership, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.</td>
</tr>
<tr>
<td>2189</td>
<td>Early Experience in Community and Extension Education</td>
<td>U 1</td>
<td>The early experience program is designed to help students explore careers and gain experience in Community and Extension Education. Prereq: Not open to students with credit for AEE 280.</td>
</tr>
<tr>
<td>2193</td>
<td>Individual Studies</td>
<td>U 1 - 3</td>
<td>Planning, conducting, and reporting a special study appropriate to the needs of the student. Prereq: CPHR 2.50 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is progress graded (S/U).</td>
</tr>
<tr>
<td>2194</td>
<td>Group Studies</td>
<td>U 1 - 5</td>
<td>Group studies for students in specialized programs. Repeatable to a maximum of 10 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>2530</td>
<td>Introduction to Agricultural Communication, Education, and Leadership</td>
<td>U 2</td>
<td>Creating an awareness and understanding of the agricultural communication, education and leadership profession. The class will provide a basis for educating, communicating, and leading by synthesizing theoretical knowledge with practical application. Prereq: Not open to students with credit for AEE 230 or AgrComm 200.</td>
</tr>
<tr>
<td>2530E</td>
<td>Introduction to Agricultural Communication, Education, and Leadership</td>
<td>U 2</td>
<td>Creating an awareness and understanding of the agricultural communication, education and leadership profession. Provides a basis for educating, communicating, and leading by synthesizing theoretical knowledge and practical application. Prereq: Honors standing.</td>
</tr>
<tr>
<td>3330</td>
<td>Program Development and Evaluation</td>
<td>U 3</td>
<td>Introductory skills necessary to develop, deliver, and evaluate educational programs. Students will examine the principles, methods, and models of program development and evaluation.</td>
</tr>
<tr>
<td>3530</td>
<td>Foundations of Personal and Professional Leadership</td>
<td>U 3</td>
<td>Leadership theories, principles, and concepts. Research-based theories, methods of social scientific inquiry, individual strengths, personal leadership philosophy and vision, concepts of diversity and ethics, and professional development plan. Prereq: Not open to students with credit for AEE 342.</td>
</tr>
<tr>
<td>3530E</td>
<td>Foundations of Personal and Professional Leadership</td>
<td>U 3</td>
<td>Leadership theories, principles, and concepts. Research-based theories, methods of social scientific inquiry, individual strengths, personal leadership philosophy and vision, concepts of diversity and ethics, and professional development plan. Prereq: Honors standing. Not open to students with credit for AEE 342.</td>
</tr>
<tr>
<td>3555</td>
<td>Toward Cultural Proficiency</td>
<td>U 3</td>
<td>Learner effectiveness in multicultural, multiracial learning environments. Strategies for obtaining insight into learners from varied cultures. Theory will connect practice through service-learning using cognitive, affective and psychomotor domains. Prereq: Not open to students with credit for AEE 594. GE cultures and ideas and diversity soc div in the US courses.</td>
</tr>
<tr>
<td>3557</td>
<td>Data Analysis in the Applied Sciences</td>
<td>U 3</td>
<td>The purpose of this course is to develop an overview and basic understanding of descriptive and inferential statistics. Prereq: Math 1130 (130) or 1148 (148). Not open to students with credit for AEE 387. GE data only course. MA Admis Cond course.</td>
</tr>
</tbody>
</table>
Community Leadership

4191 Internship in Community Leadership  U  1 - 2
Provides students in the Community Leadership program with an experiential learning opportunity to practice and apply knowledge and skills learned in an authentic setting. Open to Community Leadership Majors with a Leadership Specialization. Prereq: Enrollment in ComLdr major with Leadership Specialization, and permission of instructor. Not open to students with credit for AEE 489. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

4194 Group Studies in Community Leadership  U  1 - 3
Specialized topics in leadership or community and extension education. Repeatable to a maximum of 10 cr hrs or 5 completions.

4430 Leadership in Teams and Community Organizations  U  3
Principles and strategies involved in leading teams and community organizations. Students will examine leadership dynamics in small groups and reflect on applications in various settings. Team service project with student or community organization. Prereq: Not open to students with credit for AEE 442.

4480 Capstone in Leadership  U  3 - 4
Application of leadership theories, principles, concepts, and skills in a setting aligned with the student's academic and/or career interests. Students will plan, conduct, reflect, and report the project in conjunction with a faculty supervisor. Prereq: Permission of instructor. This course is graded S/U.

4530 Senior Transition from College  U  3
Designed to serve as a "transition" course for seniors at The Ohio State University, preparing them for their first professional position. Students will synthesize their knowledge and skills developed while at OSU and learn how transition those talents into practical application. Prereq: Sr standing.

4998 Undergraduate Research  U  1 - 10
Conducting and reporting an undergraduate research project. Prereq: Permission of instructor. This course is graded S/U.

4999 Research with Distinction  U  1 - 6
Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman Undergraduate Research Forum. Prereq: GPA 3.0 or above, and GPA 3.0 or above in major, and permission of project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

4999H Research with Distinction - Honors  U  1 - 6
Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the University's Denman Undergraduate Research Forum. Prereq: Honors standing, and FAES 4200H (500.0H), and CPRH 3.4 or above, and GPA 3.4 or above in major, and permission of honors project supervisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5193 Individual Studies in Community Leadership  U G  1 - 3
Planning, conducting and reporting a special study appropriate to the needs of the student. Prereq: CPRH 2.50 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5194 Group Studies in Community Leadership  U G  1 - 3
Group studies for student in specialized programs. Repeatable to a maximum of 10 cr hrs or 5 completions.

5330 Methods of Teaching in Nonformal Learning Environments  U G  3
Examining the teaching and learning process with emphasis on planning and delivering agricultural instruction for agribusiness, extension, and non-formal learning environments.

5335 Volunteer and Human Resource Management  U G  3
Introductory skills in volunteer and human resource management for working in educational and non-profit organizations with paid and unpaid staff. Examination of principles, methods, and models and application with case studies. Prereq: Not open to students with credit for AEE 795:02.

5350 Youth Organizations and Program Management  U G  4
Introduction to and analysis of youth organizations and youth program management. Theories, principles, and key concepts important for assuming leadership roles in contemporary youth organizations. Prereq: Not open to students with credit for both AEE 642 and 643.

5380 Internship in Community and Extension Education  U G  4
Under the supervision of a Departmental faculty instructor and daily leadership of an experienced Extension educator at the county level, students will enhance their professional and technical competencies in Extension education. Concur: 5381 and 5382.

5381 Capstone in Community and Extension Education  U G  4
The capstone brings together a student's theory and programmatic work during their undergraduate career and applies it to a cohesive pattern that related to applied professional Extension work settings. Concur: 5380 and 5382.

5382 Issues in Community and Extension Education  U G  4
Explore past, current, and potential trends and issues related to Extension programming and apply them to professional settings. Students will learn about contemporary issues and how to use future and strategic planning tools to address the issues. Concur: 5380 and 5381.

5430 Professional Leadership Ethics  U G  3
Discussion of public debates over the ethics and integrity of leadership from recent years. These debates and continued exposure of unethical behaviors by some leaders has spurred new examinations of how those who are responsible to the public. Prereq: Not open to students with credit for AgrComm 600.

Comparative Studies

1100 Intro to the Humanities: Cross-Cultural Perspectives  U  3
Explores the role of literature and the arts in constructing, maintaining, and questioning the values and beliefs of diverse cultures and historical periods; topics vary. Prereq: Not open to students with credit for 1100H (100H) or 100. GE lit and diversity global studies course.

1100H Intro to the Humanities: Cross-Cultural Perspectives  U  3
Explores the role of literature and the arts in constructing, maintaining, and questioning the values and beliefs of diverse cultures and historical periods; topics vary. Prereq: Honors standing. Not open to students with credit for 1100 (100H, 100). GE lit and diversity global studies course.

2101 Literature and Society  U  3
Study of relationships among politics, society, and literature; analysis of social and political elements of literature and film from diverse cultures and historical periods. Prereq: English 1110 (110) or equiv. Not open to students with credit for 2101H (201H, 201). GE lit and diversity global studies course.

2101H Literature and Society  U  3
Study of relationships among politics, society, and literature; analysis of social and political elements of literature and film from diverse cultures and historical periods. Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 2101 (201, 201H). GE lit and diversity global studies course.

2103 Literature and the Self  U  3
Study of relationships between psychology and literature; analysis of psychological concepts and processes as represented in literature and film of diverse cultures and historical periods. Prereq: English 1110 (110) or equiv. Not open to students with credit for 2103H (203H) or 203. GE lit and diversity global studies course.

2103H Literature and the Self  U  3
Study of relationships between psychology and literature; analysis of psychological concepts and processes as represented in literature and film of diverse cultures and historical periods. Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 2103 (203H, 203). GE lit and diversity global studies course.

2104 Literature, Science, and Technology  U  3
Study of relationships among literature, science, and technology; analysis of representations of science and technology in literature and film of diverse cultures and historical periods. Prereq: English 1110 (110) or equiv. Not open to students with credit for 2104H (204H) or 204. GE lit and diversity global studies course.

2105 Literature and Ethnicity  U  3
Study of relationships between literature and ethnicity; analysis of concepts of ethnicity as represented in literature and film of diverse cultures and historical periods. Prereq: English 1110 (110) or equiv. Not open to students with credit for 2105. GE lit and diversity global studies course.

2193 Individual Studies  U  1 - 3
Designed to give students an opportunity for personal study with a member of the faculty. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

2194 Group Studies  U  1 - 3
Designed to give groups of students an opportunity to pursue special studies not otherwise offered. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.
2214 Introduction to Sexuality Studies U 3
Provides an introduction to sexuality studies through an interdisciplinary approach. To apply the
knowledge learned, this course requires a fieldwork component.
Prereq: Not open to students with credit for 214 or EduPAES 214.

2220 Introduction to South Asian Studies U 3
A multi-disciplinary introduction to South Asia’s geographical, political, cultural, and religious
cultures and ideas. Cross-listed in NELC. GE cultures and ideas course.

2221 American Icons U 3
Interdisciplinary methods in American studies; emphasis on the plurality of identities in American
American culture. Cross-listed in NELC. GE cultures and ideas course.

2230 Introduction to World Literature U 3
Analysis of oral and written literatures of diverse cultures and historical periods.
Prereq: English 1110 (110), or equiv. Not open to students with credit for 234, GE cultures and
ideas course.

2231 Introduction to American Studies U 3
Introduction to American studies; history, experiences, and cultural production of Americans of Chinese, Japanese, Korean, South Asian, Filipino, and Southeast Asian
ancestry.
Prereq: English 1110 (110), or equiv. Not open to students with credit for 241, GE cultures and
ideas course.

2232 Introduction to Latino Studies U 3
Introduction to Latino studies; history, politics, and cultural production of Latino communities in
the U.S. and its borderlands.
Prereq: English 1110 (110) or equiv. Not open to students with credit for 242, or Spanish
2242, GE cultures and ideas diversity course in the US course.

2233 Introduction to American Indian Studies U 3
Explores the legal, cultural, historic, and political foundations, experiences, and perspectives
and futures of American Indians in the U.S.
Prereq: English 1110 or equiv. GE cultures and ideas and diversity course.

2234 Introduction to Cultures of Science and Technology U 3
Critical analysis of the multiple relations of science to society, with emphasis on knowledge,
power, authority, values, and ethics.
Prereq: English 1110 (110), or equiv. Not open to students with credit for 2341 (272), GE
society course.

2341 Technology, Science, and Society U 3
Critical analysis of the relations among science, technology, and culture, with particular
emphasis on ethical issues in technology and engineering.
Prereq: English 1110.01 (110.01) or equiv. Not open to students with credit for 2540 (272).

2343 Slavery, Gender, and Race in the Atlantic World U 3
An examination of slavery in Africa and the Western Hemisphere with particular focus on
how it shaped patterns of forced labor, the slave trade, and the development of European colonial societies in the Americas.
Prereq: English 1110 (110), or equiv. Not open to students with credit for 243 or AfrAmAS 243.

2350 Introduction to Folklore U 3
A general study of the field of folklore including basic approaches and a survey of primary
folk materials: folklore, legends, folk songs, ballads, and folk beliefs.
Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for
2350, English 2270 (270), or 2270H. GE cultures and ideas course. Cross-listed in English 2270.

2350H Introduction to Folklore U 3
A general study of the field of folklore including basic approaches and a survey of primary folk
materials: folklore, legends, folk songs, ballads, and folk beliefs.
Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for
2350, English 2270 (270), or 2270H. GE cultures and ideas course. Cross-listed in English 2270H.

2360 Introduction to Comparative Cultural Studies U 3
Introduction to interdisciplinary field of cultural studies; emphasis on relation of cultural
production to power, knowledge, and authority, globally and locally.
Prereq: English 1110 (110) or equiv. Not open to students with credit for 274, GE cultures and
ideas course.

2367.02 U.S. Latino Identity U 3
Latino/a identity in the U.S.; emphasis on Latino/a cultural history and expression and on role
of race, class, gender, and sexuality in identity construction.
Prereq: English 1110 (110) or equiv, and Soph standing. Not open to students with credit for
2367.04 (367.02H). GE writing and comm: level 2 and diversity course.

2367.04 Science and Technology in American Culture U 3
Role of science and technology in contemporary American society; their relationship to human
values; sources of concern about their impact; evaluation of selected issues.
Prereq: English 1110 (110), or equiv, and Soph standing. Not open to students with credit for
2367.04H (367.02H) or 367.02. GE writing and comm: level 2 and cultures and ideas and
diversity course.

2367.04H Science and Technology in American Culture U 3
Role of science and technology in contemporary American society; their relationship to human
values; sources of concern about their impact; evaluation of selected issues.
Prereq: Honors and Soph standing, English 1110 (110) or equiv. Not open to students with credit for
2367.04 (367.02H) or 367.02. GE writing and comm: level 2 and cultures and ideas and
diversity course.

2367.07 Religious Diversity in America U 3
Exploration of the concept of religious freedom and the position of minority religious groups in
American society.
Prereq: English 1110 (110) or equiv and Soph standing. Not open to students with credit for
367.03. GE writing and comm: level 2 and cultures and ideas and diversity course.

2367.08 American Identity in the World U 3
American culture viewed from inside and from the perspective of foreign cultures, as seen in
literature, film, art, music, journalism, folklore, and popular culture.
Prereq: English 1110 (110), or equiv, and Soph standing. Not open to students with credit for
2367.08H (367.01H) or 367.01. GE writing and comm: level 2 and cultures and ideas and
diversity course.

2367.08H American Identity in the World U 3
American culture viewed from inside and from the perspective of foreign cultures, as seen in
literature, film, art, music, journalism, folklore, and popular culture.
Prereq: Honors and Soph standing, and English 1110 (110) or equiv. Not open to students with
credit for 2367.08 (367.01H, 367.01). GE writing and comm: level 2 and cultures and ideas and
diversity course.

2670 Science and Religion U 3
A philosophical examination of the relationship between science and religion; concentration
on issues regarding the creation of the universe and the origins of life.
Prereq: Not open to students with credit for 170 or Philos 2860 (170). GE cultures and ideas
course. Cross-listed in Philos 2860.

2677 Religion and Environmentalism U 3
Examines the complex intersections between religion and environmental movements in North
America, beginning with early contact between Europeans and Native Americans.
Prereq: English 1110 (110) or equiv. Not open to students with credit for 277.

2684 Wilderness in American Culture U 3
Examines representations of nature and wilderness in U.S. culture.
Prereq: English 1110 (110) or equiv. Not open to students with credit for 277.

2689 City and Culture in the U.S. U 3
Interdisciplinary perspectives on the development, accuracy, and influence of popular images and
stereotypes of city and country.
Prereq: English 1110 (110) or equiv. Not open to students with credit for 239.

2798.01 Study Tour: Domestic U 1 - 9
Specific content, location, semester(s) of offering, and prerequisites vary; contact department
office for details. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

2798.02 Study Tour: Foreign U 1 - 9
Specific content, location, semester(s) of offering, and prerequisites vary; contact department
office for details. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

2864H Modernity and Postmodernity: Issues and Ideas U 3
Examination of some of the defining ideas of modern thought and how those ideas have
problematically affected modern life in both developed and developing countries.
Prereq: Honors standing and English 1110 (110) or equiv. Not open to students with credit for
240H or 249. GE lit and diversity global studies course.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3302</td>
<td>Translating Literatures and Cultures</td>
<td>U 3</td>
<td>Introduction to issues and problems inherent to translating literatures and cultures. Prereq: English 1110 (110), or equiv. Not open to students with credit for 3302E (373E) or 373E. GE cultures and ideas and diversity global studies course.</td>
</tr>
<tr>
<td>3302E</td>
<td>Translating Literatures and Cultures</td>
<td>U 3</td>
<td>Introduction to issues and problems inherent to translating literatures and cultures. Prereq: Honors standing, and English 1110 (110), or equiv. Not open to students with credit for 3302 (373) or 373E. GE cultures and ideas and diversity global studies course.</td>
</tr>
<tr>
<td>3360</td>
<td>Introduction to Globalization and Culture</td>
<td>U 3</td>
<td>History and contemporary dimensions of globalization, focusing on period preceding European hegemony, era of European colonialism, period of decolonization, and contemporary contexts. Prereq: Soph standing, or permission of instructor. Not open to students with credit for 357.</td>
</tr>
<tr>
<td>3603</td>
<td>Love in World Literature</td>
<td>U 3</td>
<td>Representations of love in world literature; emphasis on mythological, psychological, and ideological aspects of selected representations in different cultures and time periods. Prereq: English 1110 (110), or equiv. Not open to students with credit for 3603H (301H) or 301. GE lit and diversity global studies course.</td>
</tr>
<tr>
<td>3603H</td>
<td>Love in World Literature</td>
<td>U 3</td>
<td>Representations of love in world literature; emphasis on mythological, psychological, and ideological aspects of selected representations in different cultures and time periods. Prereq: English 1110 (110), or equiv. Not open to students with credit for 3603H (301H) or 301. GE lit and diversity global studies course.</td>
</tr>
<tr>
<td>3604</td>
<td>Women in East Asian and Asian American Literature</td>
<td>U 3</td>
<td>Critical analysis of East Asian and Asian-American women's experience, examining gender and sexual differences in the distribution of political power and discourse. Prereq: English 1110 (110) or equiv. Not open to students with credit for 314 or 3604H (314H). GE lit and diversity global studies course.</td>
</tr>
<tr>
<td>3604H</td>
<td>Women in East Asian and Asian American Literature</td>
<td>U 3</td>
<td>Critical analysis of East Asian and Asian-American women's experience, examining gender and sexual differences in the distribution of political power and discourse. Prereq: English 1110 (110) or equiv. Not open to students with credit for 314 or 3604H (314H). GE lit and diversity global studies course.</td>
</tr>
<tr>
<td>3606</td>
<td>The Quest in World Literature</td>
<td>U 3</td>
<td>Motif of the quest in world literature; physical and mental journeys as metaphors of personal transformation and salvation. Prereq: English 1110 (110) or equiv. Not open to students with credit for 306. GE lit and diversity global studies course.</td>
</tr>
<tr>
<td>3607</td>
<td>Film and Literature as Narrative Art</td>
<td>U 3</td>
<td>Relationships between film and literature; emergence of cinemactic art as a form of representation with emphasis on diverse cultural traditions. Prereq: English 1110 (110) or equiv. Not open to students with credit for 3607H (358H, 358). GE VPA and diversity global studies course.</td>
</tr>
<tr>
<td>3607H</td>
<td>Film and Literature as Narrative Art</td>
<td>U 3</td>
<td>Relationships between film and literature; emergence of cinemactic art as a form of representation with emphasis on diverse cultural traditions. Prereq: Honors standing and English 1110 (110) or equiv. Not open to students with credit for 3607H (358H, 358). GE VPA and diversity global studies course.</td>
</tr>
<tr>
<td>3608</td>
<td>Representations of the Experience of War</td>
<td>U 3</td>
<td>Representations of war in works of literature, religious texts, and film from diverse cultures and time periods. Prereq: English 1110 (110) or equiv. Not open to students with credit for 308. GE lit and diversity global studies course.</td>
</tr>
<tr>
<td>3620</td>
<td>Everyday Life in South Asia</td>
<td>U 3</td>
<td>An examination of everyday life as experienced by members of the culturally diverse population of South Asia. Prereq: English 1110 (110), or equiv. Not open to students with credit for NELC 3620 (380). GE cultures and ideas course. Cross-listed in NELC.</td>
</tr>
<tr>
<td>3645</td>
<td>Cultures of Medicine</td>
<td>U 3</td>
<td>Humanistic, scientific, and clinical perspectives on medical issues; literary uses of medical themes; medicine as art and science. Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 3645H (305). GE cultures and ideas and diversity global studies course.</td>
</tr>
<tr>
<td>3645H</td>
<td>Cultures of Medicine</td>
<td>U 3</td>
<td>Humanistic, scientific, and clinical perspectives on medical issues; literary uses of medical themes; medicine as art and science. Prereq: English 1110 (110) or equiv. Not open to students with credit for 3645H (305). GE cultures and ideas and diversity global studies course.</td>
</tr>
<tr>
<td>3646</td>
<td>Cultures, Natures, Technologies</td>
<td>U 3</td>
<td>Cultural perspectives on issues related to technology, nature, and culture; examines cultural approaches to uses of technology and their relation to natural and human worlds. Prereq: English 1110 (110), or equiv. GE cultures and ideas course.</td>
</tr>
<tr>
<td>3657</td>
<td>Contemporary Folklore in the Arab World</td>
<td>U 3</td>
<td>Study of contemporary folklore of the Arab world, including verbal art, material culture, visual self-presentation, and performance. Prereq: English 1110 (110), or equiv. Not open to students with credit for 377 or Arabic 3301 (377). GE cultures and ideas and diversity global studies course. Cross-listed in Arabic 3301.</td>
</tr>
<tr>
<td>3660</td>
<td>Cultural Studies of American Musics</td>
<td>U 3</td>
<td>Investigation of the social, political, and cultural contexts of the development of popular music in the U.S. Prereq: English 1110 (110) or equiv. Not open to students with credit for 336. GE VPA and diversity soc div in the US course.</td>
</tr>
<tr>
<td>3669</td>
<td>Transnationalism and Culture in the Americas</td>
<td>U 3</td>
<td>Transnationalism as a central feature of cultural and artistic production in the Americas, focusing on the politics of language, race, citizenship, migration, and national belonging. Prereq: English 1110 (110) or equiv. Not open to students with credit for 339. GE cultures and ideas and diversity global studies course.</td>
</tr>
<tr>
<td>3990</td>
<td>Approaches to Comparative Studies</td>
<td>U 3</td>
<td>Introduces comparative studies majors to theoretical tools, methods of investigation, and key concepts in comparative studies research and scholarship. Prereq: English 1110 (110) or equiv. CompStd major, or permission of instructor. Not open to students with credit for 366.</td>
</tr>
<tr>
<td>4191</td>
<td>Research Internship in Comparative Studies</td>
<td>U 1 - 3</td>
<td>Intensive research experience in Comparative Studies; individualized research training; students collaborate closely with faculty member on research project; projects either student-initiated or faculty research. Prereq: English 1110 (110) or equiv. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4193</td>
<td>Individual Studies</td>
<td>U 1 - 3</td>
<td>Designed to give students an opportunity for personal study with a member of the faculty. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4560</td>
<td>Wexner Center Seminar</td>
<td>U 1 - 3</td>
<td>Seminar offered in conjunction with Wexner Center exhibitions, performance series, media series, or symposia; may be taught by visiting artists, performers, or critics. Prereq: Not open to students with credit for 550, or HistArt 4015 (500). Repeatable to a maximum of 9 cr hrs or 3 completions. Cross-listed in HistArt 4015.</td>
</tr>
<tr>
<td>4564</td>
<td>Topics in Literacy Studies</td>
<td>U 3</td>
<td>Explores how our understanding of literacy and its relationships to ongoing societies, cultures, and social change has been challenged and revised. Reconsiders the &quot;great debates&quot; about literacy—oral vs. written, etc. Prereq: Two courses in CompStd or English at the 2000 (200) or 3000 (300) level, or permission of instructor. Not open to students with credit for 4564 (585.01) and English 4584 (585.01). Repeatable to a maximum of 6 cr hrs. Cross-listed in English 4584.</td>
</tr>
<tr>
<td>4565</td>
<td>History of Literacy</td>
<td>U 3</td>
<td>Explores how our understanding of literacy and its relationships to ongoing societies, cultures, and social change has been challenged and revised. Prereq: Two courses in CompStd or English at the 2000 (200), or 3000 (300) level, or permission of instructor. Not open to students with credit for 585.02, English 4585 (585.02), or History 4585 (585). Cross-listed in English 4585 and History 4585.</td>
</tr>
<tr>
<td>4597.01</td>
<td>Global Studies of Science and Technology</td>
<td>U 3</td>
<td>Explores relations among culture, science, and technology in changing global contexts. Previous completion of 2367.02 or 367.02 recommended. Prereq: Completion of a Second Writing course and Natural Science sequence, or permission of instructor. Not open to students with credit for 597.01. GE diversity global studies and cross-disciplinary seminar course.</td>
</tr>
<tr>
<td>4597.02</td>
<td>Global Culture</td>
<td>U 3</td>
<td>Examines contemporary global cultural flows, the concepts useful in analyzing them, and the questions they raise about power and cultural change. Prereq: Completion of Second Writing course. Not open to students with credit for 597.02. GE diversity global studies and cross-disciplinary seminar course.</td>
</tr>
<tr>
<td>4597.03</td>
<td>Global Folklore</td>
<td>U 3</td>
<td>Examines contemporary folklore around the world; introduces students to key concepts in folklore scholarship; focuses on transmission and transformation of cultural knowledge and practice, particularly in situations of conflict or upheaval. Prereq: Completion of a Second Writing course. Not open to students with credit for 597.02. GE diversity global studies and cross-disciplinary seminar course.</td>
</tr>
<tr>
<td>4655</td>
<td>Studies in Ethnography</td>
<td>U 3</td>
<td>Explores the history, theory, and methods of ethnographic study in different contexts (e.g., religious, ethnic, occupational groups). Prereq: English 1110 (110) or equiv. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4658</td>
<td>Folklore of the Americas</td>
<td>U 3</td>
<td>Comparative study of folklore and folk groups of the Americas; topic varies: folk narratives, beliefs, customs, practices of Latino/a, Asian, African, Native, and Anglo cultures. Prereq: English 1110 (110) or equiv. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
</tbody>
</table>
4661 The City and Culture U 3
Introduction to the comparative and cross-cultural study of cities, urban culture, and urbanism. Prereq: One course in CompStd or IntStds, or Grad standing, or permission of instructor. Not open to students with credit for 531 or IntStds 4661 (531). Cross-listed in IntStds.

4685 Comparative Ethnic and American Studies U 3
Examines relationships between interdisciplinary fields of American Studies and Ethnic Studies.

4692 Comparative Social Movements U 3
Comparative and interdisciplinary analysis of social movements and theories about social movement in various global contexts.

4693 Art of Hosting Community Partnerships U 3
Introduces students to modes of participatory action research, critical theories of community involvement, and methods of participatory leadership.

4798.01 Study Tour: Domestic U 1 - 9
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Domestic. Repeatable to a maximum of 9 cr hrs or 3 completions.

4798.02 Study Tour: Foreign U 1 - 9
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Foreign. Repeatable to a maximum of 9 cr hrs or 3 completions.

4803 Studies in Asian American Literature and Culture U 3
Focused study of a topic in Asian American literary and cultural studies. Prereq: English 1110 (110), or equiv. Not open to students with 10 qtr cr hrs in 543 or English 587 or with 6 sem cr hrs in English 4587. Repeatable to a maximum of 6 cr hrs. Cross-listed in English 4587.

4804 Studies in Latino Literature and Culture U 3
Focused study of a topic in Latino/a literary and cultural studies. Prereq: English 1110 (110), or equiv. Not open to students with 10 qtr cr hrs in 544 or 588 or 6 sem cr hrs in English 4588. Repeatable to a maximum of 6 cr hrs. Cross-listed in English 4588.

4805 Literature of the Americas U 3
Examines U.S. ethnic and Latin American literatures, including intercultural contact, exchange, exploitation, transformation. Explores hemispheric literary traditions. Taught in English; option of reading texts in Spanish. Prereq: English 1110 (110) or equiv.

4808 Utopia and Anti-Utopia U 3
Exploration and critique of utopian thinking in different historical and cultural contexts. Prereq: English 1110 (110) or equiv. Not open to students with credit for 508.

4809 The Twentieth-century Novel: Transnational Contexts U 3
Analysis of 20th-century fiction from western and nonwestern traditions: issues include colonialism, post-colonialism, nationalism, capitalism, revolution, migration. Prereq: English 1110 (110). Not open to students with credit for 510.

4822 Native American Identity U 3
Historical and contemporary issues of American Indian identity, primarily in U.S.; focus on American Indian authors, artists, and scholars. Prereq: English 1110 (110) or equiv. Not open to students with credit for 542.

4845 Gender, Sexuality, and Science U 3
Examination of relations between gender and science; topics include gendering of "science" and "nature," biological theories of sexual inequality, feminist critiques of science and technology. Prereq: One course in CompStd or WGSSt, or Grad standing; or permission of instructor. Not open to students with credit for 535 or WGSSt 4845 (535). Cross-listed with WGSSt.

4846 Social Studies of Objects and Networks U 3
Examines the concept of networks and networking in the contemporary world, including analysis of cultural impact of communications technologies; new reproductive technologies; and the production, use, and reuse of consumer goods.

4903 World Literature: Theory and Practice U 3
Discussion of world literatures in theoretical, historical, and cultural contexts, with particular attention to translation, language, nationalism, globalization, and internationalism. Prereq: 2301 (273), 3302 (373), or 3302E (373E). Not open to students with credit for 4903E (573E) or 573.

4903E World Literature: Theory and Practice U 3
Discussion of world literatures in theoretical, historical, and cultural contexts, with particular attention to translation, language, nationalism, globalization, and internationalism. Prereq: Honors standing, and 2301 (273), 3302 (373), or 3302E (373E), or permission of instructor. Not open to students with credit for 4903 (573) or 4903E (573E).

4921 Intersections: Approaches to Race, Gender, Class, and Sexuality U 3
Examines intersections of race, gender, class, and sexuality in various sites within American culture (e.g., legal system, civil rights discourse, social justice movements). Prereq: One course in CompStd, WGSSt, or AfAmASt. Not open to students with credit for 545, AfAmASt 4921 (545), or WGSSt 4921 (545). Cross-listed in AfAmASt and WGSSt.

4990 Senior Seminar in Comparative Studies U 3
Writing seminar based on students' independent research. Prereq: 3990 (398), and 500 or a 4000-level course in CompStd, and Sr standing; or permission of instructor. Not open to students with credit for 598.

4998 Undergraduate Research in Comparative Studies U 1 - 9
Undergraduate research in variable topics; independent study. Prereq: Permission of Instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4998H Honors Undergraduate Research in Comparative Studies U 1 - 9
Undergraduate research in variable topics; independent study. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

5194 Group Studies U 1 - 3
Special topics. Open to both undergraduates and graduate students. Repeatable to a maximum of 9 cr hrs.

5602 Poetry and Politics in the 20th-Century Mediterranean U 3
Exploration of several poets and poetic traditions around the Mediterranean in relation to modern political struggles: resistance to fascism; dilemmas of imperialism and underdevelopment. Prereq: Not open to students with credit for 672 or NELC 5672 (672). Cross-listed in NELC 5672.

5668 Studies in Orality and Literacy U 3
Examination of major theories of writing and of oral composition and transmission, in juxtaposition to case material deriving from a variety of Middle Eastern cultures. Prereq: Not open to students with credit for 648, or NELC 5568 (648). Cross-listed in NELC 5568.

5691 Topics in Comparative Studies U 3
Critical study of selected themes and topics in a comparative and cross-cultural perspective; emphasis on issues of method, critical theory, representation, power, knowledge, and authority. Prereq: Not open to students with maximum qtr cr hrs for 651. Repeatable to a maximum of 12 cr hrs.

5797 Study at a Foreign Institution U 1 - 30
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. This course is Progress (P) graded. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs. Prereq: Permission of department. Repeatable to a maximum of 30 cr hrs. This course is progress graded.

5864 Modernity and Postmodernity: Concepts and Theories U 3
Introduces key issues and concepts defining modernity; focuses on how modernity has shaped recent and contemporary politics and culture; discussions of globalization. Prereq: Not open to students with credit for 660.

5957.01 Comparative Folklore U 3
Comparative study of folklore. Topics vary, e.g., folklore and gender politics; theories of myth; folklore, memory, and history. Prereq: 2350, 2350H, English 2270, or 2270H (270). Not open to students with maximum qtr or cr hrs for 677.01 and 677.02. Repeatable to a maximum of 6 cr hrs.

5957.02 Folklore in Circulation U 3
Study of transmission of culture. Topics vary, e.g., tourists, travelers, tricksters; cultures of waste and recycling; orality and literacy. Prereq: 2350, 2350H, English 2270 (270), or 2270H. Not open to students with maximum qtr or cr hrs for 677.03 and 677.04. Repeatable to a maximum of 6 cr hrs.
112 Comparative Studies

6390 Approaches to Comparative Cultural Studies I  G  3
Introduces students to theoretical tools, methods of investigation, and key concepts integral to research in comparative studies.
Prereq: Grad standing or permission of instructor. Not open to students with credit for 710.

6391 Approaches to Comparative Cultural Studies II  G  3
Continuation of 6390. Discussion of theoretical tools, methods of investigation, and key concepts integral to research in comparative studies.
Prereq: Grad standing or permission of instructor. Not open to students with credit for 711.

6425 Introduction to Latino Studies  G  4
Introduces graduate students to the broad themes, concepts, and questions raised in the interdisciplinary field of Latino/Latina studies.
Prereq: Grad standing, or permission of instructor and approved petition to the Graduate School. Not open to students with credit for 705, ArtsSc 705, or Spanish 6705 (705). Cross-listed in Spanish 6705.

6750.01 Introduction to Graduate Study in Folklore I: The Philology of the Vernacular  G  3
Introduction to the canonical folklore genres and the history of folklore as a discipline. Why and how should we study the vernacular?
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 770.01, English 6751.01 (770.01), or 6751.11. Cross-listed in English 6751.01.

6750.02 Introduction to Graduate Study in Folklore II: Fieldwork and Ethnography of Communication  G  3
Introduction to fieldwork and ethnographic writing in the humanities - interviewing, participant observation, and research ethics. Focus on the ethnography of communication and community representations.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 770.02, 770.03, English 6751.02, 6751.22, 770.02, or 770.03. Cross-listed in English 6751.02.

7193 Individual Studies  G  1 - 9
Designed to give able students an opportunity to pursue special studies not otherwise offered. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

7256 Complex Ethnography  G  3
Critical analysis of relationships among the researcher, object of research, framing knowledge, and political context of ethnographic work.
Prereq: Grad standing or permission of instructor. Not open to students with credit for 706.

7300 Theorizing Genre  G  3
Comparative studies of genre theory and specific genres (e.g., literary, performative, visual) in cultural context.
Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 9 cr hrs.

7301 Theorizing Literature  G  3
Provides an accelerated introduction to literary theory and criticism, surveying significant developments in modern and contemporary literary and cultural studies in global perspective.
Prereq: Cross-listed in NELC.

7320 Theorizing Race and Ethnicity  G  3
Advanced introduction to field of critical race theory; critical analysis of concepts of law in relation to race and ethnicity.
Prereq: Grad standing or permission of instructor. Not open to students with credit for 752.

7340 Theorizing Science and Technology  G  3
Introduction to comparative and cultural studies of science and technology.
Prereq: Grad standing or permission of instructor. Not open to students with credit for 730.

7350.01 Theorizing Folklore I: Tradition and Transmission  G  3
The transmission of cultural forms through time and space across social networks, with special attention to the dynamics of conservation and innovation, reflexivity and habit.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 792 or English 870. Cross-listed in English.

7350.02 Theorizing Folklore II: Ethnography of Performance  G  3
Performance as a heightened mode of communication characteristic of vernacular cultural process, studied in the context of ongoing social interaction.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 792 or English 870. Cross-listed in English.

7350.03 Theorizing Folklore III: Differentiation, Identification, and The Folk  G  3
Cultural form as social marker. "Folklore" and other metacultural concepts in the history of modernity.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 792 or English 870. Cross-listed in English.

7360 Theorizing Culture  G  3
The concept of culture as it has developed over time; emphasis on tension between descriptive and normative approaches.
Prereq: Grad standing or permission of instructor. Not open to students with credit for 716.

7370 Theorizing Religion  G  3
Relationships between religion and other domains in a cross-cultural, comparative framework with attention to theoretical models and particular texts and traditions.
Prereq: Grad standing or permission of instructor. Not open to students with credit for 725.

7380 Theorizing America  G  3
Interdisciplinary study of culture, identity, and representation in the U.S.
Prereq: Grad standing or permission of instructor. Not open to students with credit for 715.

7390 Theorizing Performance  G  3
Advanced introduction to field of performance studies; theory and practice of expressive social behaviors, including theatre, dance, ritual, sports, and embodied practices of everyday life.
Prereq: Grad standing or permission of instructor. Not open to students with credit for 760.

7465 Introduction to Trauma Studies  G  3
Introduction to the interdisciplinary field of trauma studies; collective and individual trauma, memory, narrative.
Prereq: Grad standing, or permission of instructor.

7888 Interdepartmental Studies in the Humanities  G  1 - 3
Two or more departments present colloquia on subjects of mutual interest; topics to be announced.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 10 completions. Cross-listed in German 7888, English 7888.01, and 7888.02.

7997 Writing Seminar  G  1
Writing seminar for Comparative Studies MA students. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

7999 Research in Comparative Studies: Thesis  G  1 - 12
Research for Master's thesis. Repeatable to a maximum of 24 cr hrs. This course is graded S/U.

8193 Individual Studies  G  1 - 9
Designed to give able students an opportunity to pursue special studies not otherwise offered. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

8791 Seminar in Interdisciplinary Theory  G  3
Discussion of interdisciplinary cultural theory. Repeatable to a maximum of 9 cr hrs.

8802 Seminar in Life Narrative  G  3
Investigates modes of autobiographical and biographical writing, performance, representation in media. Focuses on particular theories and texts, varying with course topic. Repeatable to a maximum of 9 cr hrs.

8805 Seminar in Literature in Global Context  G  3
Discussion of literary texts, cultural-political documents, and theoretical discourses in global contexts. Repeatable to a maximum of 15 cr hrs.

8822 Seminar in Race and Citizenship: Formations in Critical Race Theory  G  3
Critical analysis of concepts of law, e.g., a value-free legal code, universality of legal concepts, equitable enforcement; topic varies. Repeatable to a maximum of 9 cr hrs.

8842 Seminar in Science and Medicine  G  3
Explores relationships between science, technology and the health sciences and medical practices; topic varies. Repeatable to a maximum of 15 cr hrs.

8843 Seminar in Technology and Culture  G  3
Explores relationships between science and technology and other areas, including politics, gender and sexuality, popular culture; topic varies. Repeatable to a maximum of 15 cr hrs.

8858 Seminar in Folklore  G  3
Advanced seminar on current or specialized topics in folklore studies. Folklore GIS course. Prereq: Grad standing, or permission of instructor. Not open to students with 9 sem cr hrs of English 8858.01 (can include equiv qtr cr hrs for 870), English 8858.02, or CompSci 8858. Repeatable to a maximum of 9 cr hrs. Cross-listed in English 8858.01.

8865 Seminar in Critical Trauma Theory  G  3
Examines various topics in the growing field of critical trauma theory. Repeatable to a maximum of 9 cr hrs.

8866 Seminar in Culture and Capital  G  3
Exploration of theoretical approaches to relations between cultural and economic production; examines major materialist theories, materialist feminism, and other forms of materialist critique. Repeatable to a maximum of 9 cr hrs.
Computer Science and Engineering

1110 Introduction to Computing Technology
A course of general interest giving experience with personal computer software, e.g., word processors and spreadsheets; provides fundamental computer literacy; neither teaches nor requires programming.

1111 Introduction to Computer-Assisted Problem Solving
Problem solving techniques using productivity software; spreadsheets, formulas, conditional logic, relational databases, relational algebra, word processing, presentation, graphics.

1112 Introduction to Computer-Assisted Problem Solving for Construction Systems Management
Using productivity software, especially spreadsheets and databases, to solve problems for construction management; relational/absolute cell referencing, logic, functions, relational databases, querying, project integration.

1113 Spreadsheet Programming for Business
Spreadsheet modeling/programming concepts and techniques to solve business related problems; efficient/effective data handling, computational analysis and decision support.

1114 Introduction to Databases Using MS Access
Database concepts and techniques for efficient/effective data handling, computational analysis and decision support.

1211 Computational Thinking in Context: Images, Animation, and Games
Introduction to computational thinking, focusing on problem solving and programming concepts and skills needed to manipulate digital images and to create interactive graphics, animations, and games; creativity and imagination encouraged.

1212 Computational Thinking in Context: Mobile Applications
Introduction to computational thinking, focusing on problem solving and programming concepts and skills needed to develop applications for mobile platforms; creativity and imagination encouraged.
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<tr>
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<td>3701</td>
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</table>
Group Studies in Computer Science and Engineering  U  1 - 10
Designed to give the student an opportunity to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

Group Studies in Computer Science and Engineering  U  1 - 10
Designed to give the student an opportunity to pursue special studies not otherwise offered. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

4251 The UNIX Programming Environment  U  1
Introduction to the UNIX programming environment including: shell programming (csh); regular expressions; makefiles; gnu, sed, and awk programming languages. Prereq: 2231 or 321. Not open to students with credit for 459.11. This course is graded S/U.

4252 Programming in C++  U  1
Syntax and pragmatics of C++ programming; C++ types, arrays, classes, pointers; objects and classes; compile-time vs. run-time picture; inheritance; template classes. Prereq: 2231. Not open to students with credit for 459.22. This course is graded S/U.

4253 Programming in C#  U  1
C# programming for students well-versed in programming with another object-oriented language. Prereq: 2231. Not open to students with credit for 459.24. This course is graded S/U.

4254 Programming in Lisp  U  1
Lisp programming for students well-versed in programming with another language. Prereq: 2231. Not open to students with credit for 459.31. This course is graded S/U.

4255 Programming in Perl  U  1
Syntax and pragmatics of Perl programming; Perl mechanisms for text and file processing, scripting, client-server programming, etc.; powerful ways to combine these mechanisms. Prereq: 2231, 2331, and 2421. Not open to students with credit for 459.51. This course is graded S/U. Cross-listed in ISE 5811.

4471 Information Security  U  3
Introduction to security of digital information; threats and attacks; regulations; risk management; attack detection and response; cryptography; forensics; technical training and certifications. Prereq: 2231 and 2321, or 321. Not open to students with credit for 551.

4998 Undergraduate Research in Computer Science and Engineering  U  1 - 10
Opportunity for undergraduate student to conduct research in Computer Science and Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4998H Undergraduate Research in Computer Science and Engineering  U  1 - 10
Opportunity for undergraduate student to conduct research in Computer Science and Engineering. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4999 Computer Science and Engineering Research for Thesis  U  1 - 10
Supervised research and project work arranged individually. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4999H Computer Science and Engineering Research for Thesis  U  1 - 10
Supervised research and project work arranged individually for honors students. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

5022 Software I: Software Components  U  G  3
Intellectual foundations of software engineering; design-by-contract principles; mathematical modeling of software functionality; component-based software from client perspective, layered data representation. Previous programming experience in any language required. Prereq: At least one term of Calculus. Not open to students enrolled in a CSE or CIS major.

5023 Software II: Software Development and Design  U  G  3
Data representation using hashing, search trees, and linked data structures; algorithms for sorting; using trees for language processing; component interface design; best practices in Java. Prereq: 2221 or 5022. Not open to students with credit for 2231, 2331.01, 321, or 421.

5032 Foundations I: Discrete Structures  U  G  2
Propositional and first-order logic; basic proof techniques; graphs, trees; analysis of algorithms; asymptotic analysis; recurrence relations. Prereq: 5022 or equiv. Not open to students with credit for 2321, 625, or 680.

5042 Systems I: Introduction to Low-Level Programming and Computer Organization  U  G  3
Introduction to computer architecture at machine and assembly language level; pointers and addressing; C programming at machine level; computer organization. Prereq: 2122, 2123, 2231 or 321; and 2231, Math 2566, or 366. Not open to students with credit for 2421 or 360.

5043 Overview of Computer Systems For Non-Majors  U  G  3
Introduction to computer architecture and organization at machine and assembly level; pointers and addressing using C programming; introduction to operating system concepts: process, memory management, file system and storage, and multi-threaded programming. Prereq: 5022 or equiv, and 5032 or equiv. Not open to students with credit for 2421, 5042, 2431, 3430, 360, or 860. Not open to CSE/CIS majors.

5052 Survey of Artificial Intelligence for Non-Majors  U  G  3
Survey of the basic concepts and techniques in artificial intelligence, including problem solving; knowledge representation, and machine learning. Prereq: 1211, 1221, 1222, 1223, or 2221, or Grad standing. Not open to students with credit for 3221 (630), 4521, or 5921, or students enrolled in a CSE or CIS major.

5211 Software Engineering Techniques  U  G  2
Software engineering issues, techniques, methodologies and technologies; software lifecycle activities: requirements analysis, architecture, design, testing, deployment, maintenance; project management; enterprise software systems; frameworks. Prereq: 3901 or 3902 or 3903 (560). Not open to students with credit for 3231 (757).

5222 Software Requirements Analysis  U  G  2
Information systems analysis; object-oriented analysis models and tools; use cases, system modeling using UML; requirements specification development; term project. Prereq: 3241 or 3901 or 3902 or 3903 (560) or 5241 (670). Not open to students with credit for 3232 (616).

5234 Distributed Enterprise Computing  U  G  3
Current application and middleware frameworks for distributed enterprise computing; XML; Enterprise Java; SOAP and REST web services; AJAX and JSON; enterprise service bus; Hadoop; mobile computing. Prereq: 2431 or 5431 (660). Not open to students with credit for 769.

5235 Applied Enterprise Architectures and Services  U  G  3
Modeling/analysis of complex enterprise architectures; enterprise patterns (workflow, broker, warehousing); methods for service performance (load, ontologies, data mining, etc.); emerging topics in semantic cyber-infrastructures, social computation. Prereq: 5911 (758 and 762), 5912 (768), 5913 (882), 5914 (731), 5915 (772), or 778.

5236 Mobile Application Development  U  G  3
Mobile application development frameworks; Architecture, design and engineering issues, techniques, methodologies for mobile application development. Prereq: 3901 or 3902 or 3903 (560).

5239 Intermediate Studies in Software Engineering  U  G  2
Intermediate-level topics in software engineering. Repeatable to a maximum of 12 cr hrs.

5241 Introduction to Database Systems  U  G  2
Database systems use; logical design; entity-relationship model; normalization; query languages and SQL; relational algebra and calculus; object relational databases; XML and active databases; database design project. Prereq: 2133 or 2231 or 2331 (314) or 321, and 2321 or Math 2366 (366). Not open to students with credit for 3241 (670).

5242 Advanced Database Management Systems  U  G  3
Transaction management; query processing and optimization; organization of database systems, advanced indexing, multi-dimensional data, similarity-based analysis, performance evaluation, new database applications. Prereq: 3241 or 5241, and 2421 or 5042. Not open to students with credit for 770.

5243 Introduction to Data Mining  U  G  3
Knowledge discovery, data mining, data preprocessing, data transformations; clustering, classification, frequent pattern mining, anomaly detection, graph and network analysis; applications. Prereq: 3241 or 5241, and 2331, 5331, Stat 3301, or ISE 3200. Not open to students with credit for 674.

5245 Introduction to Network Science  U  G  3
Introduction to Network Science; Global and Local Network Measures; PageRank; Community Discovery Algorithms; Network Models; Understanding the role of network classification, frequent pattern mining, anomaly detection, graph and network analysis; etc.; powerful ways to combine these mechanisms. Prereq: 2431, 3430, 360, or 860. Not open to students with credit for 674.
Machine-based and grammatical models of computation; finite automata and regular languages, pushdown automata and context-free languages, Turing machines; non-determinism; Church's Thesis; halting problem.

Prereq: 2331 or 2321, and 2421 or 360, and 2331 or Math 566. Not open to students with credit for 3321 (625).

**5329 Intermediate Studies in Computation Theory**

Intermediate-level topics in computation theory.
Repeatable to a maximum of 12 cr hrs.

**5331 Foundations II: Data Structures and Algorithms**

Design and analysis of algorithms and data structures; divide-and-conquer; sorting and selection, search trees, hashing, graph algorithms, string matching; probabilistic analysis; randomized algorithms; NP-completeness.

Prereq: 2321 or 321, and 2321 or Math 236, and 2566 (566), and Stat 3470 (427). Not open to students with credit for 2331 (680).

**5339 Intermediate Studies in Algorithms**

Intermediate-level topics in algorithms.
Repeatable to a maximum of 12 cr hrs.

**5341 Principles of Programming Languages**

Formal languages and grammars; recursive descent parsing; data types, expressions, control structures, parameter passing; compilers and interpreters; memory management; functional programming principles.

Prereq: 2231, 2331 (680), and 2421, and 3801 (560), 3902, or 3903. Not open to students with credit for 3341 (665).

**5343 Compiler Design and Implementation**

Lexical and syntax analysis using compiler generation tools; type checking; intermediate code; control-flow analysis; dataflow analysis; code optimizations; code generation; compiler project.

Prereq: 3901 (560), 3902, or 3903, and 3341 (665). Not open to students with credit for 756.

**5349 Intermediate Studies in Programming Languages**

Intermediate-level topics in programming languages.
Repeatable to a maximum of 12 cr hrs.

**5351 Introduction to Cryptography**

Foundations of cryptography; mathematical formulations/proofs of security goals; theory and practical constructions of encryption schemes, MACs, digital signatures; zero-knowledge proof systems; cryptographic protocols.

Prereq: 2331 (680), 5331, Math 4573 (573), or 4580 (580), and Stat 3460 (427) or 3470. Not open to students with credit for 723 or 794Q.

**5359 Intermediate Studies in Cryptography**

Intermediate-level topics in cryptography.
Repeatable to a maximum of 12 cr hrs.

**5361 Numerical Methods**


Prereq: 2231 or 321, and 2421 (260) or ECE 2560 (260), and 2000 or 261. Not open to students with credit for 541.

**5421 Introduction to Computer Architecture**

Organization of hardware and software in modern computer systems, including instruction set design, processor control, ALU design, pipelining, multicore and accelerators, and memory subsystem design.

Prereq: 2231 or 321, and 2421 (260) or ECE 2560 (260), and 2000 or 261. Not open to students with credit for 3421 (675.01 or 675.02).

**5429 Intermediate Studies in Computer Architecture**

Intermediate-level topics in computer architecture.
Repeatable to a maximum of 12 cr hrs.

**5431 Systems II: Introduction to Operating Systems**

Introduction to operating system concepts; process, CPU scheduling, memory management, file system and storage, and multi-threaded programming.

Prereq: 2451, and 2421, 360, or ECE 2560 (265). Not open to students with credit for 2431 or 660.

**5432 Mobile Handset Systems and Networking**

Mobile handset architecture; processors, memory, I/O devices, sensors, virtual machine and power management; different ranges of wireless communication technologies; TCP/IP over wireless; mobile social networking.

Prereq: 2451 or 459.21, and 2421 or ECE 2560 (265).

**5433 Operating Systems Laboratory**

Introduction to the internals of operating systems; designing and implementing components within commercial operating systems: system calls, CPU scheduling, context switching, process management, memory management, file systems.

Prereq: 2421 or 5431, or 660, and 2451 or 459.21. Not open to students with credit for 662.

**5434 Comparative Operating Systems**

A careful examination of a number of representative computer operating systems.
Prereq: 2431 (680) or 5431. Not open to students with credit for 741.

**5439 Intermediate Studies in Operating Systems**

Intermediate-level topics in operating systems.
Repeatable to a maximum of 12 cr hrs.

**5441 Introduction to Parallel Computing**

Parallel programming models; sequential and parallel performance issues; high-performance computer architecture; design, analysis, implementation and performance evaluation of parallel algorithms.

Prereq: 2331, 2321 and 2451, and Math 2568 (568) or 571, and 2421 or ECE 2560 (265); or Grad standing. Not open to students with credit for 621.

**5449 Intermediate Studies in Parallel Computing**

Intermediate-level topics in parallel computing.
Repeatable to a maximum of 12 cr hrs.

**5461 Computer Networking and Internet Technologies**

Computer networks, communication protocols, Internet TCP/IP and applications, wireless communications and network security.

Prereq: 2451, and 2421 or ECE 2560 (265). Concur: 2431. Not open to students with credit for 3461 (677).

**5462 Network Programming**

IP-based socket programming in C/C++, TinyOS programming in NeIoC.

Prereq: 3461 (677) or 5461 or ECE 3367.

**5463 Introduction to Wireless Networking**

Fundamental concepts in cellular design, Wireless-LANs, MANETs, and sensor networks will be explored. Specific topics will include propagation, fading, cellular-design, power-management, routing, scheduling, and control.

Prereq: 3461 (677) or 5461 or ECE 3367, or Grad standing in Engineering or Math and Physical Sciences. Cross-listed in ECE 5101.

**5469 Intermediate Studies in Computer Networking**

Intermediate-level topics in computer networking.
Repeatable to a maximum of 12 cr hrs.

**5472 Information Security Projects**

Team-based projects: solve information security problems (mobile/static host/network hardening, intrusion detection and vulnerability scanning, forensics); results communicated through report writing and presentation.

Prereq: 3901 (560) or 3902 or 3903, and 3461 or 5461 or 5471. Not open to students with credit for 652.

**5473 Network Security**

Security threats and services, elements of cryptography, protocols for security services, network and internet security, advanced security issues and technologies.

Prereq: 3461 (677) or 5461. Not open to students with credit for 651.

**5479 Intermediate Studies in Computer Security**

Intermediate-level topics in computer security.
Repeatable to a maximum of 12 cr hrs.

**5501 Social, Ethical, and Professional Issues in Computing**

Social, ethical, and professional issues facing computing professionals; ethical principles; discussion of case studies.

Prereq: 1222 or 1223 or 2231 or 214 or 222 or 230, and 2321 or Math 366, and Gen Ed Writing Level 2. Not open to students with credit for 2501 (601).

**5521 Survey of Artificial Intelligence I: Basic Techniques**

Survey of the basic concepts and techniques in artificial intelligence, including problem solving, knowledge representation, and machine learning.

Prereq: 2331, or 222 and Math 369. Not open to students with credit for 3521 (630).

**5522 Survey of Artificial Intelligence II: Advanced**

Survey of advanced concepts, techniques, and applications of artificial intelligence, including knowledge representation, learning, natural language understanding, and vision.

Prereq: 3521 (630) or 5521, or Grad standing. Not open to students with credit for 730.

**5523 Machine Learning and Statistical Pattern Recognition**

Introduction to basic concepts of machine learning and statistical pattern recognition; techniques for classification, clustering and data representation and their theoretical analysis.

Prereq: 3521, 5521, or 5243, and 5522, Stat 3460, or 3470. Not open to students with credit for 735.

**5524 Computer Vision for Human-Computer Interaction**

Computer vision algorithms for use in human-computer interactive systems; image formation, image features, segmentation, shape analysis, object tracking, motion calculation, and applications.

Prereq: 2331, or Sr or Grad standing. Not open to students with credit for 634.
5525 Foundations of Speech and Language Processing U G 3
Fundamentals of natural language processing, automatic speech recognition and speech synthesis; lab projects concentrating on building systems to process written and/or spoken language.
Prereq: 3521 or 5522, and 3522. Stat 3460, or 3470. Not open to students with credit for 733.

5526 Introduction to Neural Networks U G 3
Survey of fundamental methods and techniques of neural networks: single- and multi-layer perceptions; radial-basis function networks; support vector machines; recurrent networks; supervised and unsupervised learning.
Prereq: 3521 or 5521. Not open to students with credit for 779.

5531 Introduction to Cognitive Science U G 3
Interdisciplinary survey of the fields of artificial intelligence, linguistics, neuroscience, philosophy of mind, and psychology; various aspects of cognitive perception, representation, and computation.
Prereq: At least 12 cr hrs in at least two of these four subjects (only 6 cr hrs from any one subject); CSE, Ling, Philos, Psych. Not open to students with credit for 612, Linguist 612, Philos 612, or Psych 612. Cross-listed in Ling, Philos, or Psych.

5533 Intermediate Studies in Artificial Intelligence U G 2
Intermediate-level topics in artificial intelligence. Repeatable to a maximum of 12 cr hrs.

5541 Computer Game and Animation Techniques U G 2
Fundamental algorithms and mathematics in the production of computer animation and video games, emphasizing the control and rendering of animated characters.
Prereq: 3901 or 3902 or 3903 (550). Not open to students with credit for 3541 (683).

5542 Real-Time Rendering U G 3
Comprehensive list of topics in real-time rendering using OpenGL and GLSL, including coordinate systems, transformations, viewing, illumination, texture mapping, and shader-based algorithms.
Prereq: 3901 or 3902 or 3903, and Math 2568 (568) or 571. Not open to students with credit for 781.

5543 Geometric Modeling U G 3
Common algorithmic and mathematical techniques for modeling geometric objects in computer graphics and CAD applications; sample based modeling, mesh generation, and hierarchical representations.
Prereq: Math 2568 (568) or 571. Not open to students with credit for 784.

5544 Introduction to Data Visualization U G 3
Principles and methods for visualizing data from measurements and calculations in physical and life sciences, and transactional and social disciplines; information visualization; scientific visualization.
Prereq: 5391, Stat 3301, 3541, or 5541. Not open to students with credit for 694L.

5545 Advanced Computer Graphics U G 3
Advanced topics in computer graphics; image synthesis, lighting and rendering, sampling and material properties, volume rendering.
Prereq: 3541 or 5541 or 581. Not open to students with credit for 782.

5559 Intermediate Studies in Computer Graphics U G 2
Intermediate-level topics in computer graphics. Repeatable to a maximum of 12 cr hrs.

5891 Proseminar in Cognitive Science U G 3
Provides an in-depth examination of cognitive science from an interdisciplinary perspective.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in Ling, Philos, Psych, and Splithing.

5911 Capstone Design: Software Applications U G 4
Capstone design project; application of software engineering techniques, methodologies and technologies in software lifecycle activities using enterprise software frameworks; teamwork; written and oral communication.
Prereq: 2501 (601) or 5501, and 3901 (560) or 3902 or 3903, and 3231 (757) or 5231. Not open to students with credit for 758 or 762.

5912 Capstone Design: Game Design and Development U G 4
Capstone design project; conceptual and technical design and implementation of interactive game, integrating custom code and toolkits; teamwork; written and oral communication skills.
Prereq: 2501 (601) or 5501, and 3901 (560) or 3902 or 3903, and 3541 (581) or 5541. Not open to students with credit for 786.

5913 Capstone Design: Computer Animation U G 4
Capstone design project; conceptual and technical design and implementation of computer animation incorporating animation elements; teamwork; written and oral communication skills.
Prereq: 2501 (601) or 5501, and 3901 (560) or 3902 or 3903, and 3541 (581) or 5541 (683). Not open to students with credit for 682.

5914 Capstone Design: Knowledge-Based Systems U G 4
Capstone design project; conceptual and technical design; theory and practice of knowledge-based systems; teamwork; written and oral communication skills.
Prereq: 2501 (601) or 5501, and 3901 (560) or 3902 or 3903, and 3521 (630) or 5521. Not open to students with credit for 731.

5915 Capstone Design: Information Systems U G 4
Capstone design project; information system principles; database design methods and tools, indexing, searching, application development, testing, evaluation; teamwork, written and oral communication skills.
Prereq: 2501 (601) or 5501, and 3901 (560) or 3902 or 3903, and 3241 (670) or 5241. Not open to students with credit for 772.

6193 Individual Studies in Computer Science and Engineering G 1 - 10
Designed to give the student an opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

6194 Group Studies in Computer Science and Engineering G 1 - 10
Designed to give the student an opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

6211 Formal Foundations of Software Engineering G 3
Formal approaches to program semantics and software properties; software specification and verification; model checking; static analysis; systematic testing.
Prereq: 3231 (625) or 5321, and 3341 (655) or 5341.

6239 Advanced Studies in Software Engineering G 1 - 3
Advanced-level topics in software engineering. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6249 Advanced Studies in Databases G 1 - 3
Advanced-level topics in databases. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6231 Computability and Complexity G 3
Turing machines, decidability, recursive enumerability; many-to-one and polynomial-time reductions; NP-completeness, Cook-Levin Theorem; Recursion Theorem.
Prereq: 3231 (625) or 5321. Not open to students with credit for 725.

6329 Advanced Studies in Computation Theory G 1 - 3
Advanced-level topics in computation theory. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6331 Algorithms G 3
Algorithm design paradigms; mathematical analysis of algorithms.
Prereq: 2331 (685) or 5331. Not open to students with credit for 780.

6332 Advanced Algorithms G 3
Advanced algorithmic string algorithms, linear programming, matrix operations, Fourier transforms, randomized algorithms, approximation algorithms, geometric algorithms.
Prereq: 6331 (780). Not open to students with credit for 790 or 794A.

6333 Distributed Algorithms G 3
Fundamental concepts in distributed computing; algorithms for distributed control and data, impossibility and limits; algorithms for fault-tolerance; specification, design and verification of distributed programs.
Prereq: 6341 (760). Not open to students with credit for 763.

6339 Advanced Studies in Algorithms G 1 - 3
Advanced-level topics in algorithms. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6341 Foundations of Programming Languages G 3
Conceptual foundations of programming languages; attribute grammars; types; functional languages; language semantics; abstract interpretation.
Prereq: 3341 (655) or 5341. Not open to students with credit for 755.

6349 Advanced Studies in Programming Languages G 1 - 3
Advanced-level topics in programming languages. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6359 Advanced Studies in Cryptography G 1 - 3
Advanced-level topics in cryptography. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6421 Computer Architecture G 3
Principles and tradeoffs behind the design of modern computer architectures, including instruction-level parallelism, memory system design, advanced cache architectures, cache coherence, multiprocessors, energy-efficient and embedded architectures.
Prereq: 3481 (660) or 5431, and 3421 (875), 5421, or ECE 5362 (662). Not open to students with credit for 775.

6422 Advanced Computer Architecture G 3
Fundamental design issues in parallel architectures, design of scalable shared memory and distributed memory systems, interconnection networks (on-chip and off-chip), multi-core architectures, accelerators, embedded systems, and exascale systems.
Prereq: 6421 (775) and 6441 (721). Not open to students with credit for 875.

6429 Advanced Studies in Computer Architecture G 1 - 3
Advanced-level topics in computer architecture. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.
Computer Science and Engineering

6431 Advanced Operating Systems
PreReq: 2431 (601) or 5431. Not open to students with credit for 760.
G 3
Advanced topics in operating systems and concurrency; introduction to distributed systems.

6439 Advanced Studies in Operating Systems
G 1 - 3
Advanced-level topics in operating systems. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6441 Parallel Computing
G 3
Principles and practice of parallel computing; design, implementation, and performance evaluation of parallel programs for shared-memory, distributed-memory and heterogeneous parallel systems.
PreReq: 5441 (621). Not open to students with credit for 721.

6449 Advanced Studies in Parallel Computing
G 1 - 3
Advanced-level topics in parallel computing. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6461 Computer Communication Networks
G 3
Foundational understanding of network analysis, error-control, routing, congestion-control, multi-access, and their examples in the context of the existing communication networks.
PreReq: ECE 6001 (804), Stat 3470 (428), 520, or Math 530, or undergraduate course in probability. Not open to students with credit for 861, 862, ECE 6101, 681, or 862. Cross-listed in ECE 6101.

6469 Advanced Studies in Computer Networking
G 1 - 3
Advanced-level topics in computer networking. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6479 Advanced Studies in Computer Security
G 1 - 3
Advanced-level topics in computer security. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6539 Advanced Studies in Artificial Intelligence
G 1 - 3
Advanced-level topics in artificial intelligence. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6559 Advanced Studies in Computer Graphics
G 1 - 3
Advanced-level topics in computer graphics. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

6998 MS Research in Computer Science and Engineering
G ½ - 10
MS research in Computer Science and Engineering. Repeatable to a maximum of 10 completions. This course is graded S/U.

6999 MS Thesis Research in Computer Science and Engineering
G 1 - 10
MS research in Computer Science and Engineering, leading to a thesis. Repeatable to a maximum of 10 completions. This course is graded S/U.

8193 Individual Studies in Computer Science and Engineering
G 1 - 10
Designed to give the student an opportunity to pursue special studies not otherwise offered. PreReq: Permission of instructor. Repeatable to a maximum of 10 completions. This course is graded S/U.

8194 Group Studies in Computer Science and Engineering
G 1 - 10
Designed to give the student an opportunity to pursue special studies not otherwise offered. PreReq: Permission of instructor. Repeatable to a maximum of 10 completions.

8998 PhD Research in Computer Science and Engineering
G ½ - 10
PhD research in Computer Science and Engineering. Repeatable to a maximum of 10 completions. This course is graded S/U.

8999 PhD Dissertation Research in Computer Science and Engineering
G 1 - 10
PhD research in Computer Science and Engineering, leading to a dissertation. Repeatable to a maximum of 10 completions. This course is graded S/U.

Construction Systems Management

1100 Exploring Construction Systems Management
U ½
Basic understanding of the global trends within construction systems management, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development

1205 Introduction to Construction Systems Management
U 3
Overview of residential, commercial, industrial, institutional and transportation sectors of the construction industry and the role of the construction manager. Introduction to planning, scheduling, estimating, safety and ethics in construction.
PreReq or concur: Math 1148 (148), 1149, 1150 (150), or 1151.01 (151). Not open to students with credit for ConSysMt 205. This course is available for EM credit.

2193 Individual Studies
U 1 - 3
Introductory individual study of problems and topics not included in regular Construction Systems Management courses.
PreReq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

2194 Group Studies
U 1 - 5
Introductory group studies of selected topics in Construction Systems Management
PreReq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

2240 Construction Materials and Methods I
U 3
A study of the principles and practices in basic metal fabrication using the current joining, metallurgical and welding processes required in the construction industry. PreReq: FAES 1100 (100) or Engr 1100 (Engineer 100), or equiv university survey course. Not open to students with credit for ConSysMt 240 or AgSysMt 2240 (AgSysMt 240). This course is available for EM credit.

2241 Construction Materials and Methods II
U 3
Material selection and construction methods for residential and commercial construction with an emphasis on wood, masonry, and concrete.
PreReq or concur: ConSysMt 1205 (ConSysMt 205). Not open to students with credit for ConSysMt 241 or AgSysMt 241. This course is available for EM credit.

2305 Professional Development I
U 3
Business communications and professional development in construction systems management including informative and persuasive writing, academic planning, project management, research techniques, learning, report writing and presentations.
PreReq: English 1110 (110). Not open to students with credit for ConSysMt 305 or AgSysMt 2305 (AgSysMt 305). This course is available for EM credit.

2310 Electrical and Lighting Systems for Buildings
U 3
Concepts of electricity and illumination applied to the design and installation of electrical and lighting systems in buildings including safety, code requirements, installation methods, electrical schematics, and construction blueprints.
PreReq: Physics 1200 (111) or 1250 (131). Not open to students with credit for ConSysMt 310. This course is available for EM credit.

2345 Mechanical Systems for Buildings
U 3
Fundamentals of HVAC, plumbing, fire protection and noise and vibration control and their impact on building design and construction.
PreReq: Physics 1200 (111) or 1250 (131). Not open to students with credit for ConSysMt 345. This course is available for EM credit.

2400 Construction Surveying and Site Development
U 4
Principles of soil mechanics, erosion control, layout, and surveying as applied to site development for residential and commercial construction.
PreReq: CSE 1112 (106) or Engr 1181.01 (Engineer 181.01 or 181.02) or 181.03 or 183.03 or HCS 2401, and Engr 1121 (EnGraph 121) or 1182.01 (Engineer 181.01 or 181.02) or 1182.03 (Engineer 181.01 or 181.02) or 1182.03 (Engineer 181.01 or 181.02). PreReq or concur: ConSysMt 2241 (ConSysMt 241) and ENR 3000 (300.01). Not open to students with credit for ConSysMt 440. This course is available for EM credit.

2600 Construction Safety and Health
U 3
Construction safety and health practices, strategies and methods for the development and management of safety and health programs in the construction industry.
PreReq: ConSysMt 1205 (ConSysMt 205). Not open to students with credit for ConSysMt 600. This course is available for EM credit.

3191 Internship in Construction Systems Management
U 2
A pre-approved internship of planned and supervised work experiences which provide professional and technical growth in the construction industry.
PreReq: ConSysMt 2305 (ConSysMt 305), and 8 sem cr hrs in ConSysMt courses, or some combination thereof, and permission of internship coordinator. Not open to students with credit for ConSysMt 489 or AgSysMt 3191 (AgSysMt 489).

3450 Estimating for Construction
U 4
Reading and interpretation of construction drawings and specifications for construction projects. Estimating the material requirements and costs of building construction projects using commercially available estimating tools.
PreReq: ConSysMt 2240 (ConSysMt 240), 2241 (ConSysMt 241), 2310 (310), 2345 (345), 2440 (440), Engr 1121 (EnGraph 121), and CSE 1112 (115). Not open to students with credit for ConSysMt 540.

3451 Scheduling Construction Projects
U 4
Planning, scheduling and tracking of construction project elements including management of time, resources, cost and safety.
PreReq: ConSysMt 3450 (ConSysMt 540). Not open to students with credit for ConSysMt 541.

3545 Structures for Construction Mgrs I
U 3
Principles of statics, material properties, structural analysis and design useful in understanding the design and managing the construction of steel and wood structures.
PreReq: ConSysMt 2240 (ConSysMt 240) and 2241 (ConSysMt 241), and Physics 1200 (111) or 1250 (131). Not open to students with credit for ConSysMt 545.
3546 Structures for Construction Mgrs II U 3
Continuation of 3545 to include concrete and masonry structures and foundations. Prereq: 3545 (545). Not open to students with credit for 546.

4193 Individual Studies U 1 - 3
Intermediate individual study of problems and topics not included in regular Construction Systems Management courses. Prereq: GPA 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4194 Group Studies U 1 - 5
Intermediate group studies of selected topics in Construction Systems Management. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

4605 Professional Development II U 1
Development and pursing career plans; strategies and programs for employment in the construction industry, professional development, personal growth, and relationships. Prereq: 2305 (ConSysMt 305), 3451 (ConSysMt 541), and AgrComm 3130 (396) or Comm 2110 (321), and any second writing course numbered 2567 (367). Not open to students with credit for ConSysMt 605 or AgSysMt 4605 (AgSysMgt 605).

4641 Construction Project Management U 2
The management of standard commercial/residential construction projects, including planning, scheduling, materials management, resource procurement, codes and standards, construction funding, personnel management and labor unions. Prereq: ConSysMt 3451 (ConSysM 541). Not open to students with credit for ConSysMt 641.

4642 Construction Control - Contracts and Documents U 2
Documents used in the construction industry will be discussed and applied; including types of contracts, bidding and negotiating, administration and quality control of construction contracts. Prereq: 3451 (ConSysMt 541), and not open to students with credit for CSCFMFNS 243.

4660 Heavy Construction Management U 3
Methods, materials, equipment, and planning of heavy construction projects. Economics of equipment acquisition and operation. Equipment selection, performance characteristics, and production rates. Prereq: ConSysMt 3451 (ConSysM 541). Not open to students with credit for ConSysMt 660.

4900 Construction Management Capstone U 3
Skills in estimating, scheduling, blueprint reading, teamwork, oral written communication, management principles, and contracts/documents used to develop solutions to industry provided construction related problems. Prereq: ConSysMt 3546 (ConSysM 546), 4641 (641), and 4642 (642), or permission of instructor. Not open to students with credit for ConSysMt 543.

4998 Undergraduate Research U 1 - 3
Supervised undergraduate research on various topics. Prereq: CPHR 2.5 or above, and permission of the instructor. Repeatable to a maximum of 6 cr hrs or 4 completions. This course is graded S/U.

4999 Research with Distinction U 1 - 3
Conducting and reporting research with Distinction. Students are expected to present at the CFAES Undergraduate Research and the Denman University Undergraduate Research forums. Prereq: GPA 3.0 or above, GPA 3.0 or above in ConSysMt, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 courses. This course is graded S/U.

4999H Honors Research with Distinction U 1 - 3
Conducting and reporting honors research with distinction. Students are expected to present at the CFAES Undergraduate Research and the Denman University Undergraduate Research forums. Prereq: Honors standing, and FAES 4990.01H (590H), and CPHR 3.4 or above, and GPA 3.4 or above in ConSysM, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5670 Green Building and Sustainable Construction U 3
Introduction to LEED rating systems, major components of sustainable building design and construction as well as other environmental and economic issues of sustainable built environments. Prereq: Jr, Sr, or Grad standing. Not open to students with credit for ConSysMt 670.

5680 Construction Renovation and Demolition U 3
The practices, procedures and management strategies employed by construction managers in renovating and demolishing buildings and other structures. Prereq or concur: ConSysMt 4642 (ConSysMt 642), or permission of instructor.

6193 Individual Studies G 1 - 3
Advanced individual study of problems and topics not included in regular Construction Systems Management courses. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

6194 Group Studies G 1 - 5
Advanced group studies of selected topics in Construction Systems Management. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

Construction Systems Management 119

Consumer Sciences

2910 Consumer Problems and Perspectives U 3
Study of common imperfections in the market which manifest themselves in safety, fairness, quality, information and education concerns for consumers. Prereq: Not open to students with credit for CSCFMFNS 243, GE soc sci orgs and politcs course.

2990 Professional Development U 1
The professional: Overview of the internship and job search process, networking, involvement in professional organizations and continued development. Prereq: Soph standing or above, and enrollment in a ConSci major (CSCFFS, CSFRSL, CSHspMg). Not open to students with credit for 595. This course is graded S/U.

3191 Internship U 3
Supervised practical experience at a department approved internship site related to the student's selected major. Includes an investigation and analysis of assigned problems and documentation of experience. Prereq: 2990 (595), 2.0 CPHR or above, and Jr standing; and, CS major: Consumer and Family Financial Services, Fashion and Retail Studies, Hospitality Management. Not open to students with credit for 589.20, CSFanRIS 299, 589, CSHspMg 570, or 571. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

3910 Consumer Service and Satisfaction U 3
Provides students with an intellectual and hands-on understanding of the key consumer service management and consumer satisfaction theories and practices that are relevant in service sectors. Prereq: Not open to students with credit for 310.

3930 Consumer Decision-Making I U 3
Contemporary consumer behavior theories and decision-making processes with implications for consumers, marketers, policy makers and managers in a global economy. Prereq: Sophomore standing or higher. Not open to students with credit for 543.

3940 The Multicultural Consumer: Methods of Data Analysis U 3
Application of marketing research and statistical analysis using spreadsheet applications to examine multicultural consumers and how diversity impacts consumption, the workplace, and retailer/marketplace responses. Prereq: Stat 1350 (135), 1430 (133), or 1450 (145). Not open to students with credit for 340.

4990 Practicum in Consumer Sciences U 1 - 3
Practical applications of fashion and retail studies, hospitality management, or consumer and family financial services; students work individually with a faculty member on a project. Prereq: Permission of instructor. Not open to students with credit for CSFanRIS 589 or CSTwC0 590. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

4998 Undergraduate Research in Consumer Sciences U 1 - 3
Supervised undergraduate research in various phases of consumer sciences under the guidance of a faculty member. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4998H Undergraduate Honors Research in Consumer Sciences U 1 - 3
Supervised undergraduate honors research in various phases of consumer sciences under the guidance of a faculty member. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

5193 Individual Studies in Consumer Sciences U 1 - 4
Problems in various phases of consumer sciences chosen for individual study under the guidance of a faculty member. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

5194 Group Studies in Consumer Sciences U 1 - 4
Problems in various phases of consumer sciences chosen for group study under the guidance of a faculty member. Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions.

5797 Study at a Foreign Institution U 1 - 12
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 2 completions.

5798 Study Tour U 1 - 12
Specific content, location, term(s) of offering and prerequisites vary; contact department office for details. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 2 completions.

6000 Introduction to Research in Consumer Sciences G 3
Research literature in consumer sciences; development of the principles of scholarly research. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 700 or CSCFMFNS 738 or CSFanRIS 777.01.
### Consumer Sciences

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<th>Course Title</th>
<th>Credits</th>
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<td>6010</td>
<td>Individual and Family Behavior in the Market Place</td>
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<td>G 3</td>
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<tr>
<td>6020</td>
<td>Theories and Models in Consumer Sciences</td>
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<td>7193</td>
<td>Individual Studies in Consumer Sciences</td>
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<td>Group Studies in Consumer Sciences</td>
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<td>7230</td>
<td>Measurement and Analysis of the Economic Status of Consumer Units</td>
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<td>Theories and Models in Consumer Sciences II</td>
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<td>Graduate Seminar in Consumer Sciences</td>
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<td>Research Practicum in Consumer Sciences</td>
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<td>Teaching Practicum in Consumer Sciences</td>
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<td>Normative Approaches to Consumer Sciences</td>
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<td>Advanced Quantitative Methods in Consumer Sciences</td>
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<td>8890</td>
<td>Special Topic Seminar: Consumer Economics</td>
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<td>Special Topic Seminar: Family Finance</td>
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<td>Special Topic Seminar: Fashion &amp; Retail Studies</td>
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<td>8999</td>
<td>Research for Dissertation</td>
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**Consumer Sciences: Consumer & Family Financial Services**

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<td>2990</td>
<td>Professional Development</td>
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<td>Internship</td>
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<td>Family Financial Management: Theory and Practice</td>
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<td>U 3</td>
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**Course Descriptions**

- **6010 Individual and Family Behavior in the Market Place**: Study of consumer behavior in purchase of goods and services, with emphasis on applications to effective marketing management decisions from the consumer perspective. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 701.
- **6020 Theories and Models in Consumer Sciences**: Survey of theories and models that serve as the foundation for research in Consumer Sciences, including theories from economics, psychology, and sociology. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 702.
- **7193 Individual Studies in Consumer Sciences**: Problems in various phases of consumer sciences chosen for individual study under the guidance of a faculty member. Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 16 cr hrs or 16 completions. This course is graded S/U.
- **7194 Group Studies in Consumer Sciences**: Problems in various phases of consumer sciences chosen for group study under the guidance of a faculty member. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 16 completions.
- **7230 Measurement and Analysis of the Economic Status of Consumer Units**: Measurement and analysis of the economic status of consumer units including key concepts, determinants, policy implications, and implications for research. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 739.
- **7240 Theories and Models in Consumer Sciences II**: Aspects of consumers' family life are analyzed from the perspective of economic theories. Emphasis is placed on implications of the theories for design and interpretation of empirical studies. Prereq: Intermediate Microeconomics. Not open to students with credit for 740.
- **7900 Graduate Seminar in Consumer Sciences**: Scholarly presentations of current research by students, faculty, and invited speakers to stimulate critical thinking and discussion of implications for consumers. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 800. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.
- **7911 Research Practicum in Consumer Sciences**: Supervised participation in empirical research inclusive of research design selection, and/or data collection, and/or data analysis, and/or manuscript preparation. Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions.
- **7992 Teaching Practicum in Consumer Sciences**: Supervised participation in college teaching inclusive of pedagogy selection, and/or development of teaching techniques, and/or development of course content, and/or development of assessment pieces, and/or classroom instruction. Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions.
- **7999 Research for Thesis**: Research for Masters Thesis. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.
- **8193 Individual Studies in Consumer Sciences**: Problems in various phases of consumer sciences chosen for individual study under the guidance of a faculty member. Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 16 cr hrs or 16 completions. This course is graded S/U.
- **8250 Normative Approaches to Consumer Sciences**: Focuses on derivation of normative guidelines for household financial decisions, but normative guidelines related to other aspects of consumer sciences will also be covered. Prereq: Intermediate microeconomics, introductory statistics, and introductory differential calculus. Not open to students with credit for 741 or CFmFsM 741.
- **8260 Behavioral Approaches to Consumer Sciences**: Economic behaviors are analyzed from psychological perspectives to understand factors that motivate consumption, saving, and related economic behaviors. Prereq: Grad standing, and permission of instructor.
- **8270 Managing Consumer Risk**: An examination of challenges involved in managing consumer risk. Topics include the economics of risk, methods of risk management, and quantitative risk analysis. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 872.
- **8280 Advanced Quantitative Methods in Consumer Sciences**: Quantitative research methods applied to answering current research questions in consumer sciences. Emphasis is on advanced topics relevant to the analysis of secondary data. Prereq: Basic course in regression, and permission of instructor. Not open to students with credit for CFmFsM 881.
- **8890 Special Topic Seminar: Consumer Economics**: Survey of literature on specific consumer economics topics with emphasis on identifying research problems, assessing significance, reviewing literature, conducting research, and preparing professional presentations. Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.
- **8891 Special Topic Seminar: Family Finance**: Survey of literature on specific family finance topics with emphasis on identifying research problems, assessing significance, reviewing literature, conducting research, and preparing professional presentations. Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.
- **8894 Special Topic Seminar: Fashion & Retail Studies**: Survey of literature on specific fashion and retail topics with emphasis on identifying research problems, assessing significance, reviewing literature, conducting research, and preparing professional presentations. Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.
- **8896 Special Topic Seminar: Hospitality Management**: Survey of literature on specific hospitality management topic with emphasis on identifying research problems, assessing significance, reviewing literature, conducting research, and preparing professional presentations. Prereq: 6000 (700), and Grad standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs.
- **8999 Research for Dissertation**: Research for dissertation. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.
- **2260 Family Financial Management**: The management of family financial resources; topics include financial planning and budgeting, insurance, credit, and savings and investments. Prereq: Not open to students with credit for CFmFsM 260.
- **2990 Professional Development**: The professional: Overview of the internship and job search process, networking, involvement in professional organizations and continued development. Prereq: Soph standing or above, and enrollment in CFmFsM major. Not open to students with credit for 595. This course is graded S/U.
- **3191 Internship**: Supervised practical experience at a department approved internship site related to the student's selected major. Includes an investigation and analysis of assigned problems and documentation of experience. Prereq: 2990 (595), 2.0 CPHR or above, and Jr standing; and CFmFsM major. Not open to students with credit for 589.02. This course is graded S/U.
- **3260 Family Financial Management: Theory and Practice**: Introduction to the practice and profession of family financial planning process, emphasizing the data collection, communication, and technical skills required of the financial planner. Prereq: CFmFsM 2280 (CFmFsM 260). Not open to students with credit for CFmFsM 359 or CFmFsM 359. Prereq: Sr standing.
- **3270 Families in Business**: Students explore family business topics such as family dynamics, conflict, gender, ethnicity, and relative to the business formation; growth, strategic management, professionalization and succession. Prereq: Soph standing or above. Not open to students with credit for CFmFsM 567.
- **4130 Consumer Decision Making II**: Focuses on rational consumer decision making under uncertainty. Theories of rational consumer decision making are combined with methods of quantifying uncertainty. Prereq: Sr standing.
- **4150 Quantitative Methods in Consumer Sciences**: Application of data analysis to facilitate decision making with respect to consumer sciences. Prereq: CorSci 340 (340), and Stat 1430 (133), 1350 (133), or 1450 (145), and MSE 1111 (101), 2111 (200), or 1223 (201). Not open to students with credit for CFmFsM 644.
- **4260 Family Tax Planning**: Analyze and evaluate financial decisions by families at various points in family life cycle, apply economic principles and understanding of basic tax policy to family financial decisions. Prereq: 3260 (CFmFsM 359). Not open to students with credit for CFmFsM 560.
4270 Retirement Planning and Employee Benefits U 2
Evaluation of retirement plans and employee benefits with consideration of the interwoven factors of Social Security, pension, private savings, and health insurance. Prereq: CSCFFS 3260 (CSFmFnS 359). Not open to students with credit for CSFmFnS 561 or CSFmRmS 561.

4280 Intergenerational Resource Management U 2
Key topics in planning for transfer of family estate, focusing on strategies that conserve family wealth while being consistent with family financial goals. Prereq: CSCFFS 3260 (CSFmFnS 359). Not open to students with credit for CSFmFnS 568.

5130 Solutions to Consumer Problems U G 3
Consumer problems are defined and characterized using an economics approach. Private and public solutions to consumer problems are then examined and evaluated. Prereq: ConsCi 3940 (340), 2910 (243), and Econ 2001 (202). Not open to students with credit for CSFmFnS 443 or CSFmRmS 443.

5140 Topics in Consumer Sciences U G 3
Timely topics in consumer sciences are examined in depth. Prereq: Sr standing in CSCFFS, CSFRs, or CHSpMg, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

5260 Family Financial Management Applications U G 4
Family financial management concepts are applied to evaluate financial goals and prepare a comprehensive financial plan for a household. Prereq: B- or higher in CSCFFS 2200 (290), and 3260 (CSFmFnS 359), 4260 (560), and BusFin 3120 (420) or 3220 (620). Prereq or concur: CSCFFS 4270 (CSFmFnS 561), CSCFFS 4280 (568), BusFin 3300 (640), and 3222 (522) or 4223 (723). Not open to students with credit for CSFmFnS 660.

**Consumer Sciences: Fashion and Retail Studies**

2370 Aesthetics of Fashion & Retail U 3
The perception and presentation of self and its surrounding environment through use of aesthetics with consideration of foundations of design, physical characteristics, environment, personal expression, and context. Prereq: Not open to students with credit for CSFmRtS 270 or 375.

2371 Textiles U 3
Fiber, yarn, and fabric characteristics, textile coloration and finishes; textile selection for specific end uses; laundering and care; new textile products and industry trends. Prereq: Not open to students with credit for CSFmRtS 371.

2372 Appearance, Dress, and Cultural Diversity U 3
A cross-cultural study of the diversity and meaning of appearance and dress as manifestations of individual and group behavior, social organizations, and cultural norms. Prereq: Not open to students with credit for CSFmRtS 372. GE soc sci indivs and groups courses.

2373 Business of Fashion & Retailing U 3
Survey of fashion industry supply chain, business structure, design, manufacture, sourcing, distribution, and retail functions along with industry terminology, current topic analysis, and career options. Prereq: Not open to students with credit for CSFmRtS 275.

2374 Twentieth Century Fashion and Beyond U 3
Relationship between culture, society and fashion in the 20th century, the influence of historic dress on contemporary fashion, and industry developments leading to mass fashion. Prereq: English 1110. Not open to students with credit for CSFmRtS 674. GE historical study courses.

2990 Professional Development U 1
The professional: overview of the internship and job search process, networking, involvement in professional organizations and continued development. Prereq: Soph standing or above, and enrollment in CSFRST major. Not open to students with credit for 595. This course is graded S/U.

3191 Internship U 3
Supervised practical experience at a department approved internship site related to the student's selected major. Includes an investigation and analysis of assigned problems and documentation of experience. Prereq: 2990 (595), 2.0 CHPR or above, and Jr standing; and CSFRST major. Not open to students with credit for 589.02. This course is graded S/U.

3470 Apparel Product Design and Branding U 5
Study of apparel design using a variety of hand and computer media: apparel product development. Prereq: C- or higher in 2372 (CSFmRtS 372) and 2370 (270). Not open to students with credit for CSFmRtS 370 and 670.

3471 Textile Product Quality U 5
Parameters of textile and apparel quality, standards and specifications, interpretation of test data and evaluation, assurance of quality through the supply chain. Prereq: C- or higher in 2373 (CSFmRtS 275) and 2371 (371), and Chem 1110 (102). Not open to students with credit for CSFmRtS 571.

3474 Fashion Forecasting U 3
Analysis and application of trend forecasting practices in all aspects of the fashion industry. Prereq: C- or higher in 2370 (CSFmRtS 270), and 2373 (273). Not open to students with credit for CSFmRtS 280 or 374.

4570 Product Data Management and Apparel Product Development U 5
Study of computer-aided design software programs, and creative and technical apparel brand development. Prereq: C- or higher in 3470 (CSFmRtS 370), 3471 (571) and 3474 (374). Not open to students with credit for CSFmRtS 670 or 673.

4575 Retail Environments U 3
Analysis of the influence of store environment characteristics on consumer behavior in various retail formats. Prereq: 2370 (CSFmRtS 270) with C- or higher and ConsCi 3940 (340). Not open to students with credit for CSFmRtS 525.

4576 Global Sourcing and Trade in Textile Products U 3
International factors affecting the textiles and textile products industries and their impact on the economy and consumers. Prereq: 2373 (CSFmRtS 275) with C- or higher and 3471 (571) with C- or higher; or permission of instructor. Not open to students with credit for CSFmRtS 576.

4577 Fashion & Retail Promotion U 3
Contemporary models, concepts and practice of image management, integrating marketing communications, media, and promotions from fashion industry perspectives. Prereq: 3474 (CSFmRtS 374) with C- or higher, ConsCi 3930 (543), and BusML 3150 (450). Not open to students with credit for CSFmRtS 577.

4583 International Retailing U 3
Study of retailers using expansion outside domestic market as strategy; reasons and process of internationalization; social, legal and economic factors influencing internationalization. Prereq: 2373 (CSFmRtS 275), CSE 2111 (200), Stat 1350 (135) or 1450 (145), AcctMIS 2000 (310), and Jr standing. Not open to students with credit for CSFmRtS 683.

4585 Merchandise Buying and Management U 3
Retail buyer's role in merchandise management: decision making, planning, buying, pricing, and preparing merchandise for sale. Analysis and synthesis of merchandising management practices and problems. Prereq: 2373 (CSFmRtS 275) with C- or better, Math 1130 (130), AcctMIS 2000 (310), CSE 2111 (200), and Jr standing; or permission of instructor. Not open to students with credit for CSFmRtS 685.01 or 685.02.

7472 History of American Dress: Critical Issues, Theory, and Method U 3
Examines paradigms, sources, methods, and interpretations of American fashion history and considers critical approaches for the analysis of primary and secondary sources. Prereq: Grad standing.

7478 Textiles: A Global and Cultural History U 3
Focuses on social, cultural, political, and technological influences, etc. on developments in historic textiles from the ancient world to modern times. Prereq: Grad standing. Not open to students with credit for CSFmRtS 878.

7574 Aesthetics, Appearance Management, and Self-Presentation U 3
Understanding aesthetics of dress as a medium of visual communication, with analysis of appearance management strategies employed in the social presentation of self. Prereq: ConSci 6000 (700), or Grad standing, or permission of instructor. Not open to students with credit for CSFmRtS 874 or CS13CI 874.

7575 Psycho-social and Cultural Aspects of Dress U 3
In-depth study of research and social science theories as applied to appearance and dress as manifestations of individual and group consumer behavior. Prereq: ConSci 6000 (700), or Grad standing, or permission of instructor.

**Consumer Sciences: Hospitality Management**

1600 Introduction to Hospitality Management U 2
Overview of the hospitality-tourism industry. Introduction to and career exploration of various segments of the hospitality-tourism field. Prereq: Not open to students with credit for 230.

2610 Beverage Management U 2
A discussion of the varieties, merchandising and management control of alcoholic and non-alcoholic beverages served in the hospitality industry. Prereq: 1600 (230); or enrollment in Culinary Science major. Not open to students with credit for 400.

2700 Principles of Food Production Management U 3
Application of scientific food preparation and management principles to quantify food production in a commercial establishment. Prereq: 1600 (230), or enrollment in Culinary Science major. Concurs: 2710. Not open to students with credit for 350.01 or 350.02.
2710 Principles of Food Production Management Laboratory U 1
Applying scientific food preparation principles to quantity food production in a laboratory setting.
Prereq: 1600 (230), or enrollment in Culinary Science major. Concur: 2700. Not open to students with credit for 350.01 or 350.02.

2990 Professional Development U 1
The professional: overview of the internship and job search process, networking, involvement in professional development organizations and continued development.
Prereq: Soph standing or above, and enrollment in CSHPMG major. Not open to students with credit for 595. This course is graded S/U.

3191 Internship U 3
Supervised practical experience at a department approved internship site related to the student's selected major. Includes an investigation and analysis of assigned problems and documentation of experience.
Prereq: 2990 (595), 2.0 CPHR or above, and Jr standing; and CSHPMG major. Not open to students with credit for 589.02. This course is graded S/U.

3700 Controlling Food, Beverage, and Labor Costs U 3
Course will demonstrate effective and efficient controls of prime costs in a foodservice operation without sacrificing quality and good customer service.
Prereq: 1600, 2700, and 2710, and Hospitality Management major; or a premajor or major in Human Nutrition Dietsetics or Culinary Science. Not open to students with credit for 370.

3720 Food Service Systems U 3
Identification of the crucial elements involved in the successful operation of a foodservice enterprise and demonstrate their inter-relationships. Special emphasis will be on customer service and employee development.
Prereq: 1600, 2700 (350.01), and 2710, or enrollment in Human Nutrition Dietsetics major. Concur: 3730. Not open to students with credit for 561.

3730 Food Service Systems Laboratory U 1
Application of customer service and restaurant management responsibilities in a real operating foodservice environment.
Prereq: 1600, 2700 (350.01) and 2710, or enrollment in Human Nutrition Dietsetics major. Concur: 3730. Not open to students with credit for 561.

4600 Special Events Planning and Management U 3
Course will examine techniques and procedures required for producing successful events of all types including effective procurement, organization, and implementation of all event aspects.
Prereq: 2700 (350.01). Not open to students with credit for 661.

4620 Principles of Tourism U 3
An overview of the tourism industry including travel motivation and the impacts, both positive and negative, of social, environmental, and economic influences.
Prereq: 1600 (230).

4640 Advanced Marketing in Hospitality Enterprises U 3
Designed to provide students with an intellectual and hands-on understanding of the key hospitality marketing and hospitality entrepreneurship.
Prereq: ConSci 3910 (310) or ConSci 3920, and BusML 3150 (450). Not open to students with credit for 680.

4650 Advanced Management Skills for Hospitality Supervisors U 3
Advanced management skills in specific application to the many facets of the Hospitality Industry with a focus on Hospitality Organizational structure and behavior and Technology Strategies in application to the Hospitality Industry.
Prereq: 3720 (551), 4800 (560), and BusHR 3100 (400). Not open to students with credit for 650.

4680 Strategies and Issues in Hospitality Management U 2
To develop, review, and evaluate key issues facing the hospitality industry.
Prereq: Sr standing, and enrollment in CSHPMG major. Not open to students with credit for 700.

4710 Foodservice Facilities Design U 3
The examination of the organization of the foodservice system, the selection of equipment, layout of the foodservice establishment, and the management of the facility.
Prereq: 2700 (350.01) and 3700 (370).

4750 Casino Operations U 3
Course will focus on the unique nature of the casino industry and its relationship to other hospitality enterprises.
Prereq: 3720 (551) and 4800 (560).

4800 Hotel Systems U 3
An examination of the lodging firm as an operating entity, including structure, management strategies, functional departments, related financial reports and revenue management.
Prereq: 1600 (230) and AcctMIS 2000 (310). Concur: 4810. Not open to students with credit for 560.

4810 Hotel Systems Laboratory U 1
Provide exposure to the lodging/hotel sector via experiences in Front of the House and Heart of the House in a real operating environment.
Prereq: 1600 (230) and AcctMIS 2000 (310). Concur: 4800. Not open to students with credit for 562.

4820 Advanced Hotel Systems U 3
An examination of the financial aspects of a lodging firm, including: analysis of costs and financial reports, pricing structures, budgeting, and planning.
Prereq: 4800 (560). Not open to students with credit for 561.

5780 Hospitality Management Advanced Applications U G 3
Advanced hospitality professional course incorporating all principles of hospitality management in the various sectors and unique applications of knowledge learned.
Prereq: ConSci 2910 (310) or BusML 3150 (450), or Sr standing, or permission of instructor.

7630 Advanced Food Service Systems Management: Operational Integration G 3
Examine current technology and trends in food service operations with an emphasis on the functional subsystems of procurement, production, distribution and service, and sanitation and maintenance.
Prereq: Grad standing. Not open to students with credit for 730.

8610 Human Resource Management in the Hospitality and Retail Industries G 3
Provides an overview of research on human resource management focused on the hospitality and retail industries. Emphasis is placed on organizational structure, employee behavior, performance, employee turnover, and retention.
Prereq: Grad standing, or permission of instructor.

8630 Services in the Hospitality and Retail Industries G 3
Provides an extensive overview of research on services focused on the hospitality and retail industries. Emphasis builds on theories associated with service, quality, customer satisfaction, and customer loyalty.
Prereq: Grad standing, or permission of instructor.

8640 Managing Hospitality and Retail Operations G 3
Provides an extensive overview of research focused on the hospitality and retail industries. Emphasis builds on theories associated with hospitality/retail operations.
Prereq: Grad standing, or permission of instructor.

8660 Recent Developments in Hospitality Systems Management G 3
Analysis of selected topics in hospitality systems management. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 832.

Crop and Soil Technology

1201T Exploring Agronomy, Sustainable Agriculture, and Crop Management and Soil Conservation U ½
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

2191T Practicum in Crop and Soil Technologies U 1
Supervised experiences in field, laboratory, and/or industry work. A grade of C or higher required to meet graduation requirements. Repeatable to a maximum of 3 cr hrs.

2191T Crop and Soil Internship U 3
Supervised employment work experience on a crop production farm or related industries. A grade of C or better is required to meet graduation requirements. Prereq: Soph standing, and CPHR 2.0 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs.

2193T Individual Studies U 1 - 3
Designed to give an individual student an opportunity to pursue special studies not offered in other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

2194T Group Studies U 1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

2200T Introduction to Sustainable Agriculture U 2
A study of the farm system as a whole and sustainable management methods for healthy soil, crop, and livestock.
Prereq: Not open to students with credit for 220T. This course is available for EM credit.

2201T Sustainable Cropping Systems and Marketing U 3
A study of cropping systems and marketing strategies related to sustainable agricultural enterprises.
Prereq: 220T (220T). This course is available for EM credit.
2210T Sustainable Agriculture Methods U 1
Applications of sustainable agricultural systems including cropping, animal operations, and other business enterprises. Prereq: 2200T (201T). This course is available for EM credit.

2228T Manure Management U 3
A study of the biological, chemical, and physical components of animal manures; methods for safe handling and storage; and land application. This course is available for EM credit.

2265T Integrated Pest Management U 2
A review and application of sustainable methods for controlling disease, insect, and weed pests in crops. Prereq or concour: 2411T (260T). Not open to students with credit for 265T. This course is available for EM credit.

2300T Introduction to Soil Science U 3
An introduction to soil physical, chemical, and biological properties related to plant systems, environmental quality, and construction. Prereq: Not open to students with credit for 221T. This course is available for EM credit.

2301T Introduction to Soil Science Laboratory U 1
Laboratory analysis of soil physical, chemical, and biological properties related to plant systems, environmental quality, and construction. Prereq or concour: 2300T. Not open to students with credit for 221T. This course is available for EM credit.

2324T Soil Management U 3
A study of sustainable-use of soil resources related to soil formation, mechanics, and erosion control. Prereq: 2300T and 2301T. This course is available for EM credit.

2411T Grain and Oilseed Crops U 3
A study of the cultural practices and production principles for grain and oilseed crops. Prereq: GenBiol 1200T or 1202G or Biology 1113. This course is available for EM credit.

2412T Forage Crops U 3
A study of grasses, legumes, and forbs used in grassland agriculture for livestock production. Prereq: Not open to students with credit for 262T. This course is available for EM credit.

2422T Principles of Weed Control U 3
An introduction to biological, chemical, and mechanical methods for controlling weeds in agronomic cropping systems. This course is available for EM credit.

2580T Soil Fertility and Fertilizers U 3
A study of plant nutrient cycles, fertilizer recommendations, application of ag-lime, fertilizers, animal manure, and municipal biosolids. Prereq: 2300T and 2301T. This course is available for EM credit.

3800T Principles of Farm Business Management U 4
A study of economic and management principles involved in planning, organizing, operating, and administering a farm business; emphasis placed on developing a business plan and problem solving. Prereq: AEDEcon 2105 (BusTec 101T or 102T). Prereq or concour: BusTec 1151T (151T) or AEDEcon 2001 (200). Not open to students with credit for BusTec 240T. This course is available for EM credit. Cross-listed in AnimTec.

Czech

1101 Elementary Czech I U 4
Introduction to Czech; development of speaking, listening, reading, and writing skills in cultural context. Closed to native speakers. Prereq: Not open to students with credit for 101, or 2 or more years of study in this language in high school, except by permission of department. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102 Elementary Czech II U 4
Continued development of speaking, listening, reading, and writing skills in cultural context. Closed to native speakers of this language. Prereq: 1101 (101.01). Not open to students with credit for 102 or 103. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103 Intermediate Czech I U 4
Continued development of speaking, listening, reading, and writing skills in cultural context. Prereq: 1102 (102.01). Not open to students with credit for 104, or to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GE for lang course.

2104 Intermediate Czech II U 4
Increasing functional ability in speaking, listening, reading, and writing practice, vocabulary-building; new grammar structures; start developing higher-level language skills in Czech. Closed to native speakers. Prereq: 1103, or 5 cr hrs for 104.51 or 111. Not open to students with credit for 407.51.

Crop and Soil Technology 123

Dance

1101 Contemporary I U 1 - 3
Non-major introduction to studio practice of contemporary movement forms; includes survey of the history, theory, and/or literature of contemporary movement forms. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

1111 Ballet I U 1 - 3
Non-major introduction to studio practice of classical ballet; includes survey of the history, theory, and/or literature of classical ballet. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

1131 African I U 1 - 3
Non-major introduction to studio practice of African dance; includes survey of the history, theory, and/or literature of African dance. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

1141 Jazz I U 1 - 3
Non-major introduction to studio practice of jazz dance; includes survey of the history, theory, and/or literature of jazz dance. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

1151 Hip Hop I U 1 - 3
Non-major introduction to studio practice of hip hop dance; includes survey of the history, theory, and/or literature of hip hop dance. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

1161 Tap I U 1 - 3
Non-major introduction to studio practice of tap dance; includes survey of the history, theory, and/or literature of tap dance. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

2102 Contemporary II U 1 - 3
Non-major intermediate level studio practice in contemporary movement forms; includes survey of the history, theory, and/or literature of contemporary movement forms. Prereq: One year of 1101 (211.01), or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

2103 Contemporary III U 1 - 3
Non-major advanced level studio practice in contemporary movement forms; includes survey of the history, theory, and/or literature of contemporary movement forms. Prereq: One year of 2102 (202.01), or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

2112 Ballet II U 1 - 3
Non-major intermediate level studio practice in classical ballet; includes survey of the history, theory, and/or literature of classical ballet. Prereq: One year of 1111 (211.02), or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

2113 Ballet III U 1 - 3
Non-major advanced level studio practice in classical ballet; includes survey of the history, theory, and/or literature of classical ballet. Prereq: One year of 2112 (202.02), or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

2114 Pointe U 1 - 3
Non-major pointe work in classical ballet; includes survey of the history, theory, and/or literature of ballet. Concur: 2113 for non-majors, or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

2121 Improvisation U 1 - 3
Introduction to studio practice of improvisation; includes survey of the history, theory, and/or literature of improvisation. Repeatable to a maximum of 8 cr hrs or 4 completions.

2132 African II U 1 - 3
Non-major intermediate/advanced level studio practice of African dance; includes survey of the history, theory, and/or literature of African dance. Prereq: One year of 1131 or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

2142 Jazz II U 1 - 3
Non-major intermediate level studio practice of jazz dance; includes survey of the history, theory, and/or literature of jazz dance. Prereq: One year of 1141 (211.03) or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

2143 Jazz III U 1 - 3
Non-major advanced level studio practice of jazz dance; includes survey of the history, theory, and/or literature of jazz dance. Prereq: One year of 2142 (202.03) or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>2152</td>
<td>Hip Hop II</td>
<td>1 - 3</td>
<td>Non-major intermediate/advanced level studio practice of hip hop dance; includes survey of the history, theory, and/or literature of hip hop dance. PreReq: One year of 1151 (201.06) or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.</td>
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<td>2162</td>
<td>Tap II</td>
<td>1 - 3</td>
<td>Non-major/intermediate/advanced level studio practice of tap dance; includes survey of the history, theory, and/or literature of tap dance. PreReq: One year of 1161 or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>2171</td>
<td>Pilates Mat I</td>
<td>1 - 3</td>
<td>Introduction to Pilates mat for non-majors; includes survey of the history, theory, and/or literature of Pilates. PreReq: One year of 2171 or permission of instructor. Repeatable to a maximum of 4 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>2172</td>
<td>Pilates Mat II</td>
<td>1 - 3</td>
<td>Intermediate/advanced Pilates mat for non-majors; includes survey of the history, theory, and/or literature of Pilates. PreReq: One year of 2171 or permission of instructor. Repeatable to a maximum of 4 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>2173</td>
<td>Pilates Reformer I</td>
<td>1 - 3</td>
<td>Introduction to Pilates reformer for non-majors; includes survey of the history, theory, and/or literature of Pilates. Repeatable to a maximum of 4 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>2174</td>
<td>Pilates Reformer II</td>
<td>1 - 3</td>
<td>Intermediate/advanced Pilates reformer for non-majors; includes survey of the history, theory, and/or literature of Pilates. PreReq: One year of 2173 or permission of instructor. Repeatable to a maximum of 4 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>2175</td>
<td>Yoga</td>
<td>1 - 3</td>
<td>Yoga practice for non-majors; includes survey of the history, theory, and/or literature of yoga. Repeatable to a maximum of 8 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>2176</td>
<td>Bartenieff Fundamentals</td>
<td>1 - 3</td>
<td>Bartenieff Fundamentals taught by certified practitioner (CMA) for non-majors; includes survey of the history, theory, and/or literature of Bartenieff Fundamentals. Repeatable to a maximum of 4 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>2177</td>
<td>Alexander Technique</td>
<td>1 - 3</td>
<td>Alexander Technique for non-majors; includes survey of the history, theory, and/or literature of Alexander Technique. Repeatable to a maximum of 8 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>2178</td>
<td>Floor Work</td>
<td>1 - 3</td>
<td>Floor work for non-majors; includes survey of the history, theory, and/or literature of floor work. Repeatable to a maximum of 4 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>2181</td>
<td>Social Dance</td>
<td>1 - 3</td>
<td>Social dance for non-majors; includes survey of the history, theory, and/or literature of social dance. Repeatable to a maximum of 8 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>2190</td>
<td>Movement Practice: Special Topics</td>
<td>1 - 3</td>
<td>Special topics in movement practice for non-majors. PreReq: Enrollment in Dance major. Repeatable to a maximum of 8 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>2201</td>
<td>Minors Composition</td>
<td>2 - 3</td>
<td>Introduction to composition for dance minors. PreReq: Not open to students with credit for 211.03. Repeatable to a maximum of 4 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>2201</td>
<td>Analysis</td>
<td>1 - 3</td>
<td>Introduction to analysis of movement for dance minors. PreReq: Not open to students with credit for 211.03. Repeatable to a maximum of 4 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>2367</td>
<td>Writing About Dance</td>
<td>3</td>
<td>Provides an opportunity to view, discuss, read, think and write about contemporary dance through the practice of criticism. PreReq: English 1110.01 (110) or equiv. Not open to students with credit for 367.01. GE writing and comm course: level 2.</td>
</tr>
<tr>
<td>2367H</td>
<td>Honors Writing About Dance</td>
<td>3</td>
<td>Provides a rigorous opportunity to view, discuss, read, think and write about contemporary dance and its history through the study and practice of criticism. PreReq: Honors standing, and English 1110.01 (110) or equiv, or permission of instructor. Not open to students with credit for 367.01H.</td>
</tr>
<tr>
<td>2401</td>
<td>Western Concert Dance: Renaissance to Present</td>
<td>3</td>
<td>Includes European origins of classical ballet, Africanist contributions, postmodern impulses; looks at aesthetic, cultural, and political themes in the history of concert dance in America. PreReq: Not open to students with credit for 200. GE VPA course.</td>
</tr>
<tr>
<td>2601</td>
<td>Production</td>
<td>1 - 3</td>
<td>Activities in dance production; includes lectures, readings, and discussions. PreReq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 3 cr hrs or 2 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2801</td>
<td>Freshman Seminar I</td>
<td>3</td>
<td>Introductory undergraduate orientation to The Ohio State University and the Department of Dance; includes introductions to dance improvisation and music skills. PreReq: Fresh standing and qualifying audition; or permission of instructor. Not open to students with credit for 100, 211.01, or 615. VSP Admis Cond course.</td>
</tr>
<tr>
<td>3101</td>
<td>Contemporary Part I</td>
<td>1 - 3</td>
<td>Foundational level of contemporary movement forms for dance majors. PreReq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>3102</td>
<td>Contemporary Part II</td>
<td>1 - 3</td>
<td>Foundational level of contemporary movement forms for dance majors. PreReq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>3111</td>
<td>Ballet Part I</td>
<td>1 - 3</td>
<td>Foundational level of classical ballet for dance majors. PreReq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>3112</td>
<td>Ballet Part II</td>
<td>1 - 3</td>
<td>Foundational level of classical ballet for dance majors. PreReq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>3201</td>
<td>Composition I</td>
<td>3</td>
<td>Foundational level of composition. PreReq: Enrollment in Dance major, or permission of instructor. Not open to students with credit for 211.03, 211.04, or 620. VSP Admis Cond course.</td>
</tr>
<tr>
<td>3301</td>
<td>Analysis</td>
<td>3</td>
<td>Foundational level of analysis of movement. PreReq: Enrollment in Dance major, or permission of instructor. Not open to students with credit for 621, 620, or 605. VSP Admis Cond course.</td>
</tr>
<tr>
<td>3401</td>
<td>Dance in Popular Culture</td>
<td>3</td>
<td>Popular dance in the United States, with an emphasis on how movement constructs identity and community. PreReq: Not open to students with credit for 357. GE cultures and ideas and diversity global studies course.</td>
</tr>
<tr>
<td>3402</td>
<td>Dance in Global Contexts</td>
<td>3</td>
<td>Surveys dance forms from around the globe, offering insights into the religious, social, and political functions of dances in their historical and contemporary practices. GE cultures and ideas and diversity global studies course. VSP Admis Cond course.</td>
</tr>
<tr>
<td>3411</td>
<td>History/Theory/Literature I</td>
<td>3</td>
<td>Survey of dance from the Renaissance to the early twentieth century. PreReq: Enrollment in Dance major, VSP Admis Cond course.</td>
</tr>
<tr>
<td>3412</td>
<td>History/Theory/Literature II</td>
<td>3</td>
<td>Survey of dance from the early twentieth century to the present. PreReq: Enrollment in Dance major. VSP Admis Cond course.</td>
</tr>
<tr>
<td>3490</td>
<td>History/Theory/Literature Special Topics</td>
<td>1 - 3</td>
<td>Special topics in history/theory/literature. PreReq: Enrollment in Dance major. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>3501</td>
<td>Dance Education</td>
<td>3</td>
<td>Foundational study in dance education. PreReq: Enrollment in Dance major. VSP Admis Cond course.</td>
</tr>
<tr>
<td>3801</td>
<td>Kinesiology</td>
<td>3</td>
<td>Exploration of the skeleton and muscles for mechanical efficiency of movement, including principles of stability and motion as they relate to dance, for dance majors and minors. PreReq: Enrollment in Dance major. Not open to students with credit for 671.01. VSP Admis Cond course.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Description</td>
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</tr>
</tbody>
</table>
| 3999H       | Research and Creativity in Dance                 | U       | 1 - 10  
Honors Research and Creativity in Dance.  
Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U. VSP Admis Cond course. |
| 4101        | Contemporary Part I                              | U       | 1 - 3  
Further expertise in contemporary movement forms for dance majors.  
Prereq: Enrollment in Dance major. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course. |
| 4102        | Contemporary Part II                             | U       | 1 - 3  
Further expertise in contemporary movement forms for dance majors.  
Prereq: Enrollment in Dance major. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course. |
| 4111        | Ballet Part I                                    | U       | 1 - 3  
Further expertise in classical ballet for dance majors.  
Prereq: Enrollment in Dance major. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course. |
| 4112        | Ballet Part II                                   | U       | 1 - 3  
Further expertise in classical ballet for dance majors.  
Prereq: Enrollment in Dance major. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course. |
| 4189        | Field Experience                                | U       | 0 - 3  
Internship, practicum, or professional development activity, including teaching experience, under a faculty mentor.  
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. VSP Admis Cond course. |
| 4193        | Independent Study                                | U       | 1 - 10  
Independent projects undertaken by BFA students, under supervision of faculty mentor.  
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U. VSP Admis Cond course. |
| 4193H       | Independent Study: Honors                        | U       | 1 - 10  
Independent projects undertaken by BFA students in honors, under supervision of faculty mentor.  
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U. VSP Admis Cond course. |
| 4194        | Group Studies                                    | U       | 1 - 3  
Group studies in dance.  
Prereq: Undergrad standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course. |
| 4200        | Choreography Workshop                            | U       | 1 - 3  
Workshop providing a platform for ongoing choreographic projects, includes peer and faculty observation and critique.  
Prereq: 3201 (211.03) and 3202 (211.04), and enrollment in Dance major. Repeatable to a maximum of 18 cr hrs or 6 completions. VSP Admis Cond course. |
| 4201        | Topics in Dance Composition                      | U       | 2 - 3  
Topics in dance composition.  
Prereq: 3201 (211.03) and 3202 (211.04), and enrollment in Dance major. Repeatable to a maximum of 9 cr hrs or 3 completions. VSP Admis Cond course. |
| 4202        | Music in Dance Composition                       | U       | 2 - 3  
Study of music suitable for choreographic purposes and the various approaches to the use of music in dance composition.  
Prereq: Enrollment in Dance major, and 3201, or 3202, or 645 with Music 250 or 251. Repeatable to a maximum of 9 cr hrs or 3 completions. VSP Admis Cond course. |
| 4203        | Group Forms                                      | U       | 2 - 3  
Composing group dances and exploring compositional devices and craft unique to group choreography.  
Prereq: Enrollment in Dance major, and 3201 (211.03), or 3202 (211.04). Repeatable to a maximum of 9 cr hrs or 3 completions. VSP Admis Cond course. |
| 4290        | Composition: Special Topics                      | U       | 1 - 3  
Special topics in composition.  
Prereq: Enrollment in Dance major. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course. |
| 4301        | Intermediate Notation                            | U       | 3  
Emphasis in reading dance with a basis in Labanotation.  
Prereq: Enrollment in Dance major, and 3301 (621), or permission of instructor. Not open to students with credit for 622. VSP Admis Cond course. |
| 4302        | Advanced Notation                                | U       | 3  
Advanced Labanotation.  
Prereq: 4301 (622), and enrollment in Dance major; or permission of instructor. Not open to students with credit for 622. VSP Admis Cond course. |
| 4303        | Directing from Score                             | U       | 3  
Methods of teaching and coaching a dance learned from a Labanotated score.  
Prereq: Enrollment in Dance major, and 4302 (623), or permission of instructor. Repeatable to a maximum of 9 cr hrs. VSP Admis Cond course. |
| 4304        | Dance Dynamics                                   | U       | 3  
Study of dynamics and phrasing through Effort theory from Laban Movement Analysis.  
Prereq: Enrollment in Dance major, 3301 (621) and 3202 (645), and Jr standing, or permission of instructor. Not open to students with credit for 605. VSP Admis Cond course. |
| 4305        | Space Design                                     | U       | 3  
Study of spatial forms and movement through Space Harmony theory from Laban Movement Analysis.  
Prereq: Enrollment in Dance major, 3301 (621), and 3202 (645), or permission of instructor. Not open to students with credit for 605. VSP Admis Cond course. |
| 4390        | Analysis: Special Topics                         | U       | 1 - 3  
Special topics in analysis for dance majors.  
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course. |
| 4490        | History/Theory/Literature Special Topics         | U       | 1 - 3  
Special topics in history/theory/literature.  
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course. |
| 4590        | Education: Special Topics                        | U       | 1 - 3  
Special topics in education.  
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course. |
| 4590        | Production/Technology: Special Topics           | U       | 1 - 3  
Special topics in production and technology.  
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course. |
| 4700        | Repertory                                         | U       | 1 - 3  
Studio-based experience in learning a new or existing dance work, may include informal performance.  
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. VSP Admis Cond course. |
| 4701        | Performance                                      | U       | 1 - 3  
Rehearsal process and performance of a dance work choreographed by resident or visiting artists.  
Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. VSP Admis Cond course. |
| 4801        | Senior Seminar I                                 | U       | 1  
The primary vehicle for the mentoring and advising of dance majors in the senior year; includes grant writing and professional development.  
Prereq: Enrollment in Dance major, and Sr standing, or permission of instructor. VSP Admis Cond course. |
| 4802        | Senior Seminar II                                | U       | 1  
The primary vehicle for the mentoring and advising of dance majors in the senior year; includes production of the senior project, current trends in the dance field, and technology literacy for dancers.  
Prereq: Enrollment in Dance major, and Sr standing, or permission of instructor. VSP Admis Cond course. |
| 4803        | Interdisciplinary Seminar                        | U       | 1 - 3  
Advanced problems in dance and related areas; nature of seminar based on selected topics.  
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. VSP Admis Cond course. |
4804  Interdisciplinary Workshop  U  1 - 3
Advanced problems in dance and related areas; nature of workshop based on selected topics. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. VSP Admis Cond course.

4805  Interdisciplinary Practicum  U  1 - 3
Advanced problems in dance and related areas; nature of practicum based on selected topics. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. VSP Admis Cond course.

4990  Research: Special Topics  U  1 - 3
Special topics in research. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.

4998  Senior Project  U  1 - 5
Activities leading to the completion of the BFA creative project; in partial fulfillment of the BFA degree. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded SU. VSP Admis Cond course.

4998H  Honors Senior Project  U  1 - 5
Activities leading to the completion of the BFA creative project; in partial fulfillment of the BFA degree with honors. Prereq: Honors standing or permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded SU. VSP Admis Cond course.

4999  Distinction Project  U  1 - 5
Activities leading to the completion of the BFA distinction project; in partial fulfillment of the BFA degree. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded SU. VSP Admis Cond course.

4999H  Honors Distinction Project  U  1 - 5
Activities leading to the completion of the BFA distinction project; in partial fulfillment of the BFA degree with honors. Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded SU. VSP Admis Cond course.

5100  Alternative Movement Practice  U G  1 - 3
Alternative movement practice for dance majors and graduate dance students. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded SU. VSP Admis Cond course.

5101  Contemporary Part I  U G  1 - 3
Advanced practice in contemporary movement forms for dance majors and graduate dance students. Prereq: Enrollment in Dance major. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.

5102  Contemporary Part II  U G  1 - 3
Advanced practice in contemporary movement forms for dance majors and graduate dance students. Prereq: Enrollment in Dance major. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

5105  Contemporary Dance Practice  U G  1
Intermediate and advanced practice in contemporary dance for dance majors and graduate dance students, and others by permission. This is designed as a second technique class, offered later in the day, and is intended as an opportunity for deepening one's practice and technique. Prereq: Enrollment in Dance major, or permission of instructor or department. Repeatable to a maximum of 12 cr hrs.

5106  Contemporary Dance Practice Part II  U G  1
Intermediate and advanced practice in contemporary dance for dance majors and graduate dance students, and others by permission. This is designed as a second technique class, offered later in the day, and is intended as an opportunity for deepening one's practice and technique. Sp-Sem. Prereq: Enrollment in Dance major, or permission of instructor or department. Repeatable to a maximum of 12 cr hrs.

5111  Ballet Part I  U G  1 - 3
Advanced practice in classical ballet for dance majors and graduate dance students. Prereq: Enrollment in Dance major. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

5112  Ballet Part II  U G  1 - 3
Advanced practice in classical ballet for dance majors and graduate dance students. Prereq: Enrollment in Dance major. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.

5114  Pointe  U G  1
Pointe work in classical ballet for dance majors and graduate dance students. Conc: 2113, or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

5115  Ballet Practice Part 1  U G  1
Intermediate and advanced practice in classical ballet for dance majors and graduate dance students, and others by permission. This is designed as a second technique class, offered later in the day, and is intended as an opportunity for deepening one's practice and technique. Prereq: Enrollment in Dance major, or permission of instructor or department. Repeatable to a maximum of 12 cr hrs.

5116  Ballet Practice Part II  U G  1
Intermediate and advanced practice in classical ballet for dance majors and graduate dance students, and others by permission. This is designed as a second technique class, offered later in the day, and is intended as an opportunity for deepening one's practice and technique. Prereq: Enrollment in Dance major, or permission of instructor or department. Repeatable to a maximum of 12 cr hrs.

5171  Pilates Mat I  U G  1 - 2
Foundational level of Pilates mat for dance majors and graduate dance students. Prereq: Enrollment in Dance major. Repeatable to a maximum of 4 or 2 completions. VSP Admis Cond course.

5172  Pilates Mat II  U G  1 - 2
Advanced practice in Pilates mat for dance majors and graduate dance students. Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 4 or 2 completions. VSP Admis Cond course.

5173  Pilates Reformer I  U G  1 - 2
Foundational level of Pilates reformer for dance majors and graduate dance students. Prereq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 4 or 2 completions. VSP Admis Cond course.

5174  Pilates Reformer II  U G  1 - 2
Advanced practice in Pilates reformer for dance majors and graduate dance students. Prereq: Enrollment in Dance major, or permission of instructor. Repeatable to a maximum of 4 or 2 completions. VSP Admis Cond course.

5175  Yoga  U G  1 - 3
Yoga practice for dance and health sciences majors and graduate students. Prereq: Enrollment in Dance or Health Sciences major, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.

5176  Bartenieff Fundamentals  U G  1 - 2
Bartenieff Fundamentals taught by certified practitioner (CMA) for dance majors and graduate dance students. Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 4 or 2 completions. VSP Admis Cond course.

5177  Alexander Technique  U G  1 - 2
The relationship of kinesthetic perception and the postural reflexes to physical coordination in performance. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. Cross-listed in Theatre and Music.

5178  Floor Work  U G  1 - 2
Floor work for dance majors and graduate dance students. Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

5181  Social Dance  U G  1 - 2
Social dance for dance majors and graduate dance students. Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

5190  Movement Practice: Special Topics  U G  1 - 3
Special topics in movement practice for dance majors and graduate dance students. Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.

5191  Eurythmy  U G  1 - 3
Eurythmics for dance majors and graduate dance students. Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

5194  Graduate and Undergraduate Group Studies  U G  1 - 3
Group studies in dance. Prereq: Grad or Undergrad standing in Dance, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.

5200  Concert Workshop  U G  1 - 3
Workshop in preparation for bringing a choreographed piece to a performance setting, includes faculty and peer feedback. Prereq: Enrollment in Dance major. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.

5211  Dance - Film I  U G  3
An introduction to creating short films of dance made specifically for the camera. Basics of camera and Final Cut Pro are taught as three film projects are created. Prereq: Jr standing, and enrollment in Dance major; or grad standing; or permission of instructor.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>5212</td>
<td>Dance - Film II</td>
<td>UG 3</td>
<td></td>
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<tr>
<td>5213</td>
<td>Intermedia Performance</td>
<td>UG 2-3</td>
<td></td>
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<tr>
<td>5214</td>
<td>Interdisciplinary Connections</td>
<td>UG 2-3</td>
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<tr>
<td>5601</td>
<td>Production: Practicum</td>
<td>UG 1-3</td>
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<td>5602</td>
<td>Lighting: Practicum</td>
<td>UG 1-3</td>
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<tr>
<td>5603</td>
<td>Costume: Practicum</td>
<td>UG 1-3</td>
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<td>5612</td>
<td>Digital Video Editing: Practicum</td>
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<td>Advanced Digital Video Editing: Practicum</td>
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<tr>
<td>5614</td>
<td>Sound Design for Dance</td>
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<td>5615</td>
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<td>5797</td>
<td>Study at Foreign Institution</td>
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<td>5798</td>
<td>Study Tour</td>
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<td>Music and Choreography</td>
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<td>6702</td>
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### Dance - Film II
Continuing studies from Dance Film I in dance on camera, exploring aspects of history, composition and technology as a foundation for video production.
Prereq: 5211, or permission of instructor.

### Intermedia Performance
Exploration of the unique characteristics of performance that integrates movement and digital media through hands-on creative and technological projects.
Prereq: Enrollment in Dance major, and Jr standing, or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

### Interdisciplinary Connections
Workshop exploring cross-disciplinary projects in the arts, including movement, visual arts, design, music, media/technology, dance lighting/production, and other elements.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. VSP Admis Cond course.

### Production: Practicum
Hands-on exploration of elements of dance production.
Prereq: Enrollment in Dance major, and 2601 (298), or Grad standing, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.

### Lighting: Practicum
Hands-on exploration of elements of dance lighting.
Prereq: Enrollment in Dance major or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.

### Costume: Practicum
Hands-on exploration of elements of dance costuming.
Prereq: 2601 (298), and enrollment in Dance major; or Grad standing; or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions.

### Technology: Practicum
Hands-on exploration of elements of dance technology
Prereq: Enrollment in Dance major, and 2601 (298), or Grad standing, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.

### Digital Video Editing: Practicum
Introduction to practical skills in desktop non-linear digital video editing with particular attention to motion and action editing in dance.
Prereq: Enrollment in Dance major, and 2601 (298), or Grad standing, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions.

### Advanced Digital Video Editing: Practicum
Continued investigation leading to in-depth skills in desktop non-linear video editing with particular attention to motion and action editing in dance.
Prereq: Enrollment in Dance major; 5612 (660.11), and 2601 (298) or Grad standing, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions.

### Sound Design for Dance
Course focusing on how music/sound design techniques are used in composing for dance.
Prereq: Enrollment in Dance major, and 2601 (298), or Grad standing, or permission of instructor. Not open to students with credit for 632. VSP Admis Cond course.

### Costume Design for Dance
Course focusing on how costuming techniques are used in designing for dance.
Prereq: 2601 (298), and enrollment in Dance major; or Grad standing; or permission of instructor. Not open to students with credit for 634.

### Study at Foreign Institution
Off-campus study in dance outside the US.
Prereq: Permission of Instructor. Repeatable to a maximum of 30 cr hrs or 3 completions. This course is graded S/U. VSP Admis Cond course.

### Study Tour
Off-campus study tour in dance outside the US.
Prereq: Permission of Instructor. Repeatable to a maximum of 30 cr hrs or 3 completions. This course is graded S/U. VSP Admis Cond course.

### Field Experience
Internship, practicum or professional development activity, including teaching experience, under a faculty mentor.
Prereq: Permission of Instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. VSP Admis Cond course.

### Independent Study: MFA
Independent projects undertaken by MFA students under supervision of faculty mentor.
Prereq: Permission of Instructor. Repeatable to a maximum of 24 cr hrs or 16 completions. This course is graded S/U. VSP Admis Cond course.

### Group Study in Dance
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.

### Group Forms
Composition of group dances, and exploration of devices and craft unique to group choreography.
Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 748. VSP Admis Cond course.

### Choreography Process
Investigation of dance composition with emphasis on the choreographic process and group interaction.
Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 748. VSP Admis Cond course.

### Dance Theater
Study of contemporary and historical dance theater choreography and performance practices as focus for student creative process.
Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 748. VSP Admis Cond course.

### Composition: Special Topics
Special topics in dance composition.
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. VSP Admis Cond course.

### Analysis I
Foundational course in Laban Movement Analysis (LMA), including studio-based studies, practice in observation, and topical readings and viewings.
Prereq: Grad standing in Dance. Not open to students with credit for 707. VSP Admis Cond course.

### Analysis II
Foundational course in Labanotation (LN), including the study of Motif writing/description and the elementary course in notation on the staff.
Prereq: 2601 (298), and Grad standing in Dance; or permission of instructor. Not open to students with credit for 820. VSP Admis Cond course.

### Repertory
Studio-based experience in learning a new or existing dance work, may include informal performance.
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. VSP Admis Cond course.

### Performance
Rehearsal process and performance of a dance work choreographed by resident or visiting artists.
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.

### Performance Techniques
Interdisciplinary seminar exploring the creative and practical aspects of performance through exercises, readings and discussion.
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. VSP Admis Cond course.

### Repertory/Performance: Special Topics
Special topics in repertory and performance.
Prereq: Grad standing in Dance or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. VSP Admis Cond course.

### Graduate Seminar I
Introductory graduate orientation seminar presenting resources for navigating the program, including research/writing skills, and foundational technological literacy in dance.
Prereq: Grad standing in Dance or permission of instructor. Not open to students with credit for 801.51, 801.91. VSP Admis Cond course.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<td>Interdisciplinary Workshop</td>
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<td>Interdisciplinary Practicum</td>
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<td>7215</td>
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<td>7305</td>
<td>Space Design</td>
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<td>Dance in Times of Turbulence</td>
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<td>7405</td>
<td>Black Continuum in American Dance</td>
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<td>Theories of the Body</td>
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<td>Current Issues in Dance and Performance</td>
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<td>7408</td>
<td>Bodies on the Line</td>
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<td>Ethnographies of Dance and Performance</td>
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<td>History/Theory/Literature Analysis of Movement</td>
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<td>7798</td>
<td>MFA Comprehensive Examination</td>
<td>1 - 2</td>
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</table>

Inquiry into aesthetic points of view, beliefs and assumptions inherent in dance practices and dance criticism from the mid-1980s to the present.

PreReq: Grad standing or permission of instructor. Not open to students with credit for 759, 801.31. VSP Admis Cond course.
Dental Hygiene

1100 Dental Hygiene Survey U 1
Introduction to the university and the dental hygiene program. University policies, procedures and resources; students' rights and responsibilities; academic requirements; career and professional issues.
Prereq: Admission to pre-DHY, or permission of instructor.

2110 Oral Anatomy, Tooth Morphology and Occlusion U 4
Instruction in the basics of dental morphology and oral anatomy to aid in providing dental hygiene therapy.
Prereq: Admission to DMY major.

2130 Oral Radiography U 2
Introduction to physics, biology and technical components involved in exposing, processing and interpreting dental radiographs.
Prereq: Admission to DMY major.

2140 Oral Histology and Embryology U 2
A study of the microscopic anatomy of the teeth and surrounding structures; the development of the teeth, oral cavity, and face.
Prereq: Admission to Dental Hygiene major.

2150 Periodontology U 2
Introduction to principles of periodontology and periodontal medicine. Anatomy, physiology, histology and functions of dental tissue are discussed in relationship to health and disease of the periodontium.
Prereq: Admission to DMY major.

2170 Dental Materials Laboratory U 2
Instruction in the composition, chemical and physical properties, proper manipulation and use of materials used in dentistry.
Prereq: 2110.

2220 The Profession of Dental Hygiene U 1
Introduction to the history, professional, legal, and ethical aspects of dental hygiene.
Prereq: Admission to DMY major.

2240 Oral Health and Disease Prevention I U 2
Introduction and knowledge of appropriate use of materials and techniques in patient education and dental hygiene practice to prevent, arrest, and control dental diseases.
Prereq: Admission to DMY major.

2300 Dental Hygiene Pre-Clinic U 4
Introduction to procedures and techniques necessary to function as a co-therapist in the dental clinical setting.
Prereq: Admission to DMY major.

2310 Dental Hygiene Clinic I U 3
Clinical application of the principles and technical procedures of patient management in the practice of dental hygiene.
Prereq: A grade of C- or above in 2110, 2130, 2150, and 2300, and recommendation of faculty.

3100 Oral Pathology U 2
Introduction to current concepts regarding the pathogenesis and clinical features of oral diseases.
Prereq: 3120.

3140 Pain and Anxiety Management U 2
Instruction in commonly used dental office techniques for managing patient anxiety and pain primarily using nitrous oxide/oxygen inhalation and local anesthesia.
Prereq: 2110 and 2300.

3210 Community Oral Health U 2
Introduction to the knowledge, skills and behaviors necessary to promote oral health through organized community efforts.
Prereq: Admission to DMY major.

3210E Community Oral Health U 2
Introduction to the knowledge, skills and behaviors necessary to promote oral health through organized community efforts.
Prereq: Honors standing, and admission to DMY major.

3290 Care for Patients with Special Needs U 2
Instruction to identify patients with special needs and development of skills and techniques to effectively treat this population.
Prereq: 2240 and 2300.

3240 Oral Health and Disease Prevention II U 2
Continued instruction and knowledge of appropriate use of materials and techniques in patient education and dental hygiene practice to prevent, arrest and control oral diseases.
Prereq: 2240.

3320 Dental Hygiene Clinic II U 3 - 4
Ongoing clinical experience with emphasis on development of fundamental clinical skills.
Prereq: A grade of C- or above in 2310, 3120, 3140, and 3150, and recommendation of faculty.

3325 Dental Hygiene Elective Clinic U 1
An elective extension of the clinical experience in patient care emphasizing refining skills taught in previous clinical courses.
Prereq: A grade of C- or above in 3320, and recommendation of faculty. This course is graded S/U.

3330 Dental Hygiene Clinic III U 4
A continuation of clinical patient care with emphasis on time management. Patient care parameters are expanded.
Prereq: A grade of C- or above in 3320, and recommendation of faculty.

3345 Dental Hygiene Special Needs Clinic U 1
Clinical application of the philosophy and techniques of dental hygiene therapy with emphasis on recognizing special needs and providing appropriate treatment options for patients with special needs.
Prereq: 321.02. Repeatable to a maximum of 2 cr hrs.

3410 Research Methods and Interpretation U 4
Introduction to the process of scientific inquiry, research methodology, basic statistical concepts and interpretation of data analyses. Research methodology from a dental perspective will be introduced.
Prereq: Admission to DMY or BDCP major.

4193 Individual Studies in Dental Hygiene U 1 - 3
Advanced studies in any relevant area of dental hygiene.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4194 Group Studies in Dental Hygiene U 1 - 3
Group studies in selected topics in dental hygiene.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.
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<td>Current Concepts in Dental Hygiene</td>
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<td>6100</td>
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<tr>
<td>7200</td>
<td>Clinical/Laboratory Instruction and Administration</td>
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<td>7300</td>
<td>Leadership and Administration in Dental Hygiene Education</td>
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<td>7999</td>
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<td>6200</td>
<td>Molecular and Cellular Biochemistry</td>
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<td>Communication and Ethics in Dentistry</td>
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<tr>
<td>6400</td>
<td>Microbiology and Immunology</td>
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<tr>
<td>6413</td>
<td>Integrated Basic Science Review</td>
<td>D ½</td>
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</table>
6415 Clinical Evaluative Sciences I  
Epidemiology of dental disease and introduction to evaluative sciences as they relate to the practice of dentistry.

6416 Introduction to Clinical Dentistry I  
Introduction to prevention of oral disease, oral examination and modeling, patient evaluation, and use of the dental operatory. May include observation or assistance with clinical patient care, simulations, and laboratory exercises. Prereq: Not open to students with credit for 415.02, 416, and 427. This course is graded S/U.

6417 Oral Anatomy  
Dental anatomy and anatomy of the head and neck.

6423 Clinical Evaluative Sciences II  
Evaluative sciences as they relate to the practice of dentistry including measurement and description of data and research study design.

6427 Introduction to Clinical Dentistry II  
Introduction to periodontal instrumentation, charting, ultrasonic scaling and recall. Topics also include: Rubber dam, coronal polishing and composite typodont exercise. This course is graded S/U.

6432 Fixed Restorative Dentistry I  
Single tooth posterior crown preparations and provisional restorations for complete veneer crowns, metal-ceramic crowns and fixed partial dentures. Includes a laboratory component.

6433 Occlusion I  
Dental and temporomandibular morphology. Includes a complex laboratory procedure in the Lundeen waxing technique.

6434 Fixed Restorative Dentistry II  
Fabrication of single unit cast alloy restorations and provisional restorations for complete veneer crowns, metal-ceramic crowns and fixed partial dentures. Includes a laboratory component.

6482 Removable Complete Prosthodontics I  
Overview of complete removable prosthodontics for the general dentist. Includes a laboratory component.

6489 Removable Partial Prosthodontics I  
Introduction to removable partial prosthodontics. Survey edentulous casts and design removable partial dentures; prepare mouth for insertion. Includes a laboratory component.

6500 Histology, Development and Cell Biology of Oral Tissues  
Light microscopic and ultrastructural organization of adult and developing orofacial tissues including their underlying cellular and molecular basis.

6505 Oral Surgery I  
Introduction to principles of patient evaluation and management for common dento-alveolar surgical procedures.

6516 Pediatric Dentistry I  
Epidemiology of dental caries and periodontitis. Oral microbiology of the disease process and relationship to systemic disease. Topics also include: Oral infections, sterilization and asepsis, and caries assessment, diagnosis, and fluoride therapy.

6532 Occlusion and TMD  
Impact of tooth form on function. Enhancing the diagnosis and treatment of patients with advanced restorative needs by duplicating the patient's dentition in the dental laboratory and correctly relating that to the TMJ.

6534 Operative Dentistry I  
Introduction to Operative Dentistry focusing on basic posterior operative preparations. Includes a laboratory component.

6535 Fixed Restorative Dentistry III  
Fabrication of direct and indirect single-unit and fixed partial interim prosthesis and preparation of teeth for anterior metal and all-ceramic restorations. Includes a laboratory component.

6536 Operative Dentistry II  
Composite and large amalgam preparation and restoration. Includes a laboratory component.

6537 Fixed Restorative Dentistry V  
Restorative treatment of the endodontically treated tooth and Fixed Prosthodontics competency exam. Includes a laboratory component.

6538 Operative Dentistry III  
Indirect composite restorations and Operative competency exam. Includes a laboratory component.

6539 Fixed Restorative Dentistry IV  
Considerations in the provision and fabrication of esthetic crowns. Includes a laboratory component.

6544 Internal Medicine for Dentistry  
Review of common medical conditions and implications for dental treatment. Attention is placed on major organ pathophysiology, clinical medicine & pharmacologic management. Emergency medicine is also discussed.

6545 Oral Radiology  
An introduction to diagnostic radiology as it pertains to the oral and maxillofacial region including physics, proper techniques and image interpretation.

6551 Pediatric Dentistry II  
Introduction to basic restorative dentistry for the primary and transitional dentition.

6564 Periodontology I  
Introduction to periodontal disease and diagnosis.

6565 Periodontology II  

6567 Endodontics I  
Overview of basic endodontic treatment, from access to the obturation technique. General terminology, basic instrument description, rationale for treatment. Includes laboratory component.

6569 Endodontics II  
Topics related to endodontic treatment including: diagnosis, emergency treatment, traumatic injuries, internal bleeding, vital pulp therapy, relationship to the periodontium, surgery, and treatment outcomes.

6571 Pharmacology I  
Introduction to the mechanism of action and side effects of pharmacologic agents.

6579 Local Anesthesia  
Techniques of intraoral local anesthetic administration with emphasis on predicting and preventing complications. Includes discussion of related basic science principles.

6587 Removable Partial Prosthodontics II  
Treatment of patients with a complete maxillary denture and a mandibular distal extension removable partial denture. Includes a laboratory component.

6600 Human Physiology  
Human physiology course for dental students. Overview of physiological systems including nerve, muscle, cardiovascular, respiration, endocrine and renal. Oral physiology topics including kinesthesis, mastication, swallowing and pain.

6603 Temporomandibular Disorders  
Overview of non-odontogenic pain in the head and face region. Diagnosis and initial management of temporomandibular disorders is emphasized.

6612 Pharmacology II  
Applied pharmacology including the safe prescribing of drugs used in general dental practice. Includes principles of pharmacology and interaction concerns.

6623 Geriatrics and Patients with Special Health Needs  
Concerns associated with the provision of oral health care to Geriatric and Special Needs patients. Topics include: patient mobility, psychosocial and socioeconomic issues, medical considerations, and communication.

6625 Practice Management I  
Basic concepts in personal and business finance and business management. Topics include future trends in dentistry, economics, investments, and concepts in risk management and regulatory agency oversight.

6626 Practice Management II  
Career opportunities within Dentistry. Evaluation of Dental practice types relative to business structure, organization and productivity analysis.

6627 Practice Management III  
Topics include legal issues affecting Dental practice, peer review process, liability insurance, marketing, associateships, and evaluating and purchasing a Dental practice.

6629 Dental Materials  
Evaluation and effective use of dental materials by the general dentist. Topics also include requirements of ideal materials and procedures for working with dental laboratories. This course is graded S/U.

6630 Diagnosis and Treatment Planning for Patients with Complex Restorative Needs  
Introduction to procedures for collecting and evaluating information, particularly as related to occlusion, that enable proper diagnose and treatment of partially edentulous patients with complex restorative needs. Includes a laboratory component.

6631 Restorative and Prosthetic Dentistry Clinical Lecture Series I  
Advanced topics related to clinical guidelines, prevention of recurrent caries under fixed restorations, fluid control, soft tissue management, tooth isolation and pulp protection.
### Dentistry

<table>
<thead>
<tr>
<th>Course No.</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>6632</td>
<td>Restorative and Prosthetic Dentistry Clinical Lecture</td>
<td>D 1</td>
<td>Series II Advanced topics related to treatment planning, dental materials, articulators and impressions.</td>
</tr>
<tr>
<td>6633</td>
<td>Restorative and Prosthetic Dentistry Clinical Lecture</td>
<td>D 1</td>
<td>Series III Advanced topics related to esthetics, casting delivery, removable partial denture attachments, classification of endodontism, treating difficult denture patients and maxillofacial prostheses.</td>
</tr>
<tr>
<td>6638</td>
<td>Implant Dentistry I</td>
<td>D 1</td>
<td>Introduction to implant dentistry including discussion of treatment planning dental implants.</td>
</tr>
<tr>
<td>6639</td>
<td>Implant Dentistry II</td>
<td>D 1</td>
<td>Complex fundamentals in the planning and treatment of dental implants for the general dentist.</td>
</tr>
<tr>
<td>6645</td>
<td>Oral Pathology I</td>
<td>D 2</td>
<td>Oral and maxillofacial pathologic conditions. Topics include dental and developmental anomalies, mucocutaneous and salivary gland disorders, odontogenic cysts and tumors and HIV infection.</td>
</tr>
<tr>
<td>6648</td>
<td>Oral Pathology II</td>
<td>D 3</td>
<td>Oral and maxillofacial pathologic conditions. Topics include inflammatory and reactive conditions, epithelial and melanocytic pathology, Mesenchymal hard and soft tissue neoplasms, hematologic disorders and oral manifestations of systemic disease.</td>
</tr>
<tr>
<td>6651</td>
<td>Pediatric Dentistry III</td>
<td>D 3</td>
<td>Overview of Pediatric Dentistry for the general dentist. Content includes treatment of infants, children, adolescents and those patients with special medical needs. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>6655</td>
<td>General Pathology</td>
<td>D 3</td>
<td>Overview of human disease and the mechanisms associated with genetic, acquired, reactive and neoplastic conditions. Disease epidemiology, pathogenesis, diagnosis, treatment, prognosis and prevention are discussed.</td>
</tr>
<tr>
<td>6656</td>
<td>Orthodontics I</td>
<td>D 4</td>
<td>Introduction to orthodontic diagnosis and treatment planning for general dentists.</td>
</tr>
<tr>
<td>6659</td>
<td>Orthodontics II</td>
<td>D 1</td>
<td>Advanced topics in orthodontics for the general dentist including: growth and development and treatment evaluation.</td>
</tr>
<tr>
<td>6684</td>
<td>Removable Complete Prosthodontics II</td>
<td>D ½</td>
<td>Finishing and polishing a complete denture, laboratory remount, occlusal equilibration, denture repair and reline. Includes a laboratory component.</td>
</tr>
<tr>
<td>6690</td>
<td>Introduction to Clinical Dentistry III</td>
<td>D 2</td>
<td>Introduction to interim partial dentures and border molding, dental photography, carries risk assessment, removal of large restorations and head and neck examination. Includes observation or assistance with clinical patient care. This course is graded S/U.</td>
</tr>
<tr>
<td>6691</td>
<td>Introduction to Clinical Dentistry IV</td>
<td>D 2</td>
<td>Overview of clinic patient records. Exercise in local anesthesia administration, use of posterior rubber dam and dental charting. Also includes observation or assistance with clinical patient care. This course is graded S/U.</td>
</tr>
<tr>
<td>6693</td>
<td>Individual Studies in Dentistry I</td>
<td>D 1 - 12</td>
<td>Individual studies in any of the recognized fields of dentistry. Repeatable to a maximum of 36 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>6704</td>
<td>Oral Surgery II</td>
<td>D 1</td>
<td>Overview of advanced oral surgery practice.</td>
</tr>
<tr>
<td>6744</td>
<td>Oral Pathology III</td>
<td>D 1</td>
<td>Case-based study of oral pathologic conditions including documentation, development of the differential diagnosis, strategies to establish the diagnosis and patient management.</td>
</tr>
<tr>
<td>7012.01</td>
<td>Neuroscience Laboratory</td>
<td>G D 1</td>
<td>Laboratory component of Dentistry 7012 in which students will learn anatomy of the human brain. Prereq: Permission of instructor. Cross-listed in NeuroSc 7200.01.</td>
</tr>
<tr>
<td>7012.02</td>
<td>Experimental Neurosciences Lab</td>
<td>G D 1</td>
<td>Laboratory component of Dentistry 7012 in which students will learn the anatomy of the rodent brain using experimental techniques. Prereq: Permission of instructor. Cross-listed in NeuroSc 7200.02.</td>
</tr>
<tr>
<td>7012.03</td>
<td>Foundations of Neuroscience II</td>
<td>G D 6</td>
<td>Discusses the organization of selected systems in the nervous system including motor, sensory, autonomic, and higher cognitive centers. Course will cover anatomical, functional, and behavioral concepts. Prereq: Permission of instructor. Cross-listed in NeuroSc 7002.</td>
</tr>
<tr>
<td>7500</td>
<td>Community Dentistry I</td>
<td>D 1½</td>
<td>General dental practice experience at external sites. Prereq: Not open to students with credit for 500, 501, 502, or 503.</td>
</tr>
<tr>
<td>7501</td>
<td>Community Dentistry I</td>
<td>D 2</td>
<td>General dental practice experience at external sites. Prereq: Not open to students with credit for 500, 501, 502, or 503.</td>
</tr>
<tr>
<td>7502</td>
<td>Community Dentistry III</td>
<td>D 2</td>
<td>General dental practice experience at external sites. Prereq: Not open to students with credit for 500, 501, 502, or 503.</td>
</tr>
<tr>
<td>7522</td>
<td>Clinical Geriatrics</td>
<td>D 1</td>
<td>Delivery of dental clinical care to elderly populations at nursing homes and geriatric clinics. Prereq: Not open to students with credit for 522.</td>
</tr>
<tr>
<td>7616</td>
<td>Primary Care I</td>
<td>D 1½</td>
<td>Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects. Prereq: Not open to students with credit for 616, 617, 618, or 619. This course is graded S/U.</td>
</tr>
<tr>
<td>7617.01</td>
<td>Primary Care II</td>
<td>D 4</td>
<td>Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects. This course is graded S/U.</td>
</tr>
<tr>
<td>7618</td>
<td>Primary Care III</td>
<td>D 5</td>
<td>Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects. Prereq: Not open to students with credit for 616, 617, 618, or 619.</td>
</tr>
<tr>
<td>7618.01</td>
<td>Primary Care III</td>
<td>D 4</td>
<td>Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects. This course is graded S/U.</td>
</tr>
<tr>
<td>7618.02</td>
<td>Primary Care III</td>
<td>D 4</td>
<td>Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects.</td>
</tr>
<tr>
<td>7640</td>
<td>Removable and Prosthetic Dentistry Clinical Competencies I</td>
<td>D ½</td>
<td>Competency examinations related to Restorative Dentistry procedures. Prereq: Not open to students with credit for 734 or 785.</td>
</tr>
<tr>
<td>7652</td>
<td>Clinical Pediatric Dentistry I</td>
<td>D 1</td>
<td>Clinical experience treating child and adolescent patients. Prereq: Not open to students with credit for 652.02. This course is graded S/U.</td>
</tr>
<tr>
<td>7655</td>
<td>Clinical Orthodontics</td>
<td>D 1</td>
<td>Clinical application of the principals of orthodontic growth and development, and orthodontic treatment. Prereq: Not open to students with credit for 658. This course is graded S/U.</td>
</tr>
<tr>
<td>7669</td>
<td>Clinical Endodontics</td>
<td>D 1</td>
<td>Clinical experience in performing root canal treatment on uncomplicated permanent teeth. Also exposure to treatment modalities necessary in more complicated Endodontic cases. Prereq: Not open to students with credit for 688. This course is graded S/U.</td>
</tr>
<tr>
<td>7676</td>
<td>Clinical Periodontology</td>
<td>D 1</td>
<td>Students participate in treatment of patients with periodontal needs.</td>
</tr>
<tr>
<td>7693</td>
<td>Individual Studies in Dentistry II</td>
<td>D 1 - 12</td>
<td>Individual studies in any of the recognized fields of dentistry. Repeatable to a maximum of 36 cr hrs or 6 completions.</td>
</tr>
<tr>
<td>7701</td>
<td>Clinical Oral Surgery I</td>
<td>D 4</td>
<td>Introductory clinical experience to the primary principles of patient evaluation and management for common dento-alveolar surgical procedures. Prereq: Not open to students with credit for 701. This course is graded S/U.</td>
</tr>
<tr>
<td>7702</td>
<td>Clinical Oral Surgery II</td>
<td>D ½</td>
<td>Patient evaluation and management for common dento-alveolar surgical procedures. Includes an experience in hospital dentistry. Prereq: Not open to students with credit for 704. This course is graded S/U.</td>
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<tr>
<td>Code</td>
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<tr>
<td>7708</td>
<td>Clinical Pediatric Dentistry II</td>
<td>D</td>
<td>1</td>
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<tr>
<td></td>
<td>Experience treating child and adolescent patients in a clinic environment. Also includes experience in a hospital setting and exposure to complicated Pediatric Dentistry and Special Needs cases. Includes competency examinations. Prereq: Not open to students with credit for 708.03. This course is graded S/U.</td>
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<tr>
<td>7716</td>
<td>Primary Care IV</td>
<td>D</td>
<td>5</td>
</tr>
<tr>
<td></td>
<td>Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects. Prereq: Not open to students with credit for 716, 717, 718, or 719.</td>
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<tr>
<td>7716.01</td>
<td>Primary Care IV</td>
<td>D</td>
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<tr>
<td></td>
<td>Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects. This course is graded S/U.</td>
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</tr>
<tr>
<td>7716.02</td>
<td>Primary Care IV</td>
<td>D</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects. Prereq: Not open to students with credit for 716, 717, 718, or 719.</td>
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<tr>
<td>7719</td>
<td>Primary Care VI</td>
<td>D</td>
<td>5</td>
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<tr>
<td></td>
<td>Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects. Prereq: Not open to students with credit for 716, 717, 718, or 719.</td>
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<tr>
<td>7719.01</td>
<td>Primary Care VI</td>
<td>D</td>
<td>3</td>
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<tr>
<td></td>
<td>Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects. This course is graded S/U.</td>
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<tr>
<td>7719.02</td>
<td>Primary Care VI</td>
<td>D</td>
<td>4</td>
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<tr>
<td></td>
<td>Clinical experience in primary care dentistry including diagnosis, prognosis, treatment planning, care delivery and evaluation. May include competency examinations and special projects. Prereq: Not open to students with credit for 730. This course is graded S/U.</td>
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<tr>
<td>7730</td>
<td>Integrated Clinical Science Review</td>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Integration of clinical sciences as related to the comprehensive care of patients provided by the general dentist. Prereq: Not open to students with credit for 730. This course is graded S/U.</td>
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<tr>
<td>7734</td>
<td>Removable and Prosthetic Dentistry Clinical Competencies II</td>
<td>D</td>
<td>1½</td>
</tr>
<tr>
<td></td>
<td>Competency examinations related to Restorative and Prosthetic Dentistry procedures.</td>
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<tr>
<td>7746</td>
<td>Clinical Oral Radiology Introductory</td>
<td>D</td>
<td>½</td>
</tr>
<tr>
<td></td>
<td>Introductory clinical experience in Oral Radiology. Includes selection, and evaluation of radiographs in addition to techniques for obtaining appropriate images.</td>
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<tr>
<td>7747</td>
<td>Clinical Oral Radiology Intermediate</td>
<td>D</td>
<td>½</td>
</tr>
<tr>
<td></td>
<td>Intermediate level clinical experience in Oral Radiology. Includes selection, and evaluation of radiographs in addition to techniques for obtaining appropriate images.</td>
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<tr>
<td>7769</td>
<td>Clinical Endodontics II</td>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Clinical experience in performing root canal treatment on uncomplicated permanent teeth. Also exposure to treatment modalities necessary in more complicated Endodontic cases.</td>
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<tr>
<td>7776</td>
<td>Periodontology Clinical Competencies</td>
<td>D</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Competency examinations related to Periodontology. This course is graded S/U.</td>
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<tr>
<td>7910</td>
<td>Oral Biology Journal Review</td>
<td>G</td>
<td>½ - 2</td>
</tr>
<tr>
<td></td>
<td>In depth discussion of selected topics within the primary literature of Oral Biology research. Repeatable to a maximum of 40 or hrs or 20 completions. This course is graded S/U.</td>
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<tr>
<td>7920</td>
<td>Oral Biology Seminar</td>
<td>G</td>
<td>½ - 2</td>
</tr>
<tr>
<td></td>
<td>Student presentations of recent research findings, both original and from the literature. Repeatable to a maximum of 40 or hrs or 20 completions.</td>
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</tbody>
</table>
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8002.02 Orthodontics I Case Seminars G ½ - 10
Discussion of clinical cases. Repeatable.

8002.03 Periodontics I Faculty Presentations G ½ - 10
Discussion of clinical cases. Repeatable.

8002.04 Prosthodontics I Year 1 G ½ - 10
Discussion of clinical cases. Repeatable.

8002.05 Oral Pathology G ½ - 10
Discussion of clinical cases. Repeatable. This course is graded S/U.

8002.06 Endodontics G ½ - 10
Discussion of clinical cases. Repeatable.

8002.07 Pediatric Dentistry I Contemporary Issues G ½ - 10
Discussion of clinical cases. Repeatable. This course is graded S/U.

8002.12 Orthodontics II Case Presentations G ½ - 10
Discussion of clinical cases. Repeatable. This course is graded S/U.

8002.13 Periodontics II Student Presentations G ½ - 10
Discussion of clinical cases. Repeatable.

8002.14 Prosthodontics II Year 2 G ½ - 10
Discussion of clinical cases. Repeatable.

8002.17 Pediatric Dentistry II Introductory Orthodontics G ½ - 10
Discussion of clinical cases. Repeatable. This course is graded S/U.

8002.22 Orthodontics III Craniofacial Anomalies G ½ - 10
Discussion of clinical cases. Repeatable. This course is graded S/U.

8002.24 Prosthodontics III Year 3 G ½ - 10
Discussion of clinical cases. Repeatable.

8002.27 Pediatric Dentistry III Advanced Orthodontics G ½ - 10
Discussion of clinical cases. Repeatable. This course is graded S/U.

8002.32 Orthodontics IV Dental Facial Anomalies G ½ - 10
Discussion of clinical cases. Repeatable. This course is graded S/U.

8003 Research I G 2
Statistics and research design. Introduction to research ethics, human subject and animal research.

8004 Research II G 1½
Advanced topics related to research ethics, intellectual property, human subjects and animal research.

8006 Dental Photography G 1
Dental Photography. Topics include: equipment, setup and lighting; portrait and intra-oral photography; photo management and presentation; copystand photography. This course is graded S/U.

8007 Legal Issues in Dentistry G 1
Legal issues in the acquisition and management of a dental practice including issues associated with delivery of dental services to consumers, malpractice claims against practitioners and impact of government regulation on the delivery of care.

8008 Advanced Oral Embryology and Histology G ½
Development of the craniofacial region, odontogenesis, eruption and structure and function of the orofacial tissues.

8011 Advanced Oral and Maxillofacial Radiology G ½
Survey of oral radiology for dental specialists. Topics include: historical review and science of radiology, interpretation, digital radiography, computed tomography, cone-beam computed tomography, MRI, nuclear medicine, ultrasound imaging. This course is graded S/U.

8100 Advanced Oral and Maxillofacial Surgery G ½ - 12
Advanced topics in the specialty of Oral and Maxillofacial Surgery. Repeatable.

8150 Orofacial Pain G 1
Overview of musculoskeletal, neuropathic and neurovascular facial pain to enable accurate differential diagnosis of non-odontogenic facial pain.

8151 Sedation G 1½
Covers the indications, complications, pharmacology and techniques of IV sedation for dentistry.

8152 Physical Diagnosis G 1½
Reviews the skills and knowledge needed to perform a history and physical examination appropriate for hospital admission.

8153 Anesthesia Seminar G ½ - 1
Comprehensive review of general anesthesia and sedation as well as related subjects to anesthesiaology and oral and maxillofacial surgery residents in small group discussion format. Repeatable to a maximum of 10 or hrs or 10 completions.

8201 Advanced Orthodontics Orientation G 1
Orientation to methods used in conjunction with clinical care with an emphasis on diagnosis and treatment planning.

8202 Contemporary Orthodontics G ½
Introduction to concepts related to diagnosis, prioritization of problems and treatment planning orthodontic cases.

8203 Orthodontic Appliance Design G ½
Design, application and fabrication of orthodontic appliances frequently used in the clinical setting. The primary clinical function of these appliances includes: anchorage, tooth movement, skeletal change, habit management and retention.

8204 Cephalometrics G ½
Cephalometric techniques and interpretation in relation to orthodontic treatment and growth.

8205 Typodont Technique I G 1
Wire bending techniques in the treatment of orthodontic problems.

8206 Typodont Technique II G ½
Tweed edgewise technique.

8207 Orthodontic Diagnosis and Treatment I G 2
Orthodontic diagnosis and treatment planning focusing on problem oriented diagnostic approaches and evidence-based treatment. Seminar format.

8208 Orthodontic Diagnosis and Treatment II G ½ - 2
Orthodontic diagnosis and treatment planning focusing on problem oriented diagnostic approaches and evidence-based treatment. Seminar format.

8209 Biomechanics I G 1½
Biomechanics as related to Orthodontic treatment. Topics may include: biological basis of tooth movement, concepts of engineering stress and strain, polar moments of inertia, biomechanics or orthodontic tooth movement and skeletal anchorage.

8210 Biomechanics II G 1½
Biomechanics as related to Orthodontic treatment. Topics may include: biological basis of tooth movement, concepts of engineering stress and strain, polar moments of inertia, biomechanics or orthodontic tooth movement and skeletal anchorage.

8211 Orthodontic Materials G 1½

8212 Orthodontic Treatment Outcomes and Sequela G ½ - 2½
Undesirable sequelae of orthodontic treatment or the outcomes of treatment. Different methods of measuring and evaluating treatment outcome will also be discussed.

8213 Dentofacial Orthopedics G 2
Diagnosis and management of patients with dento-facial deformities.

8214 Growth and Development G 2
Principles of growth and development as they apply to orthodontics.

8215 Orthodontic Practice Management G ½ - 2½
Overview of practice management topics including financial, legal and clinical administration issues. Focus is on establishment and management of an individual or small group orthodontic practice.

8216 Craniofacial Anomalies G 1½
Diagnosis, treatment and management of the patient with cleft lip and palate and other craniofacial anomalies from a multi-disciplinary approach.

8300 Introduction to Periodontology G 1
Introduction to Advanced Periodontics. This course is graded S/U.

8303 Anatomy and Histology of the Periodontium G 1
Periodontal anatomy and histology, including peri-implant and surgical anatomy.
8304  Periodontal Concepts I  G  2
Periodontal disease assessment, classification, epidemiology, etiology & pathogenesis.
8305  Periodontal Concepts II  G  2
Periodontal diseases and conditions, and risk assessment.
8306  Periodontal Concepts III  G  ½
Periodontal disease risk assessment.
8307  Periodontal Concepts IV  G  2
Periodontal disease therapy and patient management.
8308  Periodontal Concepts V  G  2
Periodontal disease therapy and patient management.
8309  Periodontal Concepts VI  G  ½
Periodontal disease therapy and patient management.
8310  Introduction to Implants  G  1½
Biological and clinical considerations for dental implant therapy.
8409  Prosthodontics Competency Exam  G  1
Comprehensive examination related to all aspects of prosthodontics. This course is graded S/U.
8410  Introduction to Removable Prosthodontics  G  1
Diagnosis and treatment planning for edentulous patients. This course is graded S/U.
8412  Occlusal Schemes for Complete Prosthesis  G  2
Occlusal scheme treatment options for edentulous patients. Includes laboratory component.
8413  Removable Prosthodontics Design and Fabrication  G  1
Occlusal and laboratory procedures associated with designing removable prosthodontics for edentulous patients. Includes laboratory component.
8419  Removable Prosthodontics Competency Exam  G  1
Competency examination related to diagnosis and treatment of an edentulous patient including denture fabrication. This course is graded S/U.
8420  Fixed Prosthodontics Tooth Preparations  G  2
Ideal tooth preparation methodology and guidelines to support fixed prosthesis. Reinforcement for anterior tooth contours which tend to optimum esthetic results as well as periodontal health. Includes laboratory component.
8421  Fixed Prosthodontics and Diagnostic Procedures  G  1
Diagnostic Procedures and treatment options for fixed oral rehabilitation including mandibular movement studies. Includes laboratory component.
8422  Occlusal Schemes and Morphology For Fixed Prosthodontics  G  2
Denal occlusal schemes, static tooth contacts, excursive tooth contacts. Includes laboratory component.
8423  Fixed Prosthodontics Fabrication Techniques for Alloy Restorations  G  1
Introduction to standards for fixed prosthodontic prostheses. Includes laboratory component.
8424  Fixed Prosthodontics Fabrication Techniques for Metal-Ceramic Restorations  G  1
Material science principles of porcelain metal bond and procedures for porcelain application. Topics also include shade selection and correction. Includes laboratory component.
8425  Fixed Prosthodontics Advanced Fabrication Techniques for Ceramic Restorations  G  1
Esthetic issues related to dental ceramics. Includes laboratory component.
8428  Fixed Prosthodontics Adjunctive Prosthodontic Techniques  G  1
Adjunctive prosthodontic techniques including provisionalization with interim restorations, tissue retraction, and restoration of endodontically-treated teeth. Includes laboratory component. This course is graded S/U.
8429  Fixed Prosthodontics Competency Exam  G  1
Competency exam related to fixed prosthodontics. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.
8430  Implant Prosthodontics  G  1
Introduction to dental implants. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.
8433  Implant Prosthodontics Laboratory  G  1
Laboratory course related to single and multi-unit implant prosthodontics design and fabrication including techniques for surgical guides and impressions. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.
8437  Implant Interdisciplinary Lectures  G  2
Overview of the way in which periodontists, prosthodontists, oral surgeons and orthodontists work together to provide care for dental implant patients. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.
8438  Implant Interdisciplinary Seminars  G  1
Seminar discussions regarding complimentary relationships of various dental specialties in treating dental implant patients. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.
8439  Implant Prosthodontics Competency Exam  G  1
Competency examination related to implant prosthodontics. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.
8446  Prosthodontic Treatment Planning Literature Review  G  1
Overview of evidence based treatment planning for prosthodontic therapy. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.
8449  Prosthodontic Treatment Planning Competency Exam  G  1
Competency examination related to diagnosis and treatment planning for patients requiring complex prosthodontic treatment. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.
8451  Interdisciplinary Periodontics Prosthodontics Seminar  G  1
Overview of the relationships between periodontic and prosthodontic treatment with an emphasis on the pre-surgical, surgical and post-surgical aspects of dental implants. Repeatable to a maximum of 10 cr hrs.
8455  Special Topics in Multidisciplinary Care  G  1
Overview of the interrelationships between various dental specialties. Topics include endodontics, anesthesia, pediatric dentistry, sleep apnea, orthodontics, facial growth and development, oral surgery and preprosthetic surgery. This course is graded S/U.
8460  Maxillofacial Prosthodontics Introduction  G  1
Introduction to maxillofacial prosthodontics including types of defects, prostheses and their principles of design and issues related to oncologic therapy.
8463  Maxillofacial Prosthodontics Laboratory Techniques  G  1
Maxillofacial prosthetic materials and design and fabrication of extraoral and intraoral prostheses. Includes laboratory component. This course is graded S/U.
8466  Maxillofacial Prosthodontics Literature Review  G  1
Review of literature related to maxillofacial prosthodontics including critical assessment of study validity and evidence based treatment decisions. Repeatable to a maximum of 10 cr hrs.
8470  Dental Materials Introduction and Gypsum  G  1
Introduction to dental materials for prosthodontists. Overview of evidence based treatment decisions related to use of dental bypsum products. Repeatable to a maximum of 10 cr hrs.
8471  Dental Materials Metals and Polymers  G  1
Overview of evidence based treatment decisions related to the use of dental alloys and polymers. Repeatable to a maximum of 10 cr hrs.
8472  Dental Materials Ceramics and Color  G  1
Overview of evidence based treatment decisions related to dental ceramics. Repeatable to a maximum of 10 cr hrs.
8473  Dental Materials Testing Laboratory  G  1
Laboratory procedures used to evaluate dental materials. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.
8474  Pharmacology and TMD for Dental Specialists  G  2
Overview of Pharmacology for students in Advanced Dental Speciality Education Programs with an emphasis on drug interactions. Impact of Tempromandibular Disorders on dental treatment from the perspective of structure and function. This course is progress graded (S/U).
8499  Prosthodontic Research Competency Exam  G  1
Competency examination related to prosthodontic research including literature review and critique, research design and statistics. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.
8600  Advanced Endodontics  G  1 - 5
Advanced endodontic topics. May also include literature review and national examination review. Repeatable to a maximum of 50 cr hrs or 50 completions.
8601  Oral Pathology I  G  ½
Review and discussion of oral management and prognosis of selected developmental, inflammatory, immunologically-mediated and infectious diseases. Repeatable to a maximum of 5 cr hrs.
### Dentistry

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Type</th>
<th>Credits</th>
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<tr>
<td>8802</td>
<td>Oral Pathology II</td>
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<tr>
<td>8803</td>
<td>Oral Pathology for Periodontists</td>
<td>G</td>
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<tr>
<td>8835</td>
<td>Diagnostic Histopathology</td>
<td>G</td>
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<td>8850</td>
<td>Neoplasms</td>
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<td>8703</td>
<td>Children with Disabilities and Chronic Illnesses</td>
<td>G</td>
<td>1½</td>
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<td>8704</td>
<td>Pediatric Dentistry Behavior Issues</td>
<td>G</td>
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<td>8705</td>
<td>Pediatric Dentistry Restorative Treatment</td>
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<tr>
<td>8706</td>
<td>Pediatric Dentistry Pulp and Trauma Treatment</td>
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<td>8707</td>
<td>Pediatric Dentistry Sedation</td>
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<td>(\frac{1}{2} - 2)</td>
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<td>8708</td>
<td>Pediatric Dentistry Cariology</td>
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<td>(\frac{1}{2} - 1\frac{1}{2})</td>
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<td>8709</td>
<td>Pediatric Dentistry Dental Public Health and Advocacy</td>
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<td>8840</td>
<td>Current Issues in Oral Biology</td>
<td>G</td>
<td>(\frac{1}{2} - 2)</td>
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<td>8901</td>
<td>Oral Biology Laboratory Rotations</td>
<td>G</td>
<td>(\frac{1}{2} - 2)</td>
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<td>8993</td>
<td>Individual Studies in Advanced Dentistry</td>
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<td>(\frac{1}{2} - 12)</td>
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<td>8999</td>
<td>Research in Dentistry</td>
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<td>(\frac{1}{2} - 12)</td>
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<td>2110</td>
<td>Design Fundamentals I</td>
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<td>2130</td>
<td>Design Fundamentals III</td>
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<td>2310</td>
<td>Visual Principles and Techniques I</td>
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### Design

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<td>Introduction to Interior Design I</td>
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<tr>
<td>3103</td>
<td>Introduction to Visual Communication Design I</td>
<td>U</td>
<td>3</td>
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<td>3105</td>
<td>Design Concepts for Non-Majors</td>
<td>U</td>
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<td>3151</td>
<td>Introduction to Industrial Design II</td>
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<td>3153</td>
<td>Introduction to Visual Communication Design II</td>
<td>U</td>
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<td>3200</td>
<td>Design Research I</td>
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<td>3301</td>
<td>Visualization Strategies for Industrial Design I</td>
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<td>3302</td>
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<tr>
<td>3305</td>
<td>Design Visualization for Non-Majors</td>
<td>U 3</td>
<td>Development of drawing skills to explore, observe, understand, record, analyze and communicate visual information.</td>
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<tr>
<td>Code</td>
<td>Title</td>
<td>Credits</td>
<td>Prerequisites</td>
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<tr>
<td>4650</td>
<td>Collaborative Design</td>
<td>U 3</td>
<td>Interdisciplinary knowledge and problems examined and discussed in the context of social responsibility (global and local). Prereq: Enrollment in Design major, or permission of instructor. Concur: 4151 and 4750; or 4152 and 4750; or 4153 and 4750. Not open to students with credit for 760.</td>
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<tr>
<td>4750</td>
<td>Professional Practices</td>
<td>U 3</td>
<td>Investigation of the administrative and legal aspects of the design profession contrasting the private firm with corporate and free-lance practices. Prereq: Enrollment in Design major, or permission of instructor. Concur: 4151 and 4650; or 4152 and 4650; or 4153 and 4650. Not open to students with credit for 656.</td>
</tr>
<tr>
<td>4797</td>
<td>Study at a Foreign Institution</td>
<td>U 6</td>
<td>A study abroad experience at a foreign institution approved by the Department of Design. Prereq: Enrollment in Design major, or permission of instructor. Not open to students with credit for 697.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Scholarship: Research and Creative Activity in Design</td>
<td>U 3</td>
<td>Undergraduate research and creative activities in varying topics. Prereq: Enrollment in Design major, or permission of instructor. Not open to students with credit for 699.</td>
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<tr>
<td>4998H</td>
<td>Undergraduate Scholarship: Honors Research and Creative Activity in Design</td>
<td>U 3</td>
<td>Undergraduate Honors research and creative activities in varying topics. Prereq: Honors standing, and enrollment in Design major, or permission of instructor. Not open to students with credit for 783H.</td>
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<tr>
<td>4999</td>
<td>Undergraduate Scholarship: Thesis Research and Creative Activity in Design</td>
<td>U 3</td>
<td>Undergraduate thesis research and creative activities in varying topics. Prereq: Enrollment in Design major, or permission of instructor. Not open to students with credit for 699.</td>
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<tr>
<td>4999H</td>
<td>Undergraduate Scholarship: Honors Thesis Research and Creative Activity in Design</td>
<td>U 3</td>
<td>Undergraduate Honors thesis research and creative activities in varying topics. Prereq: Honors standing and creative activities in varying topics. Prereq: Honors standing, or enrollment in Design major, or permission of instructor. Concur: 5200 and 5301. Not open to students with credit for 660.04.</td>
</tr>
<tr>
<td>5101</td>
<td>Advanced Industrial Design I</td>
<td>U G 3</td>
<td>Application of problem and opportunity identification in the context of a specific client organization needs. Prereq: 4101, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5200 and 5301. Not open to students with credit for 660.02.</td>
</tr>
<tr>
<td>5102</td>
<td>Advanced Interior Design I</td>
<td>U G 3</td>
<td>Principles of organizational strategy and interior identity development addressing the physical, social, and psychological context of work, leisure, and learning environments. Prereq: 4102, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5200 and 5502. Not open to students with credit for 460.08.</td>
</tr>
<tr>
<td>5103</td>
<td>Advanced Visual Communication Design I</td>
<td>U G 3</td>
<td>Application of planning, analyzing, and designing in two- or three-dimensional visual communication systems; emphasis on application of design research, strategic thinking, creative concepts, and graphic implementation. Prereq: 4103, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5200 and 5500. Not open to students with credit for 660.02.</td>
</tr>
<tr>
<td>5151</td>
<td>Advanced Industrial Design II</td>
<td>U G 3</td>
<td>A competency with tools, technologies, skills and materials in the exploration, creation, and production of products, artifacts, environments, systems, communication solutions and services. Prereq: 5101, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5800. Not open to students with credit for 661.04.</td>
</tr>
<tr>
<td>5152</td>
<td>Advanced Interior Design II</td>
<td>U G 3</td>
<td>Student develops project that applies principles of organizational strategy and interior identity development addressing the physical, social, and psychological context of work, leisure, and learning environments. Prereq: 5102, or Grad standing or enrollment in Design major, or permission of instructor. Concur: 5552. Not open to students with credit for 661.08.</td>
</tr>
<tr>
<td>5153</td>
<td>Advanced Visual Communication Design II</td>
<td>U G 3</td>
<td>Apply design research, problem definitions, concept development, and implementation approaches in creating comprehensive projects that are relevant to proposed subject, design objectives, and targeted audiences. Prereq: 5103, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5453. Not open to students with credit for 661.02.</td>
</tr>
<tr>
<td>5191</td>
<td>Internship</td>
<td>U G 1+9</td>
<td>Field application of design in a capacity requiring a close working relationship within a professional environment. Prereq: Grad standing, or enrollment in Design major, or permission of instructor. Repeatable to a maximum of 27 or hrs or 3 completions.</td>
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<tr>
<td>5193</td>
<td>Individual Studies</td>
<td>U G 3-9</td>
<td>Advanced study for students in specialized programs. Prereq: Enrollment in Design major, or permission of instructor. Not open to students with credit for 693. Repeatable to a maximum of 27 or hrs or 3 completions.</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies</td>
<td>U G 3-9</td>
<td>Group studies for students in specialized programs. Prereq: Grad standing, or enrollment in Design major, or permission of instructor. Not open to students with credit for 694. Repeatable to a maximum of 27 or hrs or 3 completions.</td>
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<tr>
<td>5200.01</td>
<td>Design Research III for Industrial Design</td>
<td>U G 3</td>
<td>Addresses design opportunities, including the skills of problem identification, formulation, qualitative and quantitative research, analysis, synthesis, and project proposals for Industrial Design. Prereq: 4200, and Design major; or Grad standing; or permission of instructor. Concur: 5101 and 5301; or 5102 and 5502; or 5103 and 5800.01. Not open to students with credit for 5200, 5200.02, 5200.03, 662.02, 662.04, or 662.08.</td>
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<tr>
<td>5200.02</td>
<td>Design Research III for Interior Design</td>
<td>U G 3</td>
<td>Addresses design opportunities, including the skills of problem identification, formulation, qualitative and quantitative research, analysis, synthesis, and project proposals for Interior Design. Prereq: 4200, and Design major; or Grad standing; or permission of instructor. Concur: 5101 and 5301; or 5102 and 5502; or 5103 and 5800.02. Not open to students with credit for 5200, 5200.01, 5200.03, 662.02, 662.04, or 662.08.</td>
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<tr>
<td>5200.03</td>
<td>Design Research III for Visual Communication Design</td>
<td>U G 3</td>
<td>Addresses design opportunities, including the skills of problem identification, formulation, qualitative and quantitative research, analysis, synthesis, and project proposals for Visual Communication Design. Prereq: 4200, and Design major; or Grad standing; or permission of instructor. Concur: 5101 and 5301; or 5102 and 5502; or 5103 and 5800.03. Not open to students with credit for 5200, 5200.01, 5200.02, 662.02, 662.04, or 662.08.</td>
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<tr>
<td>5301</td>
<td>Visualization Strategies for Industrial Design II</td>
<td>U G 3</td>
<td>Design and application of information systems in the production of visual communications within frameworks of Design Research and Industrial Design. Prereq: 3301, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5102 and 5500. Not open to students with credit for 652.</td>
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<tr>
<td>5405</td>
<td>Web Communications</td>
<td>U G 3</td>
<td>Electronic communication techniques related to the web and interactivity; web design and technology principles. Prereq: 3505. Not open to students with credit for 673.</td>
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<tr>
<td>5453</td>
<td>Visual Communication Design Media IV</td>
<td>U G 3</td>
<td>Design and application of interactive and interface design in the production of visual communications within frameworks of theories of communication. Prereq: 4400, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5153. Not open to students with credit for 673.</td>
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<tr>
<td>5502</td>
<td>Interior Design Technology III</td>
<td>U G 3</td>
<td>Principles of environmental control within the context of Interior Design. Prereq: 5101, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5500. Not open to students with credit for 524.</td>
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<tr>
<td>5505</td>
<td>Information Design</td>
<td>U G 3</td>
<td>Design principles related to visualizing quantitative information, processes and systems. Prereq: 3505. Not open to students with credit for 340.</td>
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<tr>
<td>5552</td>
<td>Interior Design Technology IV</td>
<td>U G 3</td>
<td>Principles of material specifications, liability, contracts and bidding documentation within the context of Interior Design. Prereq: 5502, or Grad standing, or enrollment in Design major, or permission of instructor. Concur: 5152. Not open to students with credit for 523.</td>
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<tr>
<td>5600E</td>
<td>Design Matters</td>
<td>U G 3</td>
<td>Students in this interdisciplinary design/build studio have the opportunity to work on site in a collaborative design environment with a local non-profit organization. Prereq: Honors standing, or Grad standing, or enrollment in Design major, or permission of instructor. Not open to students with credit for 553E.</td>
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<tr>
<td>5600S</td>
<td>Design Matters</td>
<td>U G 3</td>
<td>Students in this interdisciplinary design/build studio have the opportunity to work on site in a collaborative design environment with a local non-profit organization. Prereq: Enrollment in Design major, or permission of instructor. Not open to students with credit for 553E.</td>
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<tr>
<td>5798</td>
<td>Study Tour</td>
<td>U G 3-9</td>
<td>Specific content, location, term(s) of offering, and prerequisites vary; contact department office for details. Prereq: Grad standing, Design majors only, or permission of instructor. Not open to students with credit for 698.01 or 698.02. Repeatable to a maximum of 9 cr hrs or 2 completions.</td>
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<td>5800.01</td>
<td>Design Seminar for Industrial Design</td>
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<td>5800.02</td>
<td>Design Seminar for Interior Design</td>
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<td>Design Seminar for Visual Communication Design</td>
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<td>6100</td>
<td>Methods and Tools for Conducting Design Research</td>
<td>G</td>
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<td>6200</td>
<td>Foundation for Graduate Design Studies</td>
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<td>6300</td>
<td>Exploration in Graduate Design Studies</td>
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<td>6400</td>
<td>Graduate Design Studio</td>
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<td>6500</td>
<td>Graduate Design Seminar</td>
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<td>7193</td>
<td>Individual Studies</td>
<td>G</td>
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<td>Group Studies</td>
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<td>7880</td>
<td>Interdepartmental Seminar</td>
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<tr>
<td>7998</td>
<td>Thesis Project Development</td>
<td>G</td>
<td>½ - 6</td>
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<tr>
<td>7999</td>
<td>Thesis Writing Development</td>
<td>G</td>
<td>½ - 6</td>
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**Disability Studies**

- **5800.01** Design Seminar for Industrial Design
- **5800.02** Design Seminar for Interior Design
- **5800.03** Design Seminar for Visual Communication Design
- **6100** Methods and Tools for Conducting Design Research
- **6200** Foundation for Graduate Design Studies
- **6300** Exploration in Graduate Design Studies
- **6400** Graduate Design Studio
- **6500** Graduate Design Seminar
- **7193** Individual Studies
- **7194** Group Studies
- **7880** Interdepartmental Seminar
- **7998** Thesis Project Development
- **7999** Thesis Writing Development

**Diversity and Identity Studies**

- **5640** Diversity Lecture Series
- **5700** Diversity and Identity Studies Workshop

**Earth Science**

- **5101** Basic Dutch for Reading
- **5102** Dutch for Research
1100 Planet Earth: How It Works U 4

The materials of the Earth's crust, the processes that produce and modify them, the development of the Earth and its life forms through time, and responsible stewardship of the Earth's resources. Not intended for ASC B.S. students.

Prereq: Not open to students with credit for EarthSci 100 or GeolSci 100. This course is available for EM credit. GE nat sci phys course. NS ADMIS Cond Course.

1105 Geology of the National Parks U 3

Geologic processes, materials, and history revealed in geologic settings of the National Parks. Not intended for ASC BS students.

Prereq: Not open to students with credit for EarthSci 100, 105, GeolSci100, or 105. GE nat sci phys course. NS ADMIS Cond course.

1107 Field-Based Introduction to Oceanography U 2

Origin, development, and structure of ocean basins and their contents; contemporary oceanic processes of geologic significance. Offered full-time for 1 week at Stone Lab.

Prereq: Permission of instructor. Not open to students with credit for EarthSci 107, 206, GeolSci 107, or 206.

1108 Gemstones U 3

General introduction to gemstones, including the origin of gems, identification techniques, and the history of important gems. Precious metals are also discussed. Not intended for ASC BS students.

Prereq: Not open to students with credit for EarthSci 108 or GeolSci 108. GE nat sci phys course.

1108H Honors Gemstones U 4

General introduction to gemstones, including the origin of gems, identification techniques, and the history of important gems. Precious metals are also discussed. Not intended for ASC BS students.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for EarthSci 108, 108H, GeolSci 108, or 108H. GE nat sci phys course.

1110 History of Life on Earth: Global Change in the Biosphere U 3

3.5 billion years of biophere global change, introduction to major evolutionary and extinction events; processes responsible for change; biophere, atmosphere, and lithosphere interrelationships.

Prereq: Not open to students with credit for EarthSci 110 or GeolSci 110. This course is available for EM credit. GE nat sci phys course. NS ADMIS Cond course.

1110H Honors History of Life on Earth: Global Change in the Biosphere U 3

3.5 billion years of biophere global change, introduction to major evolutionary and extinction events; processes responsible for change; biophere, atmosphere, and lithosphere interrelationships.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for EarthSci 110, 110H, GeolSci 110, or 110H. GE nat sci phys course. NS ADMIS Cond course.

1121 The Dynamic Earth U 4

Plate tectonics; rock forming processes; climate change; energy resources.

Prereq: Math 1075 (104) or above, or ACT Mathematics Subscore of 22 or higher, or Math Placement Level R or better. Not open to students with credit for EarthSci 121, 121H, or GeolSci 121. This course is available for EM credit. GE nat sci phys course. NS ADMIS Cond course.

1121H Honors The Dynamic Earth U 4

Minerals, rocks, and their origin; land forms and how they are produced; structural features of the Earth's crust.

Prereq: Honors standing, and Math 1075 (104) or above, ACT Mathematics Subscore of 22 or higher, or Math Placement Level R or better; or permission of instructor. Not open to students with credit for EarthSci 121 (121), 121H, GeolSci 121, or 121H. GE nat sci phys course. NS ADMIS Cond course.

1122 Earth Through Time U 4

Origin and evolution of Earth, including its physical, chemical and biological components; principles of geologic inference and their application to interpreting Earth.

Prereq: Not open to students with credit for EarthSci 122 or GeolSci 122. GE nat sci phys course. NS ADMIS Cond course.

1122H Honors Earth Through Time U 4

Origin and evolution of Earth, including its physical, chemical, and biological components; principles of geologic inference and their application to interpreting Earth.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for EarthSci 122, 122H, GeolSci 122, or 122H. GE nat sci phys course. NS ADMIS Cond course.

1151 Natural Hazards U 3

Occurrence and causes of earthquakes, volcanoes, and related hazards, and impact on climate, society, and history.

Prereq: Not open to students with credit for EarthSci 151 or GeolSci 151. GE nat sci phys course.

2155 Energy and Environment U 3

Introduces and examines the fundamentals of energy sources, energy use, energy efficiency, and resulting environmental implications of the various energy supplies.

Prereq: Not open to students with credit for EarthSci 155 or ENR 2155 (155). GE nat sci phys course. Cross-listed in ENR.

2194 Group Studies U 1 - 4

Group studies in various fields of the earth sciences.

Prereq: Permission of instructor. Not open to students with 10 cr hrs of EarthSci 294 or GeolSci 294. Repeatable to a maximum of 10 or 10 completions.

2203 Environmental Geoscience U 3

Concepts and challenges of geological hazards and resources, environmental pollution, and health; regional and long-range planning; and global change and sustainability.

Prereq: Not open to students with credit for EarthSci 203 or GeolSci 203. GE nat sci phys course. NS ADMIS Cond course.

2204 Exploring Water Issues U 3

Water on Earth, human impacts, and scientific and technological issues related to water resource development and conservation.

Prereq: Not open to students with credit for EarthSci 204 or GeolSci 204. GE nat sci phys course. NS ADMIS Cond course.

2205 The Planets U 3

Survey of the solar system's planets and moons with focus on surface environments, dynamics, and the ability to host life.

Prereq: Not open to students with credit for EarthSci 205 or GeolSci 205. GE nat sci phys course.

2206 Principles of Oceanography U 3

Introduction to the four basic disciplines of oceanography: geological, chemical, physical, and biological. Relevance of oceanography in contemporary issues.

Prereq: Not open to students with credit for EarthSci 206 or GeolSci 206. GE nat sci phys course.

2210 Energy, Mineral Resources, and Society U 3

Geologic origin, world distribution, and uses of mineral resources critical to society; topics include mineral and fossil fuels, metallic ores, and industrial minerals.

Prereq: Not open to students with credit for EarthSci 210 or GeolSci 210. GE nat sci phys course. NS ADMIS Cond course.

2212 Introduction to Earth Materials U 4

A study of the common minerals and rocks, their associations, occurrences, identifying properties, and origin.

Prereq: EarthSci 121 (EarthSci 121) or GeolSci 121, and Chem 1210 or above. Not open to students with credit for EarthSci 212 or GeolSci 212.

2220H Contemporary Topics in the Earth Sciences U 1 - 5

Earth processes and their underlying principles; diverse issues of current interest; modern investigative techniques introduced in laboratory.

Prereq: Honors standing; and 1100, 1105, 1108H, 1110, 1110H, 1121, 1121H, 1122, 1122H, 1151, 2155, 2203, 2204, 2206, or 2208, or equivalent quarter courses, or permission of instructor. Not open to students with credit for EarthSci 245 or GeolSci 245. GE data anly course.

2245 Introductory Data Analysis for Earth and Environmental Sciences U 4

Data analysis using cooperative learning environment; topics include data visualization, error analysis, error propagation, probability distributions, hypothesis testing, ANOVA, linear regression, and spatial statistics.

Prereq: Math 1100 (115) or above, or permission of instructor. Not open to students with credit for EarthSci 245 or GeolSci 245. GE data anly course.

2998 Undergraduate Research in Earth Sciences U 1 - 10

Undergraduate research or creative activities in variable topics.

Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

2998H Honors Undergraduate Research in Earth Sciences U 1 - 10

Honors undergraduate research or creative activities in variable topics.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 credit hours or 15 completions. This course is graded S/U.

3193 Individual Studies U 1 - 3

Special problems in any branch of the earth sciences for which the student has the proper qualifications.

Prereq: Permission of instructor. Not open to students with 6 cr hrs of EarthSci 3193 (EarthSci 293) or GeolSci 293. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

3203 Basic Science, Research, and Implications for Society U 3

Integration of pure science disciplines to address basic principles and challenges in our society from both qualitative and quantitative perspectives.

Prereq: Math 1075 (104), or ACT Mathematics Subscore of 22 or higher, or Math Placement Level R or better. Not open to students with credit for Chem 1100 (100). MA ADMIS Cond course.

3310 Earth Systems Data Collection and Analysis U 4

An introduction to the basic competencies in observation of earth systems, image interpretation, and software integration.

Prereq: EarthSci 2245 (EarthSci 245), or other GE or GEC data analysis course, and Soph standing or above. Not open to students with credit for EarthSci 310 or GeolSci 310.
Evolution: Contemporary and Interdisciplinary Perspectives
Develop an understanding of the interplay among different disciplinary approaches to evolutionary studies. Prereq: One Biology, one Anthrop, or one EarthSci course. Not open to students with credit for EarthSci 315 or Anthrop 3315 (315). Cross-listed in Anthrop 3315 (315).

Water Security for the 21st Century
Examine the major issues that are contributing to the decline in quantity and quality of global freshwater resources and the resultant environmental and societal impacts. Prereq: EarthSci 2245 (EarthSci 245) or other GEC or GE data any course, and Soph standing and above. Not open to students with credit for EarthSci 411 or GeoSci 411.

Group Studies
Group study of special topics in various fields of the earth sciences. Prereq: Permission of instructor. Not open to students with 10 cr hrs for EarthSci 4194 (EarthSci 294) or GeoSci 294. Repeatable to a maximum of 10 cr hrs or 10 completions.

Honors Group Studies
Group study of special topics in various fields of the earth sciences. Prereq: Honors standing, and permission of instructor. Not open to students with 10 cr hrs for EarthSci 4194 (EarthSci 294) or GeoSci 294. Repeatable to a maximum of 10 cr hrs or 10 completions.

Remote Sensing in the Earth Sciences
Acquisition, processing and analysis of satellite and airborne remote sensing data. Includes visible band to microwave (e.g., MODIS, LandSat, and SAR). Also includes geodetic measurements such as altimetry and gravity. Prereq: 1121 (121), Physics 1250 (130) or above, and Math 1151 (151) or above.

Earth Materials
Internal and external symmetry of minerals; relationship of physical properties to crystal structure; introduction to modern and traditional identification methods; sight identification of about 30 minerals. Prereq: or concur: Chem 1210. Not open to students with credit for EarthSci 421, GeoSci 221, or EarthSci 421.

Introductory Petrology
Origin, occurrence, association, and mineral composition of the common rocks; laboratory includes work by megascopic and microscopic methods. Prereq: 1121 (121) or GeoSci 121, and Prereq or concur: 4421 (421) or GeoSci 421. Not open to students with credit for 2212 (212), 423, or GeoSci 212 or 423.

Energy Resources and Sustainability
An examination of the problem of decreasing supplies of fossil fuel, alternative energy sources, and possible accommodations. Prereq: A GE or GEC data any course, and Soph standing or above. Not open to students with credit for EarthSci 425 or GeoSci 425.

Water, Ice, and Energy in the Earth System
Earth’s energy budget and the transfer of water between reservoirs. Processes that regulate water transfer, common measurement approaches, and the importance of water in geological processes, global change, and as a resource. Prereq: EarthSci 121, and Chem 1210 (122) or Physics 1250 (130), or permission of instructor.

Paleontology

Stratigraphy and Sedimentation
Principles of, and procedures in, stratigraphy and sedimentation, illustrated by field and laboratory studies of sedimentary rocks. Prereq: EarthSci 1121 (EarthSci 121) or GeoSci 121, and EarthSci 1122 (EarthSci 122) or GeoSci 122. Not open to students with credit for EarthSci 502 or GeoSci 502.

Structural Geology
An introduction to the principles of rock deformation, the classification and physical origin of rock structures, and crustal tectonic processes. Prereq: EarthSci 1121 (EarthSci 121) or GeoSci 121, and Physics 1250 (130) or above. Not open to students with credit for EarthSci 536 or GeoSci 530.

Applied Geophysics
Methods and techniques of pure and applied geophysics; geological interpretation of geophysical data. Prereq: EarthSci 1121 (EarthSci 121) or GeoSci 121, and Math 1151 (151) or above, and Physics 1250 (130) or above. Not open to students with credit for EarthSci 560, GeoSci 280, or 560.

Environmental Sustainability in Costa Rica (Study Tour)
Traditional lectures and a study tour explore the complex relationship between the use and conservation of natural resources and economic development in Costa Rica, especially the role of protected areas in ensuring the country’s environmental sustainability. Prereq: One college-level geology, ecology, biology, or environmental sciences course; and one college-level Spanish course (or excellent achievement in at least three years in high school Spanish); and permission of instructor.

Seminar in Geophysics
Investigation and discussion of recent developments in geophysics, including exploration geophysics, glaciology, solid-earth geophysics, paleomagnetism, tectonics, or engineering evaluation. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.

Undergraduate Research in Earth Sciences
Undergraduate research or creative activities in variable topics. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions for the combination of EarthSci 4998 (EarthSci 699) and GeoSci 699. This course is graded S/U.

Honors Research
Honors undergraduate research or creative activities in variable topics. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

Undergraduate Research for Thesis in Earth Sciences
Undergraduate research or creative activities in variable topics leading to completion of a B.S. thesis. To be taken during semester when thesis is turned in. Prereq: Sr standing, or permission of instructor. Not open to students with credit for 570.

Honors Undergraduate Research for Thesis in Earth Sciences
A program of individual study arranged for students enrolled in the Honors Program with individual conferences and reports, requires presentation and oral defense of an honors thesis. Prereq: Honors standing, and permission of instructor.

Undergraduate Research for Thesis in Earth Sciences
Undergraduate research or creative activities in variable topics leading to completion of a B.S. thesis. Prereq: Sr standing, or permission of instructor. Not open to students with credit for EarthSci 570. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.

Honors Undergraduate Research for Thesis in Earth Sciences
A program of individual study arranged for students enrolled in the Honors Program with individual conferences and reports, requires presentation and oral defense of an honors thesis. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.

Field Geology I
Concentrated training in the basic essentials of field observation and mapping; the work is done in central Utah, with headquarters in Ephraim. Continuation of 5189.01. Requires full time of student. Prereq: or concur: EarthSci 5189.01 (EarthSci 581) or GeoSci 581. Not open to students with credit for EarthSci 582 or GeoSci 582.

Field Geology for Educators: Appalachian Mountains
Application of geological principles and interpretation of Earth features in selected areas, with related research reports and teaching units. 5 to 7-day field trip preceding the semester, with pre-trip and post-trip of. Prereq: EarthSci: 4423 (EarthSci 423), 6423, or GeoSci 423; and 4530 (530), 6530, or GeoSci 530; and permission of instructor. Not open to students with credit for EarthSci 581 or GeoSci 581.

Field Geology for Educators: Bahamas
Application of geological principles and interpretation of Earth features in selected areas, with related research reports and teaching units. 8-day field trip following the semester, with pre-trip and post-trip of. Prereq: EarthSci: 4423 (EarthSci 423), 6423, or GeoSci 423; and 4530 (530), 6530, or GeoSci 530; and permission of instructor. Not open to students with credit for EarthSci 581 or GeoSci 581.

Field Geology for Educators: Lake Erie
Application of geological principles and interpretation of Earth features in selected areas, with related research reports and teaching units. 7-day field trip. Prereq: EarthSci: 1100 (EarthSci 100), GeoSci 100 or equiv; and permission of instructor. Not open to students with credit for EarthSci 583.03 or GeoSci 583.03. May not be used to satisfy BS, MS, or PhD degree requirements in EarthSci.

Field Geology for Educators: Costa Rica
Concentrated training in the basic essentials of field observation and mapping; the work is done in central Utah, with headquarters in Ephraim. Continuation of 5189.01. Requires full time of student. Prereq: or concur: EarthSci 5189.01 (EarthSci 581) or GeoSci 581. Not open to students with credit for EarthSci 582 or GeoSci 582.
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5189.06 Field Geology for Educators: Unspecified U G 1 - 4
Application of geological principles and interpretation of Earth features in selected areas, with related research reports and teaching units. Field trip and dis. Intended primarily for in-service and pre-service teachers and education majors.
Prereq: EarthSc 1100 (EarthSci 100), GeoSci 100 or equiv, and permission of instructor. Not open to students with credit for EarthSci 583.04 or GeoSci 583.04. May not be used to satisfy BS, MS, or PhD degree requirements in EarthSc. Repeatable to a maximum of 8 cr hrs or 3 completions.

5191 Internship in the Earth Sciences U G 1 - 5
Combines experience in earth science policy or practice in a governmental agency, private industry, or nonprofit organization with analysis of that experience.
Prereq: Jr standing or above, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

5193.01 Individual Studies in Economic Geology U G 1 - 3
Special problems in any branch of economic geology for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.02 Individual Studies in Engineering Geology U G 1 - 3
Special problems in any branch of engineering geology for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.03 Individual Studies in Earth and Planetary Sciences U G 1 - 3
Special problems in any branch of the earth and planetary sciences for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.04 Individual Studies in Field Geology U G 1 - 3
Special problems in any branch of field geology for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.05 Individual Studies in Geochemistry U G 1 - 3
Special problems in any branch of geochemistry for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.06 Individual Studies in Geomorphology U G 1 - 3
Special problems in any branch of geomorphology for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.07 Individual Studies in Geophysics U G 1 - 3
Special problems in any branch of geophysics for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.08 Individual Studies in Glaciology U G 1 - 3
Special problems in any branch of glaciology for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions for the combination of EarthSc 5193 (EarthSci 693) and GeoSci 693. This course is graded S/U.

5193.09 Individual Studies in History of the Earth Sciences U G 1 - 3
Special problems in any branch of the history of the earth sciences for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions for the combination of EarthSc 5193 (EarthSci 693) and GeoSci 693. This course is graded S/U.

5193.10 Individual Studies in Hydrogeology U G 1 - 3
Special problems in any branch of hydrogeology for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions for the combination of EarthSc 5193 (EarthSci 693) and GeoSci 693. This course is graded S/U.

5193.11 Individual Studies in Marine Geology, Limnology, and Oceanography U G 1 - 3
Special problems in any branch of marine geology, limnology, or oceanography for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions for the combination of EarthSc 5193 (EarthSci 693) and GeoSci 693. This course is graded S/U.

5193.12 Individual Studies in Paleobiology U G 1 - 3
Special problems in any branch of paleobiology for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.13 Individual Studies in Petrology and Petrography U G 1 - 3
Special problems in any branch of petrology and petrography for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.14 Individual Studies in Remote Sensing and Geographic Information Systems U G 1 - 3
Special problems in any branch of remote sensing and GIS for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.15 Individual Studies in Sedimentation U G 1 - 3
Special problems in any branch of sedimentology for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.16 Individual Studies in Stratigraphy U G 1 - 3
Special problems in any branch of stratigraphy for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.17 Individual Studies in Structural Geology U G 1 - 3
Special problems in any branch of structural geology for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.18 Individual Studies in Earth Science Education U G 1 - 3
Special problems in any branch of earth science education for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.19 Individual Studies Unspecified U G 1 - 3
Special problems in any branch of the earth sciences for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.20 Individual Studies in Global Change and Sustainability U G 1 - 3
Special problems in any topic in global change and sustainability for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.21 Individual Studies in Neotectonics U G 1 - 3
Special problems in any branch of neotectonics for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.22 Individual Studies in Mineralogy U G 1 - 3
Special problems in any branch of mineralogy for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5193.23 Individual Studies in Mineral Physics U G 1 - 3
Special problems in any branch of mineral physics for which the student has the proper qualifications.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions with 5193 (693) and GeoSci 693. This course is graded S/U.

5194 Group Studies U G 1 - 4
Group study of special topics in various fields of the earth sciences.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 15 completions for the combination of 5194 (694) and GeoSci 694.

5203 Geo-environment and Human Health U G 3
Examine geo-environmental processes that are contributing to human health degradation and the resultant societal impacts.
Prereq: EarthSc 2245 (EarthSci 245), or GE data anly course, or equiv, and Soph standing or above, or permission of instructor.

5206 Advanced Oceanography U G 3
Advanced study of geological, chemical, physical, and biological oceanography; their interactions; and their interactions with relevant current issues such as global change modeling, fisheries management, and energy exploration.
Prereq: EarthSc 1100 (EarthSci 100), 1105 (105), 1121 (121), GeoSci 100, 105, or 121; or Grad standing; or permission of instructor. Not open to students with credit for EarthSci 2206 (EarthSci 206) or GeoSci 206.
Investigation of the mechanics and chemistry of landscape development; interpretation of materials, processes, types, and evolution of landforms produced under diverse climates. Prereq: EarthSc 1121 (EarthSci 121) or GeolSci 121; EarthSc 1122 (EarthSci 122) or GeoSci 122; or permission of instructor. Not open to students with credit for EarthSci 550 or GeolSci 550.

Examination of selected essential earth science topics through appropriate field, laboratory, and classroom activities. Prereq: 10 hrs in physical or biological sciences with 3 cr hrs of introductory geological sciences recommended, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. May not be used to satisfy BA, BS, MS, or PhD degree requirements in EarthSc.

Origin, development, and structure of ocean basins and their contents; contemporary oceanic processes of geologic significance. 1 week, full-time at Stone Lab. Intended for in-service teachers and education majors. May not be used to satisfy BS, MS, or PhD degree requirements in EarthSc.

Source, dispersal, and accumulation of siliciclastic sediments; the interpretation of the environmental distributions of siliciclastic sedimentary rocks. Prereq: EarthSc 4502 (EarthSci 502), 6502 (502), or GeolSci 502, or equiv. Not open to students with credit for EarthSci 600 or GeoSci 600.

Identification and interpretation of sedimentary rocks based on mineralogic and textural study of thin sections and hand specimens. Prereq: EarthSc 4502 or 6502 (EarthSci 502), or GeolSci 502 or equiv; or permission of instructor. Not open to students with credit for EarthSci 601.01 or GeoSci 601.01.

Identification and interpretation of sedimentary rocks based on mineralogic and textural study of thin sections and hand specimens. Prereq: EarthSc 4502 or 6502 (EarthSci 502), or GeolSci 502 or equiv; or permission of instructor. Not open to students with credit for EarthSci 601.02 or GeoSci 601.02.

The study of carbonates in modern settings including the origin, composition, and identification of constituents and cement, and depositional environments. Prereq: EarthSc 4502 or 6502 (EarthSci 502), or GeolSci 502 or equiv. Not open to students with credit for EarthSci 602.01 or GeoSci 602.01.

The field study of carbonates in a modern setting such as the Bahamas or southern Florida. 7-day field trip preceding or following the semester. Prereq: 5602.01 (602.01), or GeoSci 602.01; and permission of instructor. Not open to students with credit for 602.02 or GeoSci 602.02.

Advanced study of the principles and procedures of stratigraphic nomenclature, subdivision, correlation, and interpretation, with examples from the international stratigraphic record. Prereq: EarthSc 4502 or 6502 (EarthSci 502), or GeolSci 502 or equiv. Not open to students with credit for EarthSci 603 or GeoSci 603.

Advanced study of the principles and practice of sequence stratigraphy; cyclicity in the stratigraphic record; computer modeling of sedimentary patterns; and reservoir characterization. Prereq: EarthSc 4502 or 6502 (EarthSci 502), or GeolSci 502 or equiv. Not open to students with credit for EarthSci 604 or GeoSci 604.

Basic principles of stable and radiogenic isotope methods as applied to paleoenvironmental investigation of ancient sediments. Prereq: Sr or Grad standing in EarthSci or related field. Not open to students with credit for EarthSci 605 or GeoSci 605.

Advanced consideration of the preservation, collection, laboratory methods, interrelationships, and stratigraphic distribution of major groups of plant and animal microfossils. Prereq: EarthSci 4501 (EarthSci 501), or GeolSci 501 or equiv. Not open to students with credit for EarthSci 613 or GeoSci 613.

Advanced consideration of paleontological principles, paleontological inference, and evolutionary theory, including patterns and processes, paleoecology, numerical analysis, and fossilization. Prereq: EarthSci 4501 (EarthSci 501) or GeoSci 501, or equiv. Not open to students with credit for EarthSci 614 or GeoSci 614.

Concepts and numerical methods for the advanced treatment of autecology, marine community paleoecology, and evolutionary paleoecology in the fossil record. Prereq: EarthSci 5614 (EarthSci 614) or GeoSci 614; or permission of instructor. Not open to students with credit for EarthSci 615 or GeoSci 615.

Interpretation of processes operating on Earth and on other planets from a petrological perspective. Prereq: EarthSc 4423 or 6423 (EarthSci 423), or GeoSci 423 or equiv. Not open to students with credit for EarthSci 617 or GeoSci 617.

Principles of historical-geological analysis and interpretation of Earth's physical, chemical, and biological history. Prereq: EarthSci 4502 or 6502 (EarthSci 502), or GeoSci 502 or equiv. Repeatable to a maximum of 12 cr hrs with 5618 (618) and GeoSci 618.

Introduction to the chemistry of the solid Earth and hydrosphere describing the processes controlling the distribution of elements. Prereq: Chem 1220 or above; Sr standing in EarthSci (EarthSci) or related field; or permission of instructor. Not open to students with credit for 621 or GeoSci 621.

Focus on theoretical and applied aspects of stable isotope biogeochemistry in the natural environment with emphasis on carbon, oxygen and nitrogen. Prereq: Sr or Grad standing in any science program; or permission of instructor. Not open to students with credit for EarthSci 622 or GeoSci 622.

Petrography, petrogenesis, and occurrence of igneous rocks, with special emphasis on phase equilibria; macroscopic and microscopic examination of igneous and petrographic suites in the laboratory. Prereq: EarthSci 4423 or 6423 (EarthSci 423), or GeoSci 423 or equiv. Not open to students with credit for EarthSci 625 or GeoSci 625.

Examination of processes influencing the cycling of major elements in the environment; anthropogenic alteration of these cycles (e.g. nutrient addition, acid rain, greenhouse gases). Prereq: EarthSci 5621 (EarthSci 621) or GeoSci 621, or permission of instructor. Not open to students with credit for EarthSci 627 or GeoSci 627.

Use of natural and anthropogenic radioactivity and of natural variations in the isotope compositions of selected elements to study geochemical processes on the Earth’s surface. Prereq: EarthSci 5621 (EarthSci 621) or GeoSci 621; or permission of instructor. Not open to students with credit for EarthSci 628 or GeoSci 628.

Application of physics, chemistry, and mathematics to the interpretation of igneous and metamorphic rocks. Prereq: Sr or Grad standing in EarthSci (EarthSci) or related field; or permission of instructor. Not open to students with credit for EarthSci 629 or GeoSci 629.

Lecture/discussion topics will include, but are not limited to, crystal chemistry and crystallography of selected mineral groups, processes and environmental conditions that control substitutions. Prereq: EarthSci 4421 or 6421 (EarthSci 421), or GeoSci 421 or equiv; or permission of instructor. Repeatable to a maximum of 9 cr hrs.

Applications of statistical methods to geoscience data, including linear error propagation, least-squares estimation, confidence interval estimation, analysis of variance. Role of computer graphics in data analysis. Prereq: Stat 5301 (528) or equiv, and Math 1152 (153) or above; or permission of instructor. Not open to students with credit for EarthSci 641, GeoSci 641, GeoSciM 5652 (GeoSciM 650 or 651), or 7763 (762).

Principles of geoscientific analysis and computing, including digital inversion, factor analysis, discriminant analysis, spectral analysis, digital systems analysis, and presentation graphics for the earth sciences. Prereq: Grad standing, or Math 1152 (153) or above, or written permission of instructor. Not open to students with credit for EarthSci 642 or GeoSci 642.

Survey of lithotectonic assemblages and structural associations in Archean, Proterozoic, and Phanerozoic orogenic terranes in relation to tectonic models for crustal evolution. Prereq: EarthSci 4423, 6423 (EarthSci 423), or GeoSci 4502, 6502 (EarthSci 502), or GeoSci 502, or EarthSci 4530, 6530 (EarthSci 530), or GeoSci 530; or permission of instructor. Not open to students with credit for EarthSci 644 or GeoSci 644.
5645 Advanced Structural Geology U G 4
Mechanisms of deformation; dynamic and kinematic analysis of rock structures; field and laboratory methods of structural analysis.
Prereq: EarthSci 4530 or 6530 (EarthSci 530), or GeolSci 530 or equivalent. Not open to students with credit for EarthSci 645 or GeoSci 645.

5646 Geodynamics U G 3
Application of mathematical and physical methods to the solution of geologic problems in heat flow, plate tectonics, interior dynamics, mountain building, ground-water flow, river mechanics.
Prereq: EarthSci 4530 or 6530 (EarthSci 530), or GeolSci 530 or equivalent; Math 1152 (153) or above; and Physics 1250 (131) or above, or permission of instructor. Not open to students with credit for EarthSci 646 or GeoSci 646.

5650 Glaciology U G 3
The fundamental processes controlling ice flow, glacier mass balance and the interaction of glaciers and ice sheets with the solid earth, ocean and atmosphere. Observational and computational methods are also addressed.
Prereq: EarthSci 4450 (EarthSci 450) or permission of instructor. Not open to students with credit for EarthSci 650 or GeoSci 650.

5651 Hydrogeology U G 4
Geologic and hydrologic factors controlling the occurrence, movement, storage, and chemical quality of surface water and ground water; exploration, evaluation, development, and management of water resources.
Prereq: EarthSci 1121 (EarthSci 121) or GeoSci 121; and Math 1152 (153) or above. Not open to students with credit for EarthSci 651 or GeoSci 651.

5655 Land Surface Hydrology U G 3
Physical processes of land surface hydrology in the context of the global hydrologic cycle. Consideration of the processes and mechanisms responsible for water and energy fluxes, with examples from various river basins.
Prereq: Math 1152 (153) or above, Chem 1210 (121) or above, and Physics 1250 (131) or above.

5660 Geology of Metallic Deposits U G 4
Occurrence, origin, distribution, properties, and exploration for metallic deposits.
Prereq: 4423 or 6423 (EarthSci 423 or GeoSci 423). Not open to students with credit for EarthSci 660, or GeoSci 660.01 or 660.

5661 Petroleum Geology U G 4
The formation, accumulation, and trapping of oil and natural gas. Geologic source beds and traps; hydrocarbon flow; hydraulic properties of reservoirs and confining units; hydrocarbon chemistry; thin-section analysis of reservoir rocks.
Prereq: 4423 or 6423 (EarthSci 423 or GeoSci 423); and 4502 or 6502 (EarthSci 502 or GeoSci 502); or permission of instructor. Not open to students with credit for EarthSci 661 or GeoSci 661.

5663 Global Change and Sustainability in the Earth System U G 4
Analysis of Earth systems, global environmental change and options for sustainability.
Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for EarthSci 663 or GeoSci 663.

5670 General and Economic Geology of Selected Areas U G 2 - 4
Concentrated field study of the stratigraphy, structural geology, tectonics, petrology, and geomorphology of a selected region. 5 or 10-day field trip preceding or following the semester, or during May session. Post-trip reports and report required.
Prereq: 4502 or 6502 (EarthSci 502 or GeoSci 502); and 4530 or 6530 (EarthSci 530 or GeoSci 530); and 5550 (EarthSci 550 or GeoSci 550); or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions.

5675 Scanning Electron Microscopy U G 2
Basic theoretical concepts and practical applications of scanning electron microscopy (SEM). Prereq: Chem 1210 or 1220; or equivalent; or permission of instructor. This course is graded S/U.

5676 Elemental Chemical Analysis Using Inductively Coupled Plasma Optical Emission and Mass Spectrometry U G 3
Concepts and practical use of ICP-OES and ICP-MS for elemental chemical analysis of environmental, geological, geochemical, biological, medical, and materials sciences samples. Prereq: Chem 1200 (123) or above and Jr standing or above; and permission of instructor. Not open to students with credit for EarthSci 674.

5680 Deep Earth Geophysics U G 3
Methods and techniques for study of Earth's crust and interior, involving potential fields, seismology, and heat flow.
Prereq: Math 1152 (153) or above; and Physics 1251 (133) or above. Not open to students with credit for EarthSci 680 or GeoSci 680.

5687 Energy Geophysics U G 3
Geophysical practices in exploration; seismology and methods in sedimentary rocks; electrical methods in crystalline rocks; remote-sensing and potential-field methods in regional analysis.
Prereq: 1121 (EarthSci 121 or GeoSci 121); and Math 1151 (151) or above; and Physics 1250 (131) or above. Not open to students with credit for EarthSci 687 or GeoSci 687.

5703 Principles of Biostratigraphy U G 2
Principles of zonal and azonal biostratigraphy; definition, identification, and correlation of standard biostratigraphic units; quantitative development of chronostratigraphically significant zonal frameworks.
Prereq: 4501 (EarthSci 501 or GeoSci 501), 5613 (EarthSci 613 or GeoSci 613), or 5654 (EarthSci 614 or GeoSci 614); and 5653 (EarthSci 603 or GeoSci 603) or equivalent; or permission of instructor. Not open to students with credit for EarthSci 703 or GeoSci 703.

5713 Taxonomy and Phylogeny in the Fossil Record U G 2
Theory and practice of taxonomy and phylogenetic reconstruction as applied to organisms in the fossil record.
Prereq: 5614 (EarthSci 614 or GeoSci 614), or permission of instructor. Not open to students with credit for EarthSci 713 or GeoSci 713.

5714 Biometry U G 2
Biometric principles and methods as applied to the solution of taxonomic, ontogenetic, and evolutionary problems in the fossil record.
Prereq: 5614 (EarthSci 614 or GeoSci 614); and 5641 (EarthSci 641 or GeoSci 641) or equivalent; or permission of instructor. Not open to students with credit for EarthSci 714 or GeoSci 714.

5717 Critical Issues in World Freshwater Resources U G 4
Examination of major issues relating to the world's freshwater resources; consideration of increasing water needs with a diminishing supply. 5752 (EarthSci 752 or GeoSci 752) recommended.
Prereq: 5561 (EarthSci 651 or GeoSci 651). Not open to students with credit for EarthSci 717 or GeoSci 717.

5718 Aquatic Geochemistry U G 3
Examination of the processes that control chemical equilibria in natural waters: acid/base reactions, metal complexation; speciation and oxidation-reduction processes. Intended for students in EarthSci, CivilEn, and the Grad EnvSci program.
Prereq: Chem 1220 (122) or above, and Math 1151 (151) or above; or equivalents. Not open to students with credit for EarthSci 718 or GeoSci 718.

5719 Environmental Organic Geochemistry U G 3
Fate and distribution of organic pollutants in the environment including aqueous solubility, vapor pressure, environmental partition coefficients, and transformation reactions. Intended for students in EarthSci, CivilEn, and the Grad EnvSci program.
Prereq: 5718 (EarthSci 718 or GeoSci 718), and Chem 4200 (520); or permission of instructor. Not open to students with credit for EarthSci 719 or GeoSci 719.

5746 Seminar in Rheological Properties of Solids U G 1 - 2
Principles of rheology of solids and empirical studies of brittle and ductile deformation mechanics, with special reference of applications to crust and mantle problems and glacial flow.
Prereq: 4530, 6530, (530), or GeoSci 530; and Math 2153 or 254 or above; or permission of instructor. Not open to students with credit for 746 or GeoSci 746. Repeatable to a maximum of 12 hrs or 12 completions.

5751 Quantitative Reservoir Modeling U G 4
Principles of analytical and numerical techniques in modeling single- and multiphase flow in gas, oil, and water (aquifer) reservoirs. Development of Matlab code for two- and three-dimensional flow in porous media.
Prereq: 3245 and Math 1152, or permission of instructor.

5752 Contaminants in Aqueous Systems U G 4
Examination of the occurrence, fate, and transport of contaminants in waters; emphasis on concepts of fluid flow and mass transport along with practical problems.
Prereq: 5561 (EarthSci 651 or GeoSci 651). Not open to students with credit for EarthSci 752 or GeoSci 752.

5754 Risk Assessment and Management in Earth Systems U G 4
Quantitative risk assessment for geologic processes and human activities by applying numerical modeling approaches.
Prereq: 5561 (EarthSci 651 or GeoSci 651) or equivalent course in Engineer or EnvSci; or permission of instructor. Not open to students with credit for EarthSci 754 or GeoSci 754.

5779 Seminar in Physical Properties of Minerals and Rocks U G 1 - 2
Quantitative survey of electrical, magnetic, elastic, inelastic, radiative, thermal, density, and seismic properties and chemical compositions of rocks and minerals.
Prereq: 4421, 6421 (421), or GeoSci 421; and 5680 (680) or GeoSci 680, or equivalents; or permission of instructor. Not open to students with credit for 779 or GeoSci 779. Repeatable to a maximum of 12 hrs or 12 completions.

5780 Reflection Seismology U G 4
Basics of reflection seismic data processing and interpretation, using petroleum industry standard seismic processing software, hardware, and data.
Prereq: 1121 (EarthSci 121 or GeoSci 121), Math 1151 (151) or above, and Physics 1250 (131) or above. Not open to students with credit for EarthSci 780 or GeoSci 780.

5781 Gravity Exploration U G 3
Analytical treatment of concepts and methods of gravimetry; introductory theory of gravitational potential; geological interpretation of gravity data; gravity surveying.
Prereq: Math 1152 (153) or above, or Grad standing; or permission of instructor. Not open to students with credit for EarthSci 781 or GeoSci 781.
Advanced magnetic theory and practice applied to investigations of the subsurface, including interpretation of surface, airborne, and satellite magnetic measurements.

Prereq: Math 1152 (1153) or above, or Grad standing; or permission of instructor. Not open to students with credit for EarthSci 782 or GeoSci 782.

6421 Earth Materials

Internal and external symmetry of minerals; relationship of physical properties to crystal structure; introduction to modern and traditional identification methods; sight identification of about 30 minerals.

Prereq or Concur: Chem 1210. Not open to students with credit for 4421 (EarthSci 421 or GeoSci 421) or GeoSci 221.

6423 Petrology

Origin, occurrence, association, and mineral composition of the common rocks; laboratory includes work by megascopic and microscopic methods.

Prereq: 1121 (EarthSci 121 or GeoSci 121), and 4421 or 8421 (EarthSci 421 or GeoSci 421). Not open to students with credit for 2212 (EarthSci 212 or GeoSci 212) or 4423 (EarthSci 423 or GeoSci 423).

6502 Stratigraphy and Sedimentation

Principles of, and procedures in, stratigraphy and sedimentation, illustrated by field and laboratory studies of sedimentary rocks.

Prereq: EarthSci 1121 (EarthSci 121 or GeoSci 121) and 1122 (EarthSci 122 or GeoSci 122). Not open to students with credit for EarthSci 4502 (EarthSci 502 or GeoSci 502).

6530 Structural Geology

An introduction to the principles of rock deformaton, the classification and physical origin of rock structures, and crustal tectonic processes.

Prereq: 1121 (EarthSci 121 or GeoSci 121), and Physics 1250 (131) or above. Not open to students with credit for 4530 (EarthSci 530 or GeoSci 530).

6550 Applied Geophysics

Methods and techniques of pure and applied geophysics; geological interpretation of geophysical data.

Prereq: 1121 (EarthSci 121 or GeoSci 121), Math 1151 (151) or above, and Physics 1250 (131) or above. Not open to students with credit for 4560 (EarthSci 560 or GeoSci 560), or GeoSci 280.

6641 Topics in Geostatistics

Lecture/discussion topics will vary with offering, subject to agreement of instructor and students. Potential topics include any within the broad field of geostatistics, including data collection, data processing, and data presentation.

Prereq: Permission of instructor.

6750 Paleoclimatology

Examination of climate records in ice, lake, and marine cores, tree rings, corals and historical records for a global perspective of Quaternary climate change.

Prereq: Grad standing or permission of instructor. Not open to students with credit for EarthSci 750 or GeoSci 750.

7998 Research in the Earth Sciences

Graduate-level research.

Prereq: Grad standing in EarthSc or GeoSci. Repeatable. This course is graded S/U.

7999 Research for Thesis in the Earth Sciences

Graduate-level research for thesis purposes only.

Prereq: Grad standing in EarthSci or GeoSci. Repeatable. This course is graded S/U.

8570 Graduate Capstone Project in Earth Sciences

Examination of a problem in the Earth Sciences, integrating knowledge and skills acquired in the non-theis M.S. subprogram.

Prereq: Grad standing in non-thesis M.S. program and approval of adviser.

8800 Seminar in Stratigraphy and Basin Analysis

Consideration of current and classical problems and procedures in biostratigraphic and lithostratigraphic analysis and synthesis.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8801 Seminar in Sedimentology

Consideration of sedimentation and the structures, petrography, depositional environments, and paleoecological interpretation of sedimentary rocks.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8810 Seminar in Paleobiology

Advanced topics in paleozoologic and paleobotanic morphology, taxonomy, and procedure; current questions in biostratigraphy, paleoecology, and evolutionary development of fossil floras and faunas.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8821 Seminar in Geochemistry

Selected topics in applications of chemistry to earth science problems; geochemistry, geochemistry, geochemical cycles, and cosmochemistry.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8822 Seminar in Mineralogy, Mineral Physics, and Petrology

Selected topics in optical mineralogy and igneous, sedimentary, and metamorphic petrology.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8840 Seminar in Structural Geology

Selected topics in structural geology, rock deformation, and geotectonics.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8850 Seminar in Glaciology and Geomorphology

Selected topics in glaciology, glacial history, and geomorphology.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8851 Seminar in Hydrogeology and Oceanography

Topics in hydrogeology and oceanography, such as ground-water hydrology and hydraulics, basin management, water resources, paleohydrology, reef and stoll development, or paleo-oceanography.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8860 Seminar in Energy Resources

Study of selected deposits of subsurface energy resources, including fossil fuels and geothermal.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8874 Seminar in History of Earth Science Concepts

Investigation of geoconcepts and techniques of the early literature and of geoconcepts; leaders, provide a firm basis for comprehension of modern science.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8878 Seminar in Geophysics

Investigation and discussion of recent developments in geophysics, including exploration geophysics, glaciology, solid-earth geophysics, paleomagnetism, tectonics, or engineering evaluation.

Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8889 Interdepartmental Seminar in Polar and Alpine Studies

A seminar on selected topics including anthropology, biology, climatology, exploration, geology, glaciology, microbiology and soils.

Prereq: Permission of instructor. Not open to students with credit for EarthSci 896 or GeoSci 896. Repeatable to a maximum of 6 cr hrs. Cross-listed in Geog 8896.

8889 Colloquium in the Earth Sciences

Presentations and discussions of current research in the earth sciences provided by visitors, faculty and students.

Prereq: Grad standing in EarthSci or GeoSci. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8898 Research in the Earth Sciences

Graduate-level research.

Prereq: Grad standing in EarthSci or GeoSci. Repeatable. This course is graded S/U.

8899 Dissertation Research in the Earth Sciences

Research for dissertation purposes only.

Prereq: Grad standing in EarthSci or GeoSci. Repeatable. This course is graded S/U.

East Asian Languages and Literatures

1231 East Asian Humanities

Introduction to the contemporary and traditional cultures of China, Korea, and Japan taught through readings, films, and demonstrations.

Prereq: Not open to students with credit for 131. GE cultures and ideas and diversity global studies course.

3223 The Buddhist Tradition

History and structure of Buddhism from founding to present in South, Southeast, and East Asia. Emphasis on rituals, beliefs, and local and regional variations. CompStd 2370 recommended.

Prereq: Not open to students with credit for 323 or CompStd 3673. Cross-listed in CompStd 3673.

3241 Thought in China, Japan, and Korea

The shaping of three cultures; readings in the major traditional schools of thought in China, Japan, and Korea and their impact on society.

Prereq: Not open to students with credit for 341. GE cultures and ideas and diversity global studies course.

3299H East Asian Thought in the Western Imagination

Examination of the impact of Buddhism, Confucianism, and Daoism on a number of Western disciplines, including religion, philosophy, literature, politics, and science.

Prereq: Honors standing. Not open to students with credit for 399H.

3446 Asian American Film

Introduction to Asian American cinema from the 1960s to the present, including documentaries, feature films, and experimental films.

Prereq: Not open to students with credit for 346. GE VPA course.
146 East Asian Languages and Literatures

3457 East Asian Folklore U 3
Diverse folk traditions in China, Korea, and Japan; relevant theory; song, narrative, epic, dance, ritual, material culture, tourism; emphasis on local and ethnic cultures. Taught in English. Topics vary by instructor.
Prereq: Not open to students with credit for 357.

4193 Individual Studies U 1 - 3
Directed study to meet individual research needs of students in East Asian studies. Not a substitute for regular language courses.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

4194 Group Studies U 1 - 3
Group investigation of issues in East Asian studies. Varying topics.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

4407 Early Asian Cinema U 3
The cinema of China, Japan, and Korea before 1950.

5310 Strategies for Performance-Oriented Language Learning: Practicum U G 3
An overview of language-learning strategies and practice in applying them to learning of East Asian languages.
Prereq: Chinese 1102.01, 1102.02, or 4 credits of 1102.51; or Japanese 1102.01, 1102.02, or 4 credits of 1102.51; or Korean 1102.01, 1102.02, or 4 credits of 1102.51; or permission of instructor. Repeatable to a maximum of 9 cr hrs.

5338 Scripts of East Asia U G 3
A critical survey of writing systems that use Chinese characters, popular and scholarly myths about them, and their impact on the History of ideas.
Prereq: Soph standing in Chinese, Japanese, or Korean, or permission of instructor. Not open to students with credit for 683.

5475 Women Writers, Culture and Society in East Asia U G 3
Close examination of representative works of major women writers from China, Japan, and Korea in the cultural and ideological context of each country. No knowledge of East Asian languages is required. All reading materials are in English.
Prereq: Chinese 2231, 2232, Japanese 2231, or Korean 2231, or at least one literature course at the college level, or permission of instructor. Not open to students with credit for 675.

5477 Performance Traditions in Contemporary East Asia U G 3
Introduction to the panoply of oral and orally-connected performance traditions of East Asia. Explores local traditions of professional storytelling, epic, folksongs, dance, or drama.
Prereq: 1231, Chinese 2231, 2232, 2451, 2452, Japanese 2231, 2451, 2452, Korean 2231, or 2451, or permission of instructor. Not open to students with credit for 677.

5797 Study at a Foreign Institution U G 3
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.
Prereq: Admission to specific study abroad program that accepts this course. Repeatable to a maximum of 24 cr hrs or 8 completions.

6193 Individual Studies G 1 - 3
Individual investigation of East Asian cultures, languages, and literatures.
Prereq: Permission of department chairperson. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

6194 Group Studies G 1 - 3
Group investigation of issues in East Asian studies. Varying topics.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

7700 Learning East Asian Languages in Cross-Cultural Contexts: College Level G 1 - 3
Principles and practices of designing instruction and assessing performances in an East Asian language as a foreign language in American high schools.
Su Sem. Prereq: Intermediate to high competency in target East Asian language, and permission of instructor. Repeatable to a maximum of 2 cr hrs. FL Admis Cond course.

7701 Pedagogical Syntax for East Asian Languages G 3
Training in the presentation of grammar in East Asian language classes; special attention given to problems of translating linguistic studies into teachable units.
Au, Sp Sem. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs.

7702 Materials Preparation for East Asian Languages G 3
Preparation of materials for teaching Chinese, Japanese, and Korean. Emphasis on the special problems faced by English-speaking students in learning these languages.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

7703 Presentation of East Asian Languages and Cultures G 1 - 2
Preparation and presentation of curriculum and syllabus for East Asian language program and adaptation of learning materials. Concurrence in 7700 and 7704 recommended.
Su Sem. Prereq: High-level competency in the target East Asian language, and permission of instructor. Repeatable to a maximum of 4 cr hrs or 2 completions. FL Admis Cond course.

7704 Teaching Practicum in East Asian Languages G 1 - 5
Training as a classroom teacher through practice teaching to students and the observation of classes taught by trainees and master teachers.
Prereq: High-level competence in an East Asian language, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions. FL Admis Cond course.

7705 Seminar in the Learning of East Asian Languages and Cultures G 3
Critical analysis of insights and theories from various disciplines relevant to the pedagogy of East Asian languages and cultures.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

7710 Learning East Asian Languages in Cross-Cultural Contexts: High School Level G 1
Principles and practices of designing instruction and assessing performances in an East Asian language as a foreign language in American high schools.
Su Sem. Prereq: Intermediate to high competency in target East Asian language, and permission of instructor. Repeatable to a maximum of 2 cr hrs. FL Admis Cond course.

7897 Introduction to Graduate-level East Asian Studies G 1
The origins, development and current state of East Asian Area Studies in the U.S., including its relationship to other intellectual disciplines.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 797, History 7405 (797), or HistArt 8801 (797). This course is graded S/U. Cross-listed in History 7405 and HistArt 8801.

7898 Teaching East Asian Languages at the College Level G 3
Techniques of teaching college-level East Asian languages; effective use of teaching, testing, and laboratory materials; observation of a variety of language classes.
Au Sem. Prereq: Permission of instructor. Not open to students with credit for 801.

8870 Research Presentations in East Asian Languages and Literatures G 1 - 3
Research presentations and discussions of specific problems in East Asian languages and literatures.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

8896 Seminar in East Asian Philosophy G 3
Seminar focusing on a particular thinker, school of philosophy, or set of texts from the East Asian philosophical tradition. Topics vary.
Prereq: Not open to students with credit for Philos 8102 or CompStd 8896. Repeatable to a maximum of 9 cr hrs. Cross-listed in Philos 8102 and CompStd 8896.

East European Languages and Literatures

5627 Reading Course in a Balkan or East European Language U G 3
Fundamentals of grammar and vocabulary needed for reading a non-Slavic language of Eastern or East Central Europe or the Balkans (e.g., Albanian, Romanian, Estonian, Hungarian, Latvian, or Lithuanian).
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

5797 Study at a Foreign Institution U G 1 - 9
Opportunity to study at an educational institution in East Central, Southeastern, or Eastern Europe and receive OSU credit. Students pay OSU fees, any fees in excess of tuition, travel & subsistence costs.
Prereq: Permission of dept chairperson. Repeatable to a maximum of 36 cr hrs or 9 completions. This course is progress graded.

7628 Balkan Linguistics G 3
Linguistic discussion of issues in a non-Slavic language or languages of the Balkan Sprachbund, with some reading in the original language(s). Repeatable with change of topic by permission of instructor.
Prereq: 7827 (671), or permission of instructor. Not open to students with credit for 672. Repeatable to a maximum of 6 cr hrs.

Economics

1100.01 Current Economic Events in Historical Perspective U 3
Introduction to economic analysis; historical background for interpreting current economic events. Discuss current issues in a historical context; including topics like taxes and unemployment. A one-course introduction to economics.
Prereq: Not open to students with credit for 110.01. GE soc sci human, nat, and econ resources course.

1100.02 Freakonomics U 3
Discuss current social problems and issues within an economics framework, including topics such as job discrimination and integration. A one-course introduction to economics.
Prereq: Not open to students with credit for 110.02. GE soc sci human, nat, and econ resources course.
3710H Law and Economics U 3
Advanced exploration of the ways in which economic theory can be used to understand what the legal system does and where our laws originate. Prereq: Honor standing, and 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv; or permission of instructor. Not open to students with credit for 3710H (271H, 371).

3790 Economics of Crime U 3
Investigates incentives and deterrents to criminal activity with respect to general economic conditions and analyzes the effectiveness of public policies designed to deter crime. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 479.

3820 The Economics of Gender in Labor Markets U 3
Application of economic analysis to the evolution and economic condition of women and men in the labor force; occupational distribution and segregation; wage gap; the glass ceiling. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 482. GE diversity soc div in the US course.

3850 Diversity Economics U 3
Examines race, gender, and ethnicity in labor markets; impact of labor market discrimination and differences in human capital acquisition on labor market outcomes. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 485. GE diversity soc div in the US course.

3900.015 The Economics of Immigration U 3
This is a service-learning opportunity with Esperanza International in Tijuana, Mexico. The course will introduce micro and macroeconomic issues related to immigration. This course will focus on the opportunity costs for immigrants, the effects of the flow of money, and the loss of labor and human capital on economic growth. Students will work with the immigrant community. Prereq: 2001.01, 2001.02, 2002.01 or 2002.02, or AEDEcon 2001. GE service learning course.

4001.01 Intermediate Microeconomic Theory U 3
Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2001.02 (201), or 2002.03 (201H), or equiv. Not open to students with credit for 4001.02 or 4001.03 (501.01 or 501.02).

4001.02 Intermediate Microeconomic Theory U 3
Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium. Designates a calculus-based version. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2001.02 (201), or 2002.03 (201H), and Math 1131 (132), 1151 (151), 1152 (152 and 153), 1161 (161 and 162), 2182H (263H), or 4181H (190H) or equiv; or permission of instructor. Not open to students with credit for 4001.01 (501.01 and 501.02), or 4001.03.

4001.03 Intermediate Microeconomic Theory U 3
Theory of consumer behavior; theory of the firm; costs and production; factor price determination; general equilibrium. Designates an advanced calculus-based version. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2001.02 (201), or 2002.03 (201H), and Math 1131 (132), 1151 (151), 1152 (152 and 153), 1161 (161 and 162), 2182H (263H), or 4181H (190H) or equiv; or permission of instructor. Not open to students with credit for 4001.01 (501.01 and 501.02), or 4001.03.

4002.01 Intermediate Macroeconomic Theory U 3
Analysis of the determinants of national output; income and employment levels; theory of economic growth and progressive equilibrium in an economy. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2003.04 (201H), or equiv. Not open to students with credit for 4002.02 (502.01 or 502.02) or 4002.03.

4002.02 Intermediate Macroeconomic Theory U 3
Analysis of the determinants of national output; income and employment levels; theory of economic growth and progressive equilibrium in an economy. Designates a calculus-based version. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2003.04 (201H), and Math 1131 (132), 1151 (151), 1152 (152 and 153), 1161 (161 and 162), 2182H (263H), or 4181H (190H) or equiv; or permission of instructor. Not open to students with credit for 4002.01 (501.01 or 501.02) or 4002.03.

4002.03 Intermediate Macroeconomic Theory U 3
Analysis of the determinants of national output; income and employment levels; theory of economic growth and progressive equilibrium in an economy. Designates an advanced calculus-based version. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2003.04 (201H), and Math 1152 (152 and 153), 1161 (161 and 162), 2182H (263H), or 4181H (190H) or equiv; or permission of instructor. Not open to students with credit for 4002.01 (502.01 or 502.02) or 4002.03.
### 4450 Elementary Econometrics
Introduction to econometrics as an experimental social science. Students participate in and study results of economic experiments dealing with markets, individual decision making, and a broad array of game theoretic economic models. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H) or equiv. Not open to students with credit for 505.

### 4500 Economic Development
Empirical and theoretical consideration of long-term economic changes, including changes in industrial structure, technology, and level of national product, emphasis on developing economies. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 550.

### 4508 Comparative Economic Systems
Principles and institutions for economic decision making under capitalism, socialism, communism, and mixed systems; comparison of selected countries. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 5150 (615), or 508. GE diversity global studies course.

### 4537 Middle Eastern Economic Development
Introduction to current economic issues facing the Middle East; similarities and differences in Middle Eastern countries' growth, inflation, unemployment, fiscal and monetary policy, imports, exports, foreign debt and exchange rate policy. Prereq: 2001.01, 2001.02 (200), 2001.03H (200H), or AEDEcon 2001 (200), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 537, AEDEcon 4537 (537), IGStds 4537 (537), or 457. Cross-listed in AEDEcon and IGStds.

### 4550 Economics of War
Economic concepts are applied to war and conflict-defense spending alliance building, the arms trade, peacekeeping, terrorism, and weapons of mass destruction proliferation. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 547.

### 4555 Economics of Population
Using economic principles to analyze population growth, fertility, mortality, mating, dating, marriage, teen pregnancy, divorce, and migration. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 555.

### 4560 Cooperation and Conflict in the Global Economy
The economic, social, and political bases for and responses to increasing global economic integration. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 4560H (556H), 556, IGStds 4560 (556), or 4560H (556H). Cross-listed in IGStds.

### 4560H Cooperation and Conflict in the Global Economy
The economic, social, and political bases for and responses to increasing global economic integration. Prereq: Honors standing; and 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 4560 (556), 4560H, IGStds 4560H (556H), or 4560 (556). Cross-listed in IGStds.

### 4597.01 Issues of the Underground Economy
Focuses on the informal sector of the underground economy: illegal drugs, arms sales and human trafficking; Applies economic reasoning. Recommended prereqs: 2001.01, 2001.02 (200), 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 597.01. GE cross-disciplinary seminar course.

### 4600 International Economic Relations
Survey of international economic relations; the basis of world trade; commercial and financial policy, particularly of the United States; and recent international economic organization. Students planning on taking 5650 or 5660 are encouraged to take them instead. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), and 2002.01, 2002.02 (201), or 2002.03H (201H), or equiv. Not open to students with credit for 5650 (665), 5650 (666), or 566.

### 4700 Government and Business
Economic and legal aspects of government regulation of business in the United States: philosophies and concepts of public control; contemporary problems. Students planning on taking 5700 are encouraged to take it instead. Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 5700 (670), or 570.

### 4700H Government and Business
Economic and legal aspects of government regulation of business in the United States: philosophies and concepts of public control; contemporary problems. Prereq: Honors standing, and 2001.01, 2001.02, 2001.03H, 4001.01, 4001.02 or 4001.03, and Math 1151. Not open to students with credit for 4700 (570) or 5700 (670).
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.

Prereq: Permission of dept chairperson. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

Survey of the field of labor economics; trade unionism, collective bargaining; wage determination, employment, unemployment; labor legislation. Students planning on taking 5850 are encouraged to take it instead.

Prereq: 4001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 5850 (685) or 580.

Analysis of economic and business aspects of sports teams and their strategic interactions in sports markets.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 592.

The study of housing markets using the tools of economics; demand and supply, prices and appreciation, ownership and renting, government policy, and brokerage.

Prereq: 2001.01, 2001.02 (200), or 2001.03H (200H), or equiv. Not open to students with credit for 592.

Prepares students to write an undergraduate thesis; group discussion of research problems, methods, and strategies.

Prereq: Honors standing, and 4001.01 (501.01), 4001.02 (501.02), or 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03; or permission of instructor. Not open to students with credit for 596H.

Directed research for an Economics major; collection and analysis of data and information for a research project.

Prereq: 4001.01 (501.01), 4001.02 (501.02), or 4003.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03, or equiv, and permission of instructor. Not open to students with credit for 4989H or 499.

Directed research for an economics major; collection and analysis of data and information for a research project.

Prereq: Honors standing, and 4001.01 (501.01), 4001.02 (501.02), or 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03, or equiv; and permission of instructor. Not open to students with greater than 9 cr hrs in 4996 or max credit in 499. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

A program of study arranged for each student, with individual conferences and reports, to write a senior thesis. At least two semesters are required of candidates for the degree with distinction in economics.

Prereq: At least half of the Econ courses taken and an average of B in the remainder, and Sr standing, and permission of instructor. Not open to students with greater than 9 hrs credit for 4989H (699) or max credit in 739H. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

A program of study arranged for each student, with individual conferences and reports, to write a senior thesis. At least 2 sems required for distinction in econ. Failure to receive a mark of S in this course is a disqualification for special honors.

Prereq: Honors standing, and a grade of A in at least half of the Econ courses taken, and an average of B in the remainder, Sr standing, and permission of instructor. Not open to students with credit for 4999 (783H). Credit in 783H counts toward hour cap. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

Analysis of behavior in strategic situations - when a person or firm's best action depends on what others do.

Prereq: 4001.01 (501.01), 4001.02 (501.02), or 4003.03, and Math 1131 (132), 1151 (151 and 152), 1152 (153), 1161 (161 and 162), or 2182G (236H), or equiv. Not open to students with credit for 601.

Survey of economic development of Europe from pre-industrialization to current globalization.

Prereq: 4400 (444), 5410 (641), or Stat 2450 (245), and Econ 4001.01 (501.01), 4001.02 (502.02), or 4001.03, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03; or Grad standing. Not open to students with credit for 665.

General survey of economic aspects of developing economies. Transitions from central planning to markets and from underdevelopment to industrialization in the twentieth century are emphasized.

Prereq: 4400 (444), 5410 (641), or Stat 2450 (245), and 4001.01 (501.01), or 4001.02 (502.02), or 4001.03, and 4002.01 (502.01), or 4002.02 (502.02), or 4002.03 or equiv; or permission of instructor. Not open to students with credit for 615.

Advanced readings in economics and related fields.

Prereq: Jr standing or higher; and an average of B or better in all econ courses; and a CPRH of 3.00 or above. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

Advanced current problems not covered in other courses.

Prereq: 4001.01 (501.01), 4001.02 (502.02), or 4003.03, or equiv. Repeatable to a maximum of 10 cr hrs or 10 completions.

Organization, functions, and control of money markets and their submarkets; flow of funds in these markets and investment policies of market participants.

Prereq: 4400 (444), or 5410 (641), and 4001.01 (501.01), 4001.02 (501.02), or 4002.01, and 4002.01 (502.01), 4002.02 (502.02), or 4002.03, or Stat 2450 (245), or equiv. Not open to students with credit for 625.

The general linear regression model; multiple correlation, path analysis, analysis of variance and tests of significance; specification errors.

Prereq: 4001.01 (501.01), 4001.02 (501.02), or 4003.03, and Stat 2450 (245), 4201, 4202 (420, 421), or 3470 (427, 428), or equiv. Not open to students with credit for 641, 444, or 4400.

Discrete choice models, panel data, endogeneity, instrumental variables, and systems of equations; stationary and nonstationary time series; applications in various fields of economics. Continuation of 5410.

Prereq: 5410 (641) and 4002.01, or 402.02 (502.02), or 4002.03 (502.03), or equiv. Not open to students with credit for 642.

Comparative advantage and the gains from trade; tariffs and other trade restrictions; economic effects of protective policies; U.S. commercial policies; regional economic integration.

Prereq: 4001.01 (501.01), 4002.01 (502.01), 4002.02 (502.02), 4002.03, or Stat 2450 (245), or equiv. Not open to students with credit for 665.

International payments and receipts; foreign exchange markets; balance-of-payments adjustment under different monetary systems; macroeconomic policy; international monetary reforms; foreign investments; multinational corporations.

Prereq: 4400 (444), 5410 (641), or Stat 2450 (245), and 4002.01 (502.01), 4002.02 (502.02), 4002.03, or 4002.03, and 4400 (444), 5410 (641), or Stat 2450 (245) or equivs. Not open to students with credit for 665.

Applications of economic analysis to industrial organizations including the firm’s internal incentive structure, labor markets, and financial institutions, of major market economies such as U.S., and Japan from comparative perspectives.

Prereq: 4001.01 (501.01), 4001.02 (501.02), or 4001.03, or Grad standing. Not open to students with credit for 670.

Advanced study of the labor market including labor demand and supply, wage determination, and unemployment.

Prereq: 4001.01 (501.01), 4001.02 (502.02), or 4001.03, or Grad standing. Not open to students with credit for 685.

An introductory course to the field of health economics. Students will to apply concepts from introductory and intermediate microeconomics to problems that are faced in health and medical care. The focus is on individual demand for medical care; health insurance; markets for, and institutional features of, health care providers; measuring and pricing quality, and healthcare reform.

Prereq: 4001.01, 4001.02, or 4001.03. Prereq or concour: Stat 1450 or 2450.

Supervised and individually designed studies for pre-qualifier graduate students in economics or graduate students in non-economics graduate programs.

Prereq: Permission of instructor. Not open to students with credit for 693. Repeatable to a maximum of 20 or hrs or 5 completions. This course is graded S/U. Letter Grade option available only with approval of economics director of graduate studies.
**Survey of Mathematical Methods in Economics**

Core analytical methods and techniques routinely used in the first-year graduate courses in economic theory; topics include basic real analysis, convexity, constrained optimization, envelope theorems and their applications. Prereq: 4001.01, 4001.02, 4001.03, or 501A and graduate mathematics courses in vector calculus and elementary linear algebra. Not open to students with credit for 704, or 705.

**Survey of Statistical Methods in Economics**

Probability and statistical methods frequently used in economic analysis; topics include random variables, moment generating functions, limit theorems, expectations, multiple correlations, tests of significance and their economic applications. Prereq: Math 1152, or equiv, or permission of instructor and economics director of graduate studies. Not open to students with credit for Stat 5201 (520), or 6801 (620), or 640, or 720.

**Survey of Microeconomics**

Methodology and scope of the neo-classical microeconomics paradigm; topics include the theory of competitive firms and consumers, general equilibrium, Pareto optimum, welfare theorems, non-competitive markets, uncertainty and asymmetric information. Prereq: 4001.01 or 501A, or equiv, and permission of economics director of graduate studies. Not open to students with credit for 8711 (804), 8712 (805), 704, or 705.

**Survey of Macroeconomics**

Survey of macroeconomic fluctuations, business cycles and economic growth, including Keynesian, monetarist and real business cycle models; topics also include money and banking, unemployment, inflation and endogenous economic growth. Prereq: 4002.01 (502) or equiv with permission of instructor and economics director of graduate studies. Not open to students with credit for 8721 (806), or 8722 (807) or 706, or 707.

**Survey of Econometric Methods I**

Survey of fundamental methods and applications of econometrics with an emphasis on linear regression and its applications to a range of economic topics taken from various microeconomic fields. Prereq: Stat 2450 (245), and Math 2168.02, or 571, or equiv with permission of instructor and economics director of graduate studies. Not open to students with credit for 8731 (740), or 8732 (741), or 8733 (742), or 702.

**Survey of Econometric Methods II**

Survey of econometric methods in time series and panel data with an emphasis on empirical examples in micro and macro economics; topics include GMM, time series models, VAR, cointegration, fixed and random effects and duration models. Prereq: 8731 (702), or equiv with permission of instructor and economics director of graduate studies. Not open to students with credit for 8731 (740), or 8732 (741), or 8733 (742), or 703.

**Contemporary Political Economy**

Survey of contemporary theories on the interactions between economic policies, domestic institutions and the international economy, and their consequences for political economy. Prereq: Grad standing or permission of instructor. Not open to students with 6 cr hrs for 6745 and PolitiSc 10 or 10 hrs for 735 and PolitiSc 735. Repeatable to a maximum of 6 cr hrs. Cross-listed in PolitiSc 7280.

**Internship in Professional Economics I**

Practicum for economics graduate students who have completed the core curriculum in microeconomics, macroeconomics and econometrics to apply economic analysis on tasks and problems in an empirical or economic organization. Prereq: Satisfactory completion of the first-year Ph.D. courses or equivalent with permission of Economics Director of Graduate Studies. Not open to students with credit for 901. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is graded S/U.

**Individual Studies**

Supervised and individually specialized studies for PhD students who have finished regular course work in their economics PhD program. Letter grade option available only with approval of economics director of graduate studies. Prereq: Permission of instructor. Repeatable to a maximum of 44 cr hrs. This course is graded S/U.

**Group Studies**

Advanced new course material in economics offered to complement existing PhD courses. Prereq: Grad standing in Econ or related field, and permission of instructor and Grad studies director for Econ. Not open to students with credit for 895. Repeatable to a maximum of 44 cr hrs or 11 completions.

**Microeconomic Theory IA**

Rigorous survey of the neoclassical paradigm dealing with individual economic agents, firms and markets; covers core concepts and methods such as equilibrium, optimality, duality, comparative statics and envelope theorems. Prereq: Grad standing in Econ or related field, and permission of Economics Director of Grad Studies. Not open to students with credit for 804. Repeatable to a maximum of 4 cr hrs or 11 completions.

**Microeconomic Theory IB**

Continuation and extension of Microeconomic Theory IA to study competitive general equilibrium, optimality and welfare theorems; includes analysis of individual agents' behavior under uncertainty and markets subject to asymmetric information. Prereq: 8711 (804), or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 805.

**Microeconomic Theory IA**

A theoretical treatment of information economics and mechanism design; topics include implementation, dominant strategy mechanism, Bayesian mechanism design, adverse selection, moral hazard, social choice and auctions. Prereq: 8713 (805), or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 808.

**Microeconomic Theory IIB**

A rigorous introduction to modern macroeconomic analysis and models of economic growth with emphasis on dynamic competitive equilibrium analysis: topics include dynamic programming applied to stochastic environments. Prereq: Grad standing, and permission of Economics Director of Grad Studies. Not open to students with credit for 806.
8722 Macroeconomic Theory IB G 3
Continuation of 8721 with recent developments in macro and monetary economics; topics include business cycles, endogenous growth, equilibrium unemployment and risk sharing in incomplete markets.
Prereq: 8721 (806), or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 807.

8723 Macroeconomic Theory IIA G 3
Continuation of Macroeconomic Theory IA-IIB with emphasis on dynamic general equilibrium models with shocks and frictions and their empirical assessment.
Prereq: 8722 (806), or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 807 or 819.

8724 Macroeconomic Theory IIB G 3
Micro foundations of aggregate demand from the perspective of dynamic optimization; topics also include permanent income, lifetime portfolio choice, Q-theory of investment, consumption CAPM, term structure and long term risk.
Prereq: 8723, or 806 and 807, or equiv, and permission of Economics Director of Grad Studies. Not open to students with credit for 809.

8731 Econometrics I G 4
Probability; random variables; sampling distributions; limit theorems; point and interval estimation; statistical hypothesis testing; multiple regression analysis in the linear model including finite-sample and asymptotic statistical properties.
Prereq: 6700, 6701 (640), or Stat 5201 (521); or equiv with permission of economics director of grad studies. Not open to students with credit for 740, 741, and 742.

8732 Econometrics II G 4
Generalized least squares; specification tests; generalized method of moments; endogenous regressors and simultaneous equation systems; panel data; nonlinear estimation; discrete and limited dependent variable models; and basic time-series analysis.
Prereq: 8731 (740, 741) or equiv with permission of economics director of grad studies. Not open to students with credit for 640, 740, 741, and 742.

8733 Econometrics III G 3
Continuation of Economics 8731 and 8732 with an emphasis on applications of econometric theory and methods, including the use of advanced econometric software to various fields of economics.
Prereq: Econ 8731 and 8732, or equiv with permission of instructor. Not open to students with credit for 640, 740, 741, and 742.

8781.01 First Year Research Principles and Techniques in Core Microeconomics G 1 - 3
Group independent study of research principles and techniques for first-year PhD students in economics with focus on microeconomics.
Prereq: 8714 (808), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8781.02 First Year Research Principles and Techniques in Core Macroeconomics G 1 - 3
Group independent study of research principles and techniques for first-year PhD students in economics with focus on macroeconomics.
Prereq: 8724 (809), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8781.03 First Year Research Principles and Techniques in Core Econometrics G 1 - 3
Group independent study of research principles and techniques for first-year PhD students in economics with focus on econometrics.
Prereq: 8732 (742), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8781.05 First Year Research Principles and Techniques in Economics G 1 - 3
Group independent study of research principles and techniques for first-year PhD students in economics.
Prereq: Grad standing in Economics, and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8782.01 Second Year Research Principles and Techniques in Economic Theory G 1 - 3
Group independent study-cum-workshop to facilitate integrative reviews of concepts and techniques in major themes of economic theory, to prepare for field exams/papers, and to develop research perspectives.
Prereq: 8816 (815), 8817 (817), or 8818 (818), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8782.02 Second Year Research Principles and Techniques in Macroeconomics G 1 - 3
Group independent study designed to integrate and reinforce field knowledge and methods in macro-monetary economics and to develop research topics.
Prereq: 8821 (810), 8822 (811), or 8823 (820), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8782.03 Second Year Research Principles and Techniques in Econometrics G 1 - 3
Group independent study designed to integrate and reinforce field knowledge and methods in econometrics and to develop research topics.
Prereq: 8830 (840), 8831 (841), or 8832 (842), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8782.04 Second Year Research Principles and Techniques in Public and Urban Economics G 1 - 3
Group independent study designed to integrate and reinforce field knowledge and methods in public and urban economics and to develop research topics.
Prereq: 7790 (790), 8841 (830), or 8842 (832), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8782.05 Second Year Research Principles and Techniques in Labor Economics G 1 - 3
Group independent study designed to integrate and reinforce field knowledge and methods in labor economics and to develop research topics.
Prereq: 8851 (883), 8852 (884), or 8853 (885), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8782.06 Second Year Research Principles and Techniques in International Economics G 1 - 3
Group independent study designed to integrate and reinforce field knowledge and methods in international economics and to develop research topics.
Prereq: 8861 (881), 8862 (882), or 8863 (883), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8782.07 Second Year Research Principles and Techniques in Industrial Organization G 1 - 3
Group independent study designed to integrate and reinforce field knowledge and methods in industrial organization and to develop research topics.
Prereq: 8871 (871), 8872 (872), or 8873 (873), and permission of economics director of graduate studies. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8782.08 Second Year Research Principles and Techniques in Economic History G 1 - 3
Group independent study designed to integrate and reinforce field knowledge and methods in economic history and to develop research topics.
Prereq: 5130 (614), 5140 (613), or 5150 (615), and permission of instructor and economics director of graduate studies. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

8782.09 Second Year Research Principles and Techniques in Experimental Economics G 1 - 3
Group independent study designed to integrate and reinforce field knowledge and methods in experimental and behavioral economics and to develop research topics.
Prereq: 8873 (970) or 8875, and permission of economics director of graduate studies. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

8782.10 Second Year Research Principles and Techniques in Growth and Development Economics G 1 - 3
Group independent study designed to integrate and reinforce field knowledge and methods in growth and development economics and to develop research topics.
Prereq: 8863 (863), and a field course approved by economics director of graduate studies, and permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

8782.20 Second Year Research Principles and Techniques in Economics G 1 - 3
Group independent study designed to integrate and reinforce field knowledge and methods acquired in advanced field courses, and to develop research topics.
Prereq: Major field courses approved by economics director of graduate studies, and permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

8783.01 Advanced Research Principles and Techniques in Economic Theory G 1 - 3
Group independent study to prepare students for original research and innovation in the field of advanced economic theory. Open to students who have completed field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8783.02 Advanced Research Principles and Techniques in Macroeconomics G 1 - 3
Group independent study to prepare students for original research and innovation in the field of macroeconomics. Open to students who have completed field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.
8783.03 Advanced Research Principles and Techniques in Econometrics
Group independent study to prepare students for original research and innovation in the field of econometrics. Open to students who have completed field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8783.04 Advanced Research Principles and Techniques in Public and Urban Economics
Group independent study to prepare students for original research and innovation in the field of public and urban economics. Open to students who have completed field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8783.05 Advanced Research Principles and Techniques in Labor Economics
Group independent study to prepare students for original research and innovation in the field of labor economics. Open to students who have completed field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8783.06 Advanced Research Principles and Techniques in International Economics
Group independent study to prepare students for original research and innovation in the field of international economics. Open to students who have completed field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8783.07 Advanced Research Principles and Techniques in Industrial Organization
Group independent study to prepare students for original research and innovation in the field of industrial organization. Open to students who have completed field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8783.08 Advanced Research Principles and Techniques in Economic History
Group independent study to prepare students for original research and innovation in the field of economic history. Open to students who have completed field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8783.09 Advanced Research Principles and Techniques in Experimental Economics
Group independent study to prepare students for original research and innovation in the field of experimental and behavioral economics. Open to students who have completed field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8783.10 Advanced Research Principles and Techniques in Growth and Development Economics
Group independent study to prepare students for original research and innovation in the field of growth and development economics. Open to students who have completed field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8783.20 Advanced Research Principles and Techniques in Economics
Group independent study to prepare students for original research and innovation in economics. Open to students who have completed field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

8816 Advanced Economic Theory I
A topic-driven course in advanced microeconomic theory, game theory and decision theory, and their theoretical applications with emphasis on important recent results.
Prereq: 8714 (808), or equiv with permission of instructor. Not open to students with credit for 815.

8817 Advanced Economic Theory II
Thorough treatment of major developments in game theory and a survey of major applied game theory topics such as mechanism design, bargaining, and oligopoly.
Prereq: 8714 (808) or equiv with permission of instructor. Not open to students with credit for 817.

8818 Advanced Economic Theory III
Theoretical approaches to economics of information; how information affects individual behavior and market equilibrium; moral hazard; adverse selection; incomplete contracts; rational expectations; and principal-agency models.
Prereq: 8714 (808), or equiv with permission of instructor. Not open to students with credit for 818.

8819 Economics of Uncertainty
Classical and modern approaches to decision-making and economic behavior under uncertainty; classical expected utility; subjective probability; behavioral theory of economic choice under uncertainty. S/U option available only with permission of Grad studies director for Econ.
Prereq: 8714 (808) or equiv, or permission of instructor. Not open to students with credit for 819.

8821 Advanced Macroeconomics I
Recent contributions to macro-monetary economics in theoretical, empirical and policy areas; topics include computational methods, econometric techniques, dynamic modeling and empirical assessment.
Prereq: 8724 (809), or permission of instructor. Not open to students with credit for 810.

8822 Advanced Macroeconomics II
Studies roles of preferences, technology, endowments, and market structures to determine the behavior of aggregate variables. Topics include: dynamic stochastic general equilibrium, rational expectations, business cycles, and propagation mechanisms.
Prereq: 8732 (742), or 8724 (809), or permission of instructor. Not open to students with credit for 811.

8823 Advanced Macroeconomics III
Studies the macroeconomic implications of discrete decisions by heterogeneous agents and assesses quantitative DSGE models. Topics include: lumpy adjustments, non-convex adjustment costs, and the interactions of real and financial frictions.
Prereq: 724, or 809, or permission of instructor. Not open to students with credit for 820.

8824 Monetary Economics
Develops monetary economics as a research field and covers a range of topics in the theoretical, empirical, and policy aspects of money, credit, and banking. S/U grade option available only with permission of Grad studies director for Econ.
Prereq: 724 or 809, or permission of instructor. Not open to students with credit for 821.

8825 Advanced Macroeconomic Methods
Develops numerical methods for dynamic stochastic general equilibrium models with heterogeneity and non-convexities. Applications include: models of households with uninsurable risk and borrowing constraints, and firms with adjustment costs.
Prereq: 724 or 809, or permission of instructor. Not open to students with credit for 816.

8830 Advanced Econometrics I
Fundamental elements of time series methods and recently developed techniques for the analysis of economic time series.
Prereq: 8732 (742), or equiv with permission of instructor. Not open to students with credit for 840.

8831 Advanced Econometrics II
Selected advanced topics in econometrics - such as nonparametric and semiparametric estimation, numerical optimization, simulation methods - including Markov chain Monte Carlo methods and duration models used in economics.
Prereq: 8732 (742) or equiv with permission of instructor. Not open to students with credit for 841.

8832 Advanced Econometrics III
Theory and applications of advanced econometric methods with emphasis on parameter estimation and testing in nonlinear models. Topics include: large sample theory, extremum estimators, likelihood approach, and the GMM framework.
Prereq: 8732 (742) or equiv with permission of instructor. Not open to students with credit for 842.

8833 Micro Econometrics
Recent advances in micro econometrics, covering both theoretical and applied areas, with emphasis varying with instructor's research interest such as spatial econometrics and social interaction models.
Prereq: Econ 8732 (742), Econ 8831 (841), and Econ 8832 (842), or equiv, or permission of instructor. Not open to students with credit for 843. Repeatable to a maximum of 12 cr hrs.

8834 Advanced Time Series Econometrics
Rigorous treatment of time-series analysis using recent techniques and concepts. Major topics: stationary and nonstationary time series, cointegration and their economic applications. Course topics will vary with instructor's research interest. 8830 (840) is recommended.
Prereq: 732, or 734, or equiv with permission of instructor. Not open to students with credit for 844. Repeatable to a maximum of 12 cr hrs.

8841 Public Economics I
Normative and positive theories of the economic functions of government, covering resource allocation, distributional equity and methods of public demand and supply.
Prereq: 9712 (804, 805), or permission of instructor. Not open to students with credit for 830.
8842 Public Economics II  
Theory of taxation and the analysis of tax structures in terms of efficiency, incentives, and distributional consequences. Topics include: social welfare functions, optimal taxation, incentive compatibility and tax avoidance, evasion and incidence. 8841 (839) is recommended.
Prereq: 8712 (804, 805). Not open to students with credit for 832.

8851 Labor Economics I  
Theoretical and empirical methods used to understand life-cycles and interpersonal variations in earnings. Topics include: human capital, job-market signaling, matching, schooling, and mobility.
Prereq: 8712 (804, 805), and 8731 (741), or equiv with permission of instructor. Not open to students with credit for 883.

8852 Labor Economics II  
Theories and empirical analysis of the demand for labor and changes in the wage structure over time; the determinants of youth outcomes and behaviors including the effect of family and peer groups.
Prereq: 8712 (804, 805), and 8731 (741), or equiv with permission of instructor; 8851 (883) recommended. Not open to students with credit for 884.

8853 Labor Economics III  
An examination of models and methods used to study household labor supply behavior. Topics include: retirement, the determinants of child outcomes, and demographic behavior.
Prereq: 8851 (883). Not open to students with credit for 981.

8861 International Economics I  
Theory and empirics of the determinants of trade, analysis of comparative advantage, trade patterns, gains from trade, commercial policies on resource allocations, income distribution and growth.
Prereq: 8712 (804, 805). Not open to students with credit for 861.

8862 International Economics II  
Theory and empirics of international macroeconomics. Topics include: open-economy business cycles, determinants of exchange rates, international capital flows and resource allocations, financial constraints, and computational and estimation methods.
Prereq: 8712 (804, 805), 8722 (806, 807); and 8861 (861) recommended. Not open to students with credit for 882.

8863 International Economics III  
Evolution of world economy from theoretical and empirical perspectives; trade; growth and development; international capital markets; financial crises and sovereign default; international business cycle transmisions.
Prereq: 8712 (804, 805), and 8722 (806, 807); and 8862 (862) recommended. Not open to students with credit for 863.

8871 Industrial Organization I  
A survey of theoretical concepts used to analyze industry structure, firm conduct, market performance and related issues of public policy; topics include recent developments in the theory of the firm as well as models of competition and rivalry.
Prereq: 8713 (805, 808). Not open to students with credit for 871.

8872 Industrial Organization II  
A survey of empirical methods used to analyze industry structure, firm conduct, market performance and related issues of public policy.
Prereq: 8871 (871), and 8732 (742); or permission of instructor. Not open to students with credit for 672.

8873 Industrial Organization III: Economic Analysis of Auctions  
A survey of auction theory, experiments, and empirics; topics include private and common value auctions, multi-unit demand auctions, sequential and simultaneous auctions, and related literature.
Prereq: 8874 (808), or equiv, and permission of instructor.

8875 Experimental & Behavioral Economics  
A survey of concepts and methods in experimental and behavioral economics for advanced graduate students; topics include impacts of heuristics and biases on "rational" behavior, other-regarding preferences, bargaining, public goods and market design. 8873 (870) recommended.
Prereq: 8874 (808), 804, or 805, or equiv, and permission of instructor.

8890 Research Colloquium  
Examines the evolving frontier of new concepts and techniques in economics research not covered in standard lecture-oriented field courses. The department selects a research theme on which invited speakers give research lectures and workshops. S/U option available only with permission of  Rad study director for Econ.
Prereq: 8714 (808), or 8724 (809), and 8732 (742), and permission of colloquium organizer. Not open to students with credit for 894. Repeatable to a maximum of 20 cr hrs or 5 completions.

8891.01 Economic Theory Seminar  
Latest developments in advanced research in general economic theory, game theory and related fields.
Prereq: 8714 (808), and permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded SU.

8891.02 Workshop in Economic Theory  
Forum to report and discuss the latest research results by graduate students, faculty members, and outside speakers in general economic and game theory.
Prereq: 8714 (808), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded SU.

8891.03 Colloquium in Economic Theory  
A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in advanced theory and related fields. Open to students who have completed PhD field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 16 cr hrs or 8 completions.

8892.01 Macroeconomics Seminar  
Latest developments in advanced research in macro-monetaric economics and related fields.
Prereq: 8724 (809), and permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded SU.

8892.02 Workshop in Macroeconomics  
Forum to report and discuss the latest research results by graduate students, faculty members and outside speakers in macro-monetaric economics and related fields.
Prereq: Econ 8724 (809), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded SU.

8892.03 Colloquium in Macroeconomics  
A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in macroeconomics and related fields. Open to students who have completed PhD field courses approved by economics director of graduate studies.
Prereq: Permission of instructor and economics director of graduate studies. Repeatable to a maximum of 16 cr hrs or 8 completions.

8893.01 Econometrics Seminar  
Latest developments in advanced research in econometrics and related fields.
Prereq: 8732 (741 and 742), and permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions.

8893.02 Workshop in Econometrics  
Forum to report and discuss the latest research results by graduate students, faculty members and outside speakers in econometrics and related fields.
Prereq: 8732 (741 and 742), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded SU.

8893.03 Colloquium in Econometrics  
A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in econometrics.
Prereq: Successful completion of micro and macro qualifiers, successful completion of two Ph.D. field requirements (econometrics recommended), and permission of instructor and economics director of graduate studies. Repeatable to a maximum of 16 cr hrs or 8 completions.

8894.01 Applied Microeconomics Seminar  
Latest developments in advanced research in applied microeconomics fields.
Prereq: 8714 (808), and permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions.

8894.02 Workshop in Applied Microeconomics  
Forum to report and discuss the latest research results by graduate students, faculty members and outside speakers in applied microeconomics fields.
Prereq: 8714 (808), and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. This course is graded SU.

8894.03 Colloquium in Applied Microeconomics  
A supervised workshop in which advanced graduate students report their latest research in progress on the themes chosen by the colloquium instructor in applied microeconomics and related fields.
Prereq: Completion of Ph.D. field courses approved by economics director of graduate studies, and permission of instructor and economics director of graduate studies. Repeatable to a maximum of 16 or hrs or 8 completions.

8999 Dissertation Research  
Dissertation research in economics.
Prereq: Doctoral candidate in Economics. Repeatable to a maximum of 60 cr hrs or 20 completions. This course is graded SU.
Introduction to Education and Human Ecology and Professional Career Development

Introduction to Education and Human Ecology, degree programs, survey of university and college policies and procedures, focus on degree planning, establishment of Honors requirements, and development of Honors contracts. Prereq: Honors standing. Not open to students with credit for HumanEc 100 or EduPAES 100.

Field Experience: Tutoring

Professional service with children or youth in a school or community agency. Prereq: Permission of instructor. Repeatable to a maximum of 12 or 15 hrs or 4 completions. This course is graded SU.

Group Studies

Study of special or interdisciplinary topics at an introductory level. Repeatable to a maximum of 15 or 15 completions.

Experiencing Urban Education

Examination of the multi-ethnic character of the urban community and the unique educational problems facing effective teachers should be conscious of in order to be more effective when working with minorities. Repeatable to a maximum of 12 or hrs.

Education and Human Ecology Undergraduate Honors Seminar

Seminar for sophomores and juniors in the Education and Human Ecology undergraduate honors program. Students will explore research topics, and learn about the process of completing a scholarly research project. Prereq: Honors standing, and Soph or Jr standing, and enrollment in EHE major or pre-major.

Professional Career Development

Job Search strategies for students including: Self-assessment, goal setting, job research, communication and correspondence, resumes, interviewing, portfolios and life after college. This course will not count for credit in any EHE major. Elective credit only. Prereq: Soph standing, and pre-majors and/or majors in College of Education and Human Ecology. Not open to students with credit for ConSci 2990, HDFS 3800, or EduPAES 2270.04. This course is graded SU.

Internships in Education and Human Ecology

Fourteen week practical experience or equivalent in an approved organization related to student's major interest. This general internship option is for experiences that do not fit program specific EHE internships. This course will not count for credit in any EHE major. Elective credit only. Prereq: CPHR 2.0 or above, and pre-major and/or major in Education and Human Ecology, and permission of instructor. Not open to students with credit for ConSci 3191 and 4191, or HDFS 2189, 3189.01, 3189.02, 3189.03, 3189.04, 3189.05, 3189.06, 3189.07, HumNtr 4189, EduPAES 2189.21, 4189.05, 4489.05, 4191.20, 4191.21, 4191.40, 5191.23, or 6191. Repeatable to a maximum of 3 or hrs. This course is graded SU.

Group Studies

Group studies on special issues in education. Repeatable to a maximum of 12 or hrs or 4 completions.

Undergraduate Research in Education & Human Ecology

Undergraduate research or creative activities in variable topics. Prereq: Permission of instructor. Repeatable to a maximum of 20 or hrs or 5 completions. This course is graded SU.

Honors Undergraduate Thesis Research

Undergraduate research or creative activities in variable topics. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 20 or hrs or 4 completions. This course is graded SU.

Individual Studies

Individual study in the fields of education or human ecology. Prereq: Permission of instructor. This course is graded SU.

Study at a Foreign Institution

An opportunity for students to study at a foreign institution and receive OSU credit for work completed there. Students will pay OSU fees and any fees in excess of OSU tuition, as well as all travel and subsistence costs. Prereq: Permission of department chairperson. Repeatable to a maximum of 54 or hrs or 3 completions.

Workshop

Intensive study of a problem common to the participants for the purpose of developing sound principles and practices. Repeatable to a maximum of 20 or hrs or 4 completions.

Responsible Conduct of Research (RCR)

Overview of the concepts and policies required for the Responsible Conduct of Research (RCR), with particular attention to federally funded research requirements. This course fulfills the NIH training requirement for research ethics. This is a condensed four-week course. Typically taught in session 1 of summer term. Prereq: Grad standing in the College of Education and Human Ecology, or permission of instructor. Repeatable to a maximum of 3 or hrs. This course is graded SU.
<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2189</td>
<td>Field Experience</td>
<td>U 1-4</td>
<td>Professional service with children or youth in a school or community agency. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>2367</td>
<td>Education, Society and Writing</td>
<td>U 3</td>
<td>Designed to help students reflect critically, both orally and in writing, on the social, political, and cultural contexts that influence education in today's society. Prereq: A GE level 1 writing course. Not open to students with credit for 607. GE writing and comm course: level 2.</td>
</tr>
<tr>
<td>2368</td>
<td>Introduction to Children's Literature</td>
<td>U 3</td>
<td>This is a survey course in which students study the historical and contemporary elements of literature intended for children, including picturebooks; traditional tales; novels of realism, and fantasy; nonfiction; poetry; and multicultural books. Prereq: English 1110, or equiv. Not open to students with credit for 467. GE lit course.</td>
</tr>
<tr>
<td>2389</td>
<td>Laboratory Experiences in English Education</td>
<td>U 3</td>
<td>Provides students an opportunity to explore 7-12 English language arts teaching through readings, video cases of teaching; group discussion, and laboratory experience. 20 hours of laboratory experience required. Prereq: Not open to students with credit for 589.</td>
</tr>
<tr>
<td>2744</td>
<td>Technologies Used In STEM Education</td>
<td>U 3</td>
<td>The role and scope of educational technology for standards based STEM instruction. Exploration of areas in which mathematics, science education, and technology education can effectively use educational technology in a pedagogically sound manner. Technology has two roles in STEM education; to teach and learn with, and as a tool for doing STEM.</td>
</tr>
<tr>
<td>2901</td>
<td>Special Studies in English as a Second Language</td>
<td>U 1-3</td>
<td>Specialized study of English as a second language leading to improved language proficiency. Skills covered include listening, speaking, reading, and composition. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>3160</td>
<td>Application of Development in Learning Contexts</td>
<td>U 3</td>
<td>Designed for students studying theories of research of child development in multiple learning contexts. Prereq: Not open to students with credit for 460. GE soc sci indivs and groups course.</td>
</tr>
<tr>
<td>3193</td>
<td>Individual Studies</td>
<td>U 1-3</td>
<td>Individual study projects. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>3194</td>
<td>Group Studies</td>
<td>U 1-3</td>
<td>Group studies on special problems in education. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.</td>
</tr>
<tr>
<td>3356</td>
<td>Literature for Adolescents</td>
<td>U 3</td>
<td>Literature for individual, group, and whole-class reading in junior and senior high schools; interest factors and literary value as criteria for selection; bibliographic aids. Prereq: Not open to students with credit for 656. GE lit course.</td>
</tr>
<tr>
<td>3356E</td>
<td>Literature for Adolescents</td>
<td>U 3</td>
<td>Literature for individual, group, and whole-class reading in junior and senior high schools; interest factors and literary value as criteria for selection; bibliographic aids. Prereq: Not open to students with credit for 3356 (656). GE lit course.</td>
</tr>
<tr>
<td>4005</td>
<td>Urban Teaching and Learning</td>
<td>U 3</td>
<td>This course introduces students to issues related to teaching and learning in urban school contexts. Prereq: Not open to students with credit for 559. GE soc sci indivs and groups and diversity soc div in the US course.</td>
</tr>
<tr>
<td>4015</td>
<td>Sexualities and Education</td>
<td>U 3</td>
<td>Examination of sexual orientation as an arena of diversity in K-12 and higher education as well as society. Prereq: Not open to students with credit for EduPL 415. Cross-listed in ESCFE 4215.</td>
</tr>
<tr>
<td>4174</td>
<td>Family Participation in Early Childhood School Programs: General Student Body</td>
<td>U 3</td>
<td>The purposes and importance of family involvement in early childhood school programs, types of programs, resources, methods, and curricula. Prereq: Not open to students with credit for 674.07.</td>
</tr>
<tr>
<td>4189</td>
<td>Advanced Field Experience</td>
<td>U 1-4</td>
<td>Directed field experience emphasizing appropriate teaching strategies for different school age children and settings. Prereq: Admission to appropriate teacher education program. Repeatable to a maximum of 12 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>4191</td>
<td>Internship</td>
<td>U 1-15</td>
<td>Internship in an educational or community setting. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.</td>
</tr>
</tbody>
</table>
156 Education: Teaching and Learning

5108 Teaching and Learning of Mathematics in Grades Pre-K - 3
Prepares preservice teachers with knowledge, skills of, and ability to use standards, learning theories, pedagogies, assessment, and technology for the teaching and learning of Pre-K - 3 early childhood mathematics in a diverse classroom.
Prereq: Admission to Early Childhood teaching licensure program, or permission of instructor. Not open to students with credit for 708.

5110 Classroom Communities and Issues of Guidance
A classroom as communities framework to support teaching and learning and issues of guidance.
Prereq: Not open to students with credit for 810.

5120 Arts-Based Integrated Learning
Focuses on using arts-based, inquiry-based, and project-based learning as interdisciplinary, integrated approaches to curriculum and building multiple literacies and supporting multiple learners simultaneously.
Prereq: Not open to students with credit for 872.

5123 Early Childhood Pedagogy
Pedagogy I explores sociocultural perspectives on teaching and learning in early childhood and elementary education, the role of teacher as researcher/inquirer, and the ways in which sociocultural pedagogies interface with standard-based education.
Prereq: Admission to major or M.Ed. Not open to students with credit for 723.

5129 Teaching and Learning of Science in Grades Pre K - 3, Part I
Exploration of contemporary alternatives in early childhood science education and the development of knowledge and skills for teaching and learning in grades Pre K - 3, with a focus on preschool and kindergarten.
Prereq: Enrollment in Education major or Master in Education. Not open to students with credit for 729.

5137 Teaching and Learning of Social Studies Grades Pre-K - 3
Designed to provide opportunities to examine interesting and effective social studies content knowledge, cultural understandings, and pedagogies for the early childhood learner within global contexts.
Prereq: Not open to students with credit for 737.

5173 Family Participation in Middle Childhood School Programs
The purposes and importance of family involvement in middle childhood school programs, types of program, resources, methods, and curricula.
Prereq: Education pre-major or admission to licensure program. Not open to students with credit for 674.

5174 Family Participation in Early Childhood School Programs
The purposes and importance of family involvement in early childhood school programs, types of program, resources, methods, and curricula.
Prereq: Education pre-major or admission to licensure program. Not open to students with credit for 674.

5189 Planned Field Experience
Planned field experience under supervision in a P-12 classroom.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 2 completions. This course is graded S/U.

5191 Supervised Student Teaching Internship
Student teaching internship in a P-12 classroom where students assume major teaching responsibilities under the guidance of a cooperating teacher and university supervisor.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 2 completions.

5195 Reflective Seminar
Seminar held in conjunction with field experience or student teaching internship. The goals are to process, reflect upon, and enhance benefits of the school experiences.
Prereq: Admission to major in Education or Master in Education. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

5220 Foundations of Middle Childhood Teaching and Learning
Introduces the foundations and major concerns in middle childhood education using contemporary research, scholarship, and practice, and exploring traditional and newer course materials.
Prereq: Not open to students with credit for 601 and 603.

5225 Reading Multicultural Literature Across Middle Childhood Curricula
Engaging reading strategies for middle childhood students focusing on fiction and non-fiction that represents diverse cultures and develops understandings of content areas.

5226 Literacy, New Media, and Creative Pedagogies for Classrooms
Focuses on active and creative approaches to literacy education (including visual and performing arts) that draw on new media and are particularly useful in early and middle childhood classrooms.
Prereq: Not open to students with credit for 854.

5230 Language Arts Methods for Preservice Middle Childhood Teachers
Preservice teachers study methods for teaching middle childhood students’ reading and writing. They explore the significance of students’ interests, language, and communities to their knowledge and meaning-making of the Language Arts.
Prereq: Not open to students with credit for 706.

5270 Mathematics Methods for Preservice Middle Childhood Teachers
Preservice teachers study methods for teaching middle childhood mathematics. These methods include instruction, assessment, and learning theory to support the teaching and learning of mathematics in grades 4 through 9.
Prereq: Not open to students with credit for 709.

5275 Science Methods for Preservice Middle Childhood Teachers
Prospective teachers study methods of science instruction and assessment of student learning in grades 4 through 9, with an emphasis on inquiry-based learning and formative assessment of student understanding.
Prereq: Not open to students with credit for 719.

5278 Social Studies Methods for Preservice Middle Childhood Teachers
Preservice teachers study planning, teaching and assessing of students’ learning of social studies education, emphasizing the value of using effective and diverse teaching strategies and meaningful learning activities appropriate for grades 4-9.
Prereq: Not open to students with credit for 738.

5281 Development of 4th and 5th Grade Learners Across the Curriculum
Aids students in acquiring a working understanding of the physical, cognitive and language development of the children in 4th/5th grades.
Prereq: Not open to students with credit for 680.

5282 The Social Transitions of 4th and 5th Grade Learners
Focuses on the social and emotional development of the early adolescent in society, home and in the classroom setting.
Prereq: Not open to students with credit for 681.

5283 Teaching Mathematics, Science and Culture in 4th and 5th Grades
Related to teaching mathematics and science with consideration of pedagogy, content, assessment and equity.
Prereq: Not open to students with credit for 682.

5284 Integrating Language Arts and Social Studies in 4th and 5th Grades
Related to the integration of LA/SS. The focus is on curriculum, pedagogy, and integration specific to 4th/5th grades.
Prereq: Not open to students with credit for 683.

5300 Issues in Language, Literacy, and Culture/Equity, and Diversity
Introduces students to key issues of language, literacy, cultural diversity and equity underlying their fields of study. Requirement for students seeking licensure in AYA (7-12), and multi-age (FSLED, TESOL).
Prereq: Enrollment in Teaching and Learning B.S. Ed. or Master in Education program. Not open to students with credit for 800.

5305 Literacy and Social Action
Intro to the interdisciplinary study of literacy with special focus on the relationship of literacy to social action and social change including theories of literacy, current debates in literacy studies, and links to social actions and change.

5306 Literacy and Social Change
A community-based service learning experience linking knowledge of literacy and social action to a specific context in which to apply this knowledge and assist in enacting social change.

5312 Language Education & Grammar for Teachers
Study of linguistic systems, language acquisition, and sociolinguistics, and grammars as they bear on the work of classroom teachers.
Prereq: Admission to Education major or Master in Education. Not open to students with credit for 612.

5339 Evaluation and Instructional Decision-Making in Literacy
Assessment instruments and processes to determine students’ abilities and needs and instructional strategies to meet those needs as useful to early and middle childhood teachers are explored.
Prereq: 5469, and enrollment in Early or Middle Childhood B.S. Ed. of Master of Education program. Not open to students with credit for 705 or 739.

5341 Journalism and New Media in the 7-12 Classroom
Designed for pre-service teachers who plan to teach school newspaper, yearbook, broadcast and news media in middle school or high school (grades 7-12).
Prereq: Not open to students with credit for 641.
5803 Social Education U G 3
Examines relationships across society, politics and education with an emphasis on language, culture, civic literacy, global connections and educational equity.
Prereq: Enrollment in Education major or Master in Education program. Not open to students with credit for 643.

5805 Reflective Inquiry on Social Studies and Global Education Pedagogy U G 3
Prepares prospective Social Studies teachers to bring an inquiry orientation to their practice and to see reflective inquiry as part of teaching.
Prereq: Enrollment in Education major or Master in Education program. Not open to students with credit for 638.

5809 Social Studies Methods II U G 4
Focuses on lesson/unit planning with an emphasis on authentic learning, higher level thinking skills, global and multicultural perspectives, active learning strategies, and performance-based assessment.
Prereq: Enrollment in Master in Education program and completion of content courses. Not open to students with credit for 639.

5892 Workshop U G 1 - 4
Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

5901 Advanced English as a Second Language U G 3
Provides English language learners with extensive field-specific writing practice, with an emphasis on academic writing conventions, grammatical accuracy, and syntactic complexity.
Intended for graduate students.
Prereq: Grad standing, and placement test.

5901.05 Advanced English as a Second Language U G 5
Provides English language learners with extensive field-specific writing practice, with an emphasis on academic writing conventions, grammatical accuracy, and syntactic complexity.
Intended for graduate students.
Prereq: Grad standing, and placement test.

5902 Academic Writing in English as a Second Language U G 3
Attention given to various practices involving reading and source-based writing. Rhetorical and linguistic issues addressed. Writing about and presenting research findings in specific disciplines.
Prereq: A grade of D or above in 5901 or 5901.05, and Placement Test; or Grad standing.

5992 Special Topics in Education U G 1 - 3
Special topics focused on education.
Repeatable to a maximum of 12 cr hrs or 4 completions.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6005</td>
<td>Compassionate Teaching: Educating for a Culture of Peace</td>
<td>3</td>
<td>Examines practices of compassionate teaching, behavior in interrelationships, and new ways to further emotions of compassion, kindness, and love toward others. Emphasis on development of mindfulness, self-reflection, and self-discovery.</td>
</tr>
<tr>
<td>6006</td>
<td>Educating the Whole Child: A Holistic Approach to Education</td>
<td>3</td>
<td>Participants will examine philosophical issues, pedagogical practices, and curricular possibilities related to holistic education.</td>
</tr>
<tr>
<td>6050</td>
<td>Multiple Perspectives on Teaching and Learning: MA</td>
<td>3 - 4</td>
<td>Investigates diverse ways of conceptualizing cognitive development and its relationship to teaching and learning and examine specific factors such as the development of memory, attention, problem solving, and specific academic skills.</td>
</tr>
<tr>
<td>6051</td>
<td>School Issues in Child and Adolescent Development and Learning: M.A.</td>
<td>3</td>
<td>Uses contemporary theories of development and learning as a basis for examining current school issues and will identify principles and strategies for construction of classroom environments that provide optimal learning conditions.</td>
</tr>
<tr>
<td>6052</td>
<td>Classroom-Based Inquiry: MA</td>
<td>3 - 4</td>
<td>Focuses on the history and evolving status of classroom-based inquiry and teacher action research. Students will develop a proposal for a classroom-based inquiry project, and will practice collecting and analyzing data and summarizing findings.</td>
</tr>
<tr>
<td>6053</td>
<td>Balanced Assessment for Teaching and Learning</td>
<td>3</td>
<td>Organized to follow the conceptualization, design, and implementation of a balanced, coordinated approach to formative instructional and assessment practices.</td>
</tr>
<tr>
<td>6065</td>
<td>Introduction to Theories of Student Development and Learning: M.Ed.</td>
<td>3</td>
<td>Introduces students to theories of student development and learning. It will investigate contemporary research evidence for the various theoretical approaches, as well as teaching models and strategies derived from them.</td>
</tr>
<tr>
<td>6101</td>
<td>Dramatic Inquiry Across the Curriculum</td>
<td>3</td>
<td>Using drama to extend inquiry-based learning in literacy and content areas.</td>
</tr>
<tr>
<td>6102</td>
<td>Drama and Literacy</td>
<td>3</td>
<td>The use of drama to promote literacy learning.</td>
</tr>
<tr>
<td>6301</td>
<td>Exploring Language and Learning in Classrooms</td>
<td>3</td>
<td>Introduction to the use of discourse analysis in classroom instruction. Focus on principles, practices, analysis of instructional conversations, and implications for enhancing student learning. The course engages students in conducting discourse analyses of their own classrooms. Students must currently be teaching or co-teaching in a classroom and be able to video record events in that classroom.</td>
</tr>
<tr>
<td>6302</td>
<td>Teaching Digital Composition in Elementary and Secondary Classrooms</td>
<td>3</td>
<td>Intended for elementary and secondary in-service teachers who want to explore and improve their students use of digital composition. The course emphasizes teachers using digital composition themselves as well as design of instruction for promoting students' use of digital composition.</td>
</tr>
<tr>
<td>6303</td>
<td>Linguistic Diversity in Education</td>
<td>3</td>
<td>An introduction to linguistic diversity; how it relates to cultural diversity; how linguistic/cultural diversity shapes teaching and learning in educational settings; &amp; what research says about effective instruction.</td>
</tr>
<tr>
<td>6312</td>
<td>Language Education and Grammar for Teachers</td>
<td>3</td>
<td>Study of linguistic systems, language acquisition, sociolinguistics, and grammar as they bear on the work of practicing classroom teachers.</td>
</tr>
<tr>
<td>6325</td>
<td>Methods for Developing Language and Cognition</td>
<td>2</td>
<td>Focuses on the emergence of key language and cognitive abilities from infancy through the early primary grades.</td>
</tr>
<tr>
<td>6501</td>
<td>Curriculum and Instruction for Students with Visual Impairments and Multiple Disabilities</td>
<td>3</td>
<td>Introduces individuals to principles of curricular and instructional design for all children with visual impairments (K-12). Adaptations and modifications, especially for the general education curriculum, are emphasized.</td>
</tr>
<tr>
<td>6505</td>
<td>Reading and Writing Skills for Teachers of Low Vision and Blind Children</td>
<td>3</td>
<td>Introduces students to receptive and expressive modes of written communication for low vision and blind children with a focus on mastery of Grade 2 Literary Braille for initial reading instruction. Teaching strategies will also be taught.</td>
</tr>
<tr>
<td>6506</td>
<td>Modes of Communication and Instructional Materials for Students with Visual Disabilities</td>
<td>1</td>
<td>Continuation of the examination of expressive modes of written communication with a focus on the Nemeth Code for mathematics and science. Knowledge of teaching strategies for mathematics is also studied.</td>
</tr>
<tr>
<td>6507</td>
<td>Visual Processes and Educational Implications of Visual Disabilities</td>
<td>3</td>
<td>Introduces students to the historical foundations, laws, and regulations that effect students with visual impairments. Students will also learn about anatomy and physiology of the eye, diseases, disorders, and eye specialists' reports.</td>
</tr>
<tr>
<td>6510</td>
<td>Orientation and Mobility Intermediate Seminar</td>
<td>3</td>
<td>Introduces a view of the history of the profession of orientation and mobility. It provides students with a foundation of understanding the process of planning, skill assessment, goal-setting, and designing and sequencing O&amp;M programs.</td>
</tr>
<tr>
<td>6511</td>
<td>Orientation and Mobility Advanced Seminar</td>
<td>3</td>
<td>Presents important background information for Orientation and Mobility practitioners upon which techniques for instruction may be based. Unique characteristics of environments and principles for accessing them are presented.</td>
</tr>
<tr>
<td>6521</td>
<td>Orientation and Mobility Special Topics Seminar</td>
<td>2</td>
<td>Highlights strategies for adaptations for early childhood and geriatric populations in the area of orientation and mobility. Considerations encountered in working with both types of populations explored.</td>
</tr>
<tr>
<td>6520</td>
<td>Orientation and Mobility Techniques and Methods I</td>
<td>2</td>
<td>Covers introduction of the long cane, adaptive mobility devices, indoor travel, indoor orientation skills, route travel and residential travel skills. Practical instruction under a blindfold is a major component.</td>
</tr>
<tr>
<td>6530</td>
<td>Professional Development in the Field of Visual Impairment</td>
<td>3</td>
<td>Designed to allow the student to develop knowledge and skills in adaptive technology, early childhood intervention, and issues that are unique to the field of visual impairments.</td>
</tr>
<tr>
<td>6550</td>
<td>Curriculum and Instruction for Students who are Deaf or Hard of Hearing</td>
<td>3</td>
<td>Introduces students to principles of curricular and instructional design for children with disabilities and, specifically, for those who are deaf/hard of hearing.</td>
</tr>
<tr>
<td>6551</td>
<td>Introduction to American Sign Language</td>
<td>3</td>
<td>Introduces to American Sign Language is designed to expose students to approximately 350 to 400 signs, including fingerspelling, from the lexicon of American Sign Language. Students are expected to read signs/fingerspelling at a beginning level.</td>
</tr>
<tr>
<td>6556</td>
<td>Reading for Students who are Deaf or Hard of Hearing</td>
<td>3</td>
<td>Designed to introduce students to selected issues, concerning literacy and deafness: theories of literacy, research, and current practices, reading materials and assessment, and the relationship between reading and writing.</td>
</tr>
<tr>
<td>6610</td>
<td>Reflective Seminar in Foreign and Second Language Education</td>
<td>3</td>
<td>Prepares prospective teachers to bring an inquiry orientation to their practice and to see reflective inquiry as a part of teaching.</td>
</tr>
</tbody>
</table>

**Education: Teaching and Learning** 159
Education: Teaching and Learning

6620 Teaching Advanced Foreign Language Courses

G 3
The teaching of language skills and aesthetic appreciation in advanced foreign language courses, with an emphasis on literature and culture. Prereq: Not open to students with credit for 725.

6625 Educating English Language Learners in K-12 Contexts

G 3
Intended to help practicing and prospective teachers provide appropriate learning opportunities for school-aged English language learners. Topics include theories of second language learning, academic English, and sociopolitical issues. Prereq: Not open to students with credit for 845.

6630 TESOL Seminar

G 3
The exploration of themes, issues, and topics relevant to the Foreign and Second Language Education Program, with a particular emphasis on TESOL. Prereq: Not open to students with credit for 527.45.

6808 Multicultural and Global Perspectives on Teaching and Learning

G 3 - 4
Examines knowledge, pedagogy, reforms, and resources that support education for cultural diversity and equity in an interconnected world. Prereq: Not open to students with credit for 881.

6810 Teaching about Africa and African Perspectives in P-12 Schools

G 3
Focuses on teaching about African cultures, history, literature and contemporary life through African perspectives. Prereq: Not open to students with credit for 807.

6890 M.Ed Capstone Seminar

G 3
Seminar to prepare M.Ed students for the comprehensive written examination or approved alternative. Prereq: Not open to students with credit for 926.

6891 M.A. Capstone Seminar

G 2
Provides guidance for M.A. students working on final action research projects (or other approved projects), writing thesis proposals or preparing for the comprehensive examination. Prereq: Not open to students with credit for 928.

6892 Special Topics in Education

G 1 - 4
Special topics for professional educators and graduate students; designed to provide the opportunity to update professional skills and review current research developments. Repeatable to a maximum of 16 cr hrs or 16 completions. This course is graded S/U.

6911 Writing for Coursework for International and 2nd Language Graduate Students

G 2
Guidance and practice with writing in various genres essential to an academic career-essays, reviews, reports-the kind of writing required in grad-level coursework and end-of-term and comp. Tutorial time arranged. Intended for international graduate students. Prereq: 5902, or qualified status; and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

6912 Research Writing for International and 2nd Language Graduate Students

G 2
Designed to help international graduate students in preparing a conference paper and in preparing a manuscript for publication. Prereq: 5902, or qualified status; and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

6913 Thesis Proposal and Dissertation Writing for International and 2nd Language Graduate Students

G 2
Assist international graduate students in writing their thesis, dissertation, or thesis/dissertation proposal. Tutorial time arranged. Intended for international graduate students. Prereq: 5902 (508), or qualified status; and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

6965 Reflective Inquiry on Pedagogy with Prospective Teachers

G 3
Prepares prospective teachers to bring an inquiry orientation to their practice and to see reflective inquiry as a part of teaching. Prereq: Not open to students with credit for 865.

7000 Sexuality and Education

G 3
Examination of the role that sexuality plays in the US educational system. Prereq: Not open to students with credit for 744. Cross-listed in KnSISM 7744.

7005 Creative Expressions in Teaching and Learning

G 3
Provides a context for exploring the pedagogy, curriculum, assessment and politics of creative expression and art in educational settings focused on diversity and equity perspectives, engaging body, mind and spirit in teaching/learning. Prereq: Not open to students with credit for 823.

7008 Sociocultural Studies of Teaching and Teacher Education

G 3
A sociocultural look at teaching as a profession has been shaped by history, culture, gender, multiple agendas for teacher education; structure of current practice; different programs of reform; studies of teacher education.

7010 Diverse Approaches to Research on Teaching and Learning

G 3 - 4
Explores the wide range of teaching and learning research genres; including multiple forms of statistical (quantitative), ethnographic (qualitative), historical and theoretical scholarship on teaching and learning. Prereq: Not open to students with credit for 842.

7014 Epistemologies and Theories in Multicultural and Equity Studies in Education

G 3
Examine and focus in depth on various critical epistemologies, theories, and assumptions and the relationships between them and the pursuit of social justice. Prereq: Not open to students with credit for 940.

7015 Curricular Approaches in Multicultural and Equity Studies in Education

G 3
Provides an overview of curricular approaches in MESE drawn from local, national and global scholarship and contexts. Students examine a variety of curricular approaches towards social justice and activist praxis in education. Prereq: 7014.

7016 Intersections of Power, Place and Resistance in Multicultural and Equity Studies in Education

G 3
Focuses on in-depth examinations of power, "location" and resistance movements in education past, present and future, through analyzing diverse narrative, ethnographic and autobiographic accounts of resistance and social action. Prereq: 7015. Not open to students with credit for 942.

7025 Culturally Relevant Pedagogy

G 3
Focuses on the research that informs culturally relevant pedagogy.

7030 Multicultural Influences in Education

G 3
Explores multicultural influences on curriculum, culture and contexts of teaching and learning, given the diversity of the United States and globally. Emphasis given to examining diversity from diverse theories and conceptual frameworks. Prereq: Not open to students with credit for 830.

7035 Teaching for Social Justice

G 3
An exploration into economic, political, technological and ecological components of multicultural education as it relates to diversity and social justice. Prereq: Not open to students with credit for 879.

7075 Disabilities in Education

G 3
This three-credit graduate course for both MA and Ph.D. students will examine the historical nature of disabilities in society and in particular in the education system, the foundation of public laws to benefit persons with disabilities, the family- community connection for students with disabilities, and current critical issues for students with disabilities in classrooms.

7102 Drama, Literacy, and Learning

G 3
Advanced studies in how drama affects literacy and learning. Prereq: Not open to students with credit for 888. Repeatable to a maximum of 6 cr hrs.

7169 Children's Social Development and the Social World of the Classroom

G 3
Emphasizes children's social development through the understanding of children's social worlds including the phenomenon of their play from the early through the middle school years. Not open to students with credit for 869.

7170 Rethinking Early Childhood and Elementary Education: The Politics of Childhood

G 3
Examination of important classical and contemporary research concerning young children with a focus on the preschool-early elementary years.

7189 Advanced Field Placement

G 1 - 12
Field or research experience in a P-12 school, higher education or other educational setting, agency, or cross-cultural settings. Repeatable to a maximum of 20 cr hrs or 4 completions. This course is graded S/U.

7193 Individual Studies

G 1 - 15
Individual study projects. For thesis option, not more than 12 cr hrs will apply toward the master's degree. For non-thesis option, not more than 15 hrs will apply. Not more than 20 cr hrs will apply toward the doctoral degree. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.

7194 Group Studies

G 1 - 3
Group studies on special problems in education. Repeatable to a maximum of 12 cr hrs or 12 completions.

7303 Language and Society

G 3
Focuses on the history, sociology, and the politics of national policies involving second language throughout the world. Prereq: Not open to students with credit for 803.

7306 Language Socialization

G 3
Introduces the field of language socialization, providing theoretical, conceptual and methodological frameworks for research on linguistic and social development, teaching, and learning in various contexts. Prereq: Not open to students with credit for 906.
7308  Literary Experience and Understanding: Readers, Texts and Contexts  G  3
Examines historical and current research on the interrelationships among children's and young adults' literary experiences, understanding, qualities of literary genres and formats, and reading in educational contexts.
Prereq: Not open to students with credit for 906.

7316  Language Arts in the Early and Middle Childhood Program  G  3
Process and support for language development in the early years. Problems, research, and current teaching methods in the major areas of language arts: listening, speaking, reading, writing, viewing, and constructing images.
Prereq: Not open to students with credit for 860.

7317  Advanced Children's Literature  G  3
An evaluation of the changing role of children's literature in the education of children and youth; emphasis on identifying quality selections developmentally appropriate books.
Prereq: Not open to students with credit for 817.

7322  Literature Across the Curriculum  G  3
Children's Literature for grades K-8 as it contributes to social studies, the sciences, language arts, and the creative arts: emphasis on identifying quality selections in genre of nonfiction, and on planning related to learning experiences.
Prereq: Not open to students with credit for 722.

7324  Literary Theory and Adolescent Literature  G  3
Explores the application of diverse theories to young adult literature for in-depth literary study in secondary classrooms.
Prereq: Not open to students with credit for 923.

7332  Teaching and Research of Poetry in Middle and High School Contexts  G  3
Examine research on teaching poetry; learn about approaches to teaching poetry with a range of poetry and poets appropriate for use in middle/high school contexts. This course is graded S/U.

7340  Writing in Early and Middle Grades Classrooms  G  3
Provides educators an opportunity to construct a theoretical and experiential base for writing instruction, by exploring and critiquing the theories and methods underlying the development of a classroom-based writing program.
Prereq: Not open to students with credit for 840.

7341  Poetry for Children  G  3
In-depth study of poetry for children, including children's speech play & school yard rhymes, children's interests in poetry, forms of poetry & representative poets, classroom approaches for encouraging children's involvement & appreciation of poetry.
Prereq: Not open to students with credit for 841.

7343  Literature in Middle Childhood Education  G  3
Analysis and study of fiction and nonfiction for children age 8-14; emphasis on literacy quality, strategies for classroom use and relevant issues.
Prereq: Not open to students with credit for 943.

7344  Bilingualism and Biliteracy  G  3
Explores research on bilingualism, bilingual communities, and bilingual education, as well as methods for studying bilingualism in social context. Issues are viewed from global perspective, especially language policies and language ideologies.
Prereq: Not open to students with credit for 844.

7348  Linguistic Diversity and Literacy; Varieties of English and Education  G  3
Explores variation in English and its implications for literacy education, focusing on global Englishes, U.S. vernaculars, and English-based Creoles. Course considers use of research for school teaching and for the teaching of Academic English.
Prereq: Not open to students with credit for 848.

7356  Advanced Literature for Adolescents  G  3
An evaluation of literature for adolescents and the role it plays in the education of youth.
Prereq: Not open to students with credit for 856.

7360  Reading and Writing Poetry for Educators: Bridges to Literacy and Life  G  3
Emphasizes participants reading and writing poetry as preparatory to using it effectively in educational and other contexts. Students will also learn about the nature of poetry and its role in human development.
Prereq: Not open to students with credit for 860.02.

7361  Literature in Early Childhood Education  G  3
Analysis and study of fiction and nonfiction for children age 2-6; emphasis on the importance of early exposure to literature for language acquisition visual literacy, and cognitive and affective development.
Prereq: Not open to students with credit for 861.

7364  Multicultural Literature for Children and Young Adults  G  3
Values and uses of literature by and about Blacks, Asians, Hispanics, Native Americans, and other U.S. ethnic groups; theoretical perspectives, trends, issues, and controversies.
Prereq: Not open to students with credit for 864.

7355  Linguistics for Literacy Education  G  3
Introduction to educational linguistics. Through exploration of linguistic concepts and their relevance to teaching, learning, and literacy, students develop new ways of seeing and supporting students' development as skilled language users.
Prereq: Not open to students with credit for 665.

7370  The English Curriculum: Past, Present, and Future  G  3
Critical examination of history, current practice, and trends in the middle and secondary English curriculum.

7371  Teaching Writing in the Secondary School  G  2-3
Designed to assist teachers' understanding of writing development and writing assessment in order to develop process-oriented approaches to writing instruction.
Prereq: Not open to students with credit for 970.

7373  Popular Culture and the Teaching of English  G  3
Analysis of the role of in popular culture in education and society; examination of approaches to teaching popular culture in relation to critical literacies, youth identities, culture, and popular culture forms.
Prereq: Not open to students with credit for 873.

7374  Sociocultural Theory and Literacy Education and Research  G  3
Examines the core concepts of sociocultural theory, several branches of this work in education, and their implications for contemporary studies of literacy teaching and learning. 
Prereq: Not open to students with credit for 974.

7392  Teaching Digital Multimodal Composition  G  2
Enables English language arts and writing teachers to learn how to compose and explore ideas and experiences in a range of modalities using photo editing software and hardware.
Prereq: Not open to students with credit for 892.

7393  Teaching Writing  G  2-6
Serves as the Summer Institute of the Columbus Area Writing Project. It focuses on improving the teaching of writing for experienced teachers of all subject areas in grades K-16.
Prereq: Not open to students with credit for 898.

7418  Synthesizing Research in Reading and Literacy  G  3
Students gain an in-depth understanding of how to review, analyze, and synthesize research in reading and literacy. The focus is on the process of reviewing and synthesizing research (rather than on the content). 
Prereq: Not open to students with credit for 918. Repeatable to a maximum of 6 cr hrs.

7420  Teaching Literature for Engagement and Equity  G  3
Study of theory and arts-based practices in reading and literature education, that demonstrate how teachers can support readers' engagement with cross-cultural perspectives, social positioning, cultural identity and social justice.

7427  Advanced Study of the Development of Reading and Writing  G  3
Designed to provide experienced teachers the opportunity to extend and update their knowledge of reading and writing development and the principles underlying effective reading and writing instruction in the early and late childhood years.

7428  Trends and Issues in Teaching Reading  G  3
In-depth examination of major trends and issues in teaching reading in the elementary school including research over the last three decades and major issues and concerns currently debated among members of the literacy education profession.
Prereq: Not open to students with credit for 828.

7429  Reading Complex Texts  G  3
For elementary, middle, and secondary teachers who want to develop new multimodal approaches for challenging students to read with greater attention to details and deeper meaning, with a more difficult range of vocabulary and texts.

7431  The Ethnography of Literacy and Language I  G  3
Introduces the ethnography of literacy and language as fields of inquiry, providing theoretical, conceptual and methodological frameworks for research on written and oral language practices that are embedded in various social, cultural, and political contexts.
Prereq: Not open to students with credit for 905. This course is progress graded.

7432  The Ethnography of Literacy and Language II  G  4
Building on the first course of this two-course sequence, this course provides students experience in doing their own research by focusing on data gathering, fieldwork issues, data analysis, and writing aspects of the ethnographic research process.
Prereq: 7431 (905), or permission of instructor. Not open to students with credit for 925.10.

7467  Reading Gender  G  3
Students examine scholarship to reflect on how notions of gender take shape in society, schools, classrooms, literature, and lives. Students will also learn about the nature of poetry and its role in human development.
Prereq: Not open to students with credit for 867.
162 Education: Teaching and Learning

7500 Teacher Leadership in Teaching Digital Writing  G  2  
Prepares teachers and other educators to conceptualize and deliver teacher education for the integration of digital writing in K-12 classrooms. Through a series of face-to-face and online interactions, participants develop a portfolio of digital writing, a theoretical framework for the use of digital writing in instruction, and a research-based framework for professional development.  
Prereq: 7393, or permission of instructor.

7501 Inclusive Education Research  G  3  
Examination of current research and theory on inclusive education efforts to effectively educate students with and without disabilities in general education settings.  
Prereq: Not open to students with credit for 857.

7550 Advanced Studies in Deafness  G  3  
Designed to introduce graduate students to advanced issues concerning the linguistic, cognitive, and psychosocial aspects of students who are deaf and hearing impaired, including educational approaches and bilingualism/second-language.  
Prereq: Not open to students with credit for 832.

7610 Affective Variables in Second Language Learning  G  3  
Lecture and discussion course focused on current issues related to affective variables and second language acquisition research.  
Prereq: 5620 (703.09).

7615 Seminar for Nonnative Speaker Professionals  G  3  
Lecture and discussion course focused on current issues related to nonnative speaker professionals.  
Prereq: 5620 (703.09).

7620 English as an International Language: Theory and Practice  G  3  
Introduces students to the perspective of EIL (English as an International Language) and helps them to think critically about global English in use and English language teaching practices from the viewpoint of EIL.

7645 Issues and Research in Foreign Language Testing and Assessment  G  3  
Focuses on theories and practices for testing and assessing the knowledge and skills of second language learners. Topics include constructing tests and assessments, validity, reliability, grading, and test score interpretation test scores.  
Prereq: Enrollment in a graduate program in T&L or graduate non-degree program. Not open to students with credit for 963.09.

7701 Mathematics Teaching and Learning in Elementary and Middle Schools  G  3  
Provides elementary or middle school teachers with skills and knowledge that will strengthen their teaching of mathematical content knowledge and process skills.  
Prereq: Not open to students with credit for 812.

7702 Science in Elementary and Middle School Education  G  3  
Focuses on elementary and middle school science instruction and curricula with an emphasis on pertinent literature and classroom implementation.  
Prereq: Not open to students with credit for 811.

7705 Cognition and Socio-Cultural Issues in School Mathematics  G  2  
To be successful educators, participants need to have knowledge of child development, child psychology, and influences on student learning such as cultural diversity, limited English proficiency, gender, and physical challenges.  
Prereq: Not open to students with credit for 721.01.

7706 Science and Early Childhood Education  G  3  
The nature, scope, and role of science experiences in the learning and development of young children; integration and application of current developments; theory and research in science with early childhood education.  
Prereq: Not open to students with credit for 852.

7711 K-6 Number and Algebra  G  2  
Students will understand concepts such as number, number sense, variable, and equality through an opportunity to learn at a deeper level and to examine instructional strategies to help children.  
Prereq: Not open to students with credit for 711.

7712 K-6 Measurement and Geometry  G  2  
Students will understand concepts such as spatial sense, units of measure, and work with two- and three-dimensional objects through an opportunity to learn at a deeper level and to examine instructional strategies to help children.  
Prereq: Not open to students with credit for 711.

7713 K-6 Data Analysis and Probability  G  2  
Students will understand concepts such as chance and possible outcomes and predicting events as likely or unlikely, and testing predictions, and representational skills to depict and analyze data sets.  
Prereq: Not open to students with credit for 711.

7715 Learning Progressions in Mathematics Education  G  3  
Examine the construction, use, and research on learning progressions in mathematics education.  
Prereq: Not open to students with credit for 742.

7716 Conceptual and Procedural Knowledge in Mathematics Education: Theory, Research, and Controversy  G  3  
Examine research on students' learning of conceptual and procedural knowledge. We will carefully examine the nature of each type of knowledge, how they are acquired, how they are used, and how they are related.

7717 Teaching Mathematics  G  3  
Designed to provide an expanded view of the teaching of mathematics in grades 7-16 and current theories regarding best practices.  
Prereq: Not open to students with credit for 802.03.

7718 Student Learning Processes in Mathematics  G  3  
Student cognition and learning. The topics of arithmetic, algebra and geometry will be used to explore issues of student thinking. We will investigate how the nature of these topics affect students' reasoning and problem solving and thinking.  
Prereq: Not open to students with credit for 802.05.

7719 Providing Professional Development in Mathematics Education  G  2  
Required teachers to develop a professional development program that will provide them the opportunity to implement and reflect upon this development as a final assessment of their endorsement.  
Prereq: Not open to students with credit for 714.

7721 Environmental and Sustainability Education Methods  G  3  
Orientation to inquiry-based approaches to environmental education and education for sustainability in formal and non-formal settings. Special attention will be given to climate change as a context for framing educational experiences.  
Prereq: Not open to students with credit for 613.

7722 Aquatic and Marine Science Education  G  3  
Overview of curriculum standards, instructional practices, and educational resources related to the study of aquatic and marine ecosystems in formal and non-formal settings.  
Prereq: Not open to students with credit for 614.

7723 Learning Progressions in Science Education  G  3  
Learning Progressions represent promising frameworks for organizing assessments, instruction, and curriculum around theories about how students learn. The course will examine current research to explore theories and practice on learning progressions.  
Prereq: Not open to students with credit for 752.

7724 Teaching Evolution in Schools  G  3  
Focuses on issues, alternative practices, and curricular approaches related to teaching evolution in public schools. Research, court cases, and policies related to the teaching of evolution are examined.  
Prereq: Coursework in Evolutionary Biology, or teaching licensure in life science; or permission of instructor. Not open to students with credit for 875.

7725 The Nature of Science and Implications for Science Teaching  G  3  
Focuses on the nature of science and scientific knowledge from philosophical, historical, and sociological perspectives, examines the implications for science teaching at all levels, with particular emphasis on K-12 public education.  
Prereq: Not open to students with credit for 877.

7726 STEM Education in Informal Settings  G  3  
Provides STEM educators with experiences to develop skills, content knowledge, professional knowledge, assessment strategies, and integration skills to maximize learning of all students in informal STEM settings.  
Prereq: Not open to students with credit for 880.

7731 Multimedia Tools For STEM Education  G  3  
Introduction to a wide variety of multimedia tools for use in STEM Education. The tools are constantly changing but some of the areas included are sensors, data collection, graphics, animation, presentation, audio, video, and multimedia authoring.  
Prereq: Not open to students with credit for 735. Repeatable to a maximum of 9 cr hrs.

7732 Robotics and Automation for STEM Educators  G  3  
An introduction to robotics and automation systems, their applications, and methods of teaching about and with them. Will include experiences related to the design, selection, set-up, and programming of robotic and automation systems.  
Prereq: Not open to students with credit for 938.21.

7733 Research in Technology and Engineering Education  G  3  
Identification of research problems and needs in technology and engineering education; review of research exemplars with critical analysis of research design and procedures.  
Prereq: Not open to students with credit for 837.
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**Education: Teaching and Learning**

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<td>8002</td>
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<td>8003</td>
<td>Theorizing and Researching Teaching and Learning</td>
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<td>Black Feminist Theories in Teaching and Learning</td>
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<td>Critical Discourse Analysis</td>
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164 Education: Teaching and Learning

8307 History of Children's and Young Adult Literature G 3
A seminar focusing on the history of American and English Children's literature from earliest
times to the present.
Prereq: Not open to students with credit for 907.

8309 History of Theory and Practice in Literacy G 2
Explores the historical bases of current literacy practices and theoretical perspectives.
Examines cultural and political ideologies that have influenced theory, research and
instructional practice.
Prereq: Not open to students with credit for 909.

8311 Research in Emergent Literacy G 3
Current topics and issues concerning the development of literacy in young children,
particularly the achievement of emergent literacy and the transition from emergent to early
literacy, generally pre K through 1st grade.
Prereq: Not open to students with credit for 911.

8312 Research in Writing Development and Instruction for Children G 3
Examination and critical analysis of research on writing development and instruction.
Prereq: Not open to students with credit for 912.

8313 Research and Theory in Written Composition G 3
Considers writing in a variety of contexts—primary school, middle school, high school, college,
and the larger community—from the perspective of research; broader issues of how attention to
culture and context can provide more responsive instruction.
Prereq: Not open to students with credit for 913 and 914.

8325 Language, Thought, Realities: Understanding the Relationships in Educational Contexts G 3
A seminar focusing on understanding and evaluating the role of language in creating the
realities we live and the significance of this concept of language for education and other
human service professions.

8330 Literacy Research and Issues of Diversity G 3
Graduate students study scholarship based on literacy research and diversity issues that
influence teaching and learning in and out of schools as preparation for their own research in
the field.
Prereq: Not open to students with credit for 930.

8332 Research on Poetry and Spoken Word G 3
Analysis of research on poetry, spoken word, and performance in relation to language, the
written word, digital narratives, and performance as text. Examines research in literacies,
youth/adults as poets, wordsmiths, and activists.

8363 Sociolinguistics and Language Education G 3
Surveys foundational theories, issues, & methodologies in sociolinguistics. We examine how
these theoretical insights & empirical approaches have been used to study & illuminate topics of
concern to language education.
Prereq: Not open to students with credit for 863.

8420 Professional Seminar in Reading and Literacy in Early and Middle Childhood Education G 3
In this professional seminar, students will build professional knowledge regarding research
and scholarship in reading and literacy education and become familiar with the Reading and Literacy
in Early and Middle Childhood specialization, faculty, culture, and culture. This is a required course for RLEMC doctoral students; the course is also appropriate for non-RLEMC students
majoring in either TESOL or foreign language education.

8421 Guided Survey of Research in Reading G 3
Explores various investigations of reading and literacy. It examines major trends in
reading-literacy research and exemplary studies that address major topics, including
methodological issues, basic processes, and instructional practices.
Prereq: Not open to students with credit for 921. Repeatable to a maximum of 6 cr hrs.

8425 Understanding the Reading Process G 3
Focuses on the young child as a learner and on the reading process itself. Explores and
extends personal models of the reading process and grounds theory building in close
observations of young children reading.

8426 Advanced Study in Reading Difficulties of Young Children G 3
Current thinking on reading and learning processes relative to young, low progress, “at risk”
students, and seminal research and theories which have influenced the reading difficulties
field will be related to students who are difficult to teach.

8427 Learning and Teaching Reading Comprehension G 3
Designed to provide doctoral students knowledge of the research on reading comprehension.

8610 Second Language Acquisition G 3
Provides an overview of theories and research in the field of second language acquisition
(SLA). We examine the development of SLA as a field, exploring cognitive, linguistic,
sociocultural, and critical research perspectives.
Prereq: Not open to students with credit for 703.09.

8615 Classroom-Oriented Second Language Research G 3
Aims to help doctoral students to understand the steps involved in designing a qualitative
second-language (L2) research project, to critically evaluate published research, and to
consider key issues in designing their own L2 study.
Prereq: Not open to students with credit for 916.

8617 Issues in Second Language Learning G 3
Lecture and discussion course focused on current issues related to second language
acquisition research.
Prereq: 8610. Not open to students with credit for 917.

8620 Foreign and Second Language Teacher Education G 3
Deals with foreign and second language teacher education program designs with a focus on
goals, objectives, programming, and accreditation models. It is designed for those who are
majoring in either TESOL or foreign language education.
Prereq: Grad admission as a foreign and 2nd lang major or an equiv. program related to global ed, multicult ed, or a foreign language major in one of the OSU lang. dept (e.g., Spanish, German, Chinese). Not open to students with credit for 924.

8625 First Year Doctoral Seminar in Foreign Language Education G 3
Focuses on scholarly discourse communities, contemporary research priorities, programmatic
themes and research approaches related to foreign language education.
Prereq: Not open to students with credit for 937.45.

8630 The Dissertation Experience in Foreign Language Education G 3
Designed to meet the needs of students who are approaching the dissertation research and
writing experiences.
Prereq: Not open to students with credit for 938.45.

8635 Research on Second Language Reading and Writing G 3
Explores research and research practices related to Second Language reading and writing.
Prereq: Not open to students with credit for 965.

8640 Seminar in Foreign Language Education G 3
A special topics course that examines theories and research related to a specified topic
related to foreign language education.
Prereq: Not open to students with credit for 962.

8650 Current Perspectives on Second Language Development G 3
Introduces and orients doctoral students to the perspectives of those who investigate second
language learning from sociocultural and critical theoretical frameworks, focusing on theory
and research.
Prereq: A doctoral level second language acquisition course.

8655 Policy and Politics of English Language Learning G 3
Introduction to theory, research, and debate on policy and politics of language & language
teaching, linguistic ideology, Attention to ESL teaching in relation to transnationalism,
immigration, and migration issues.
Cross-listed in EduPL 8266.

8656 Research Practicum in the Policy and Politics of English Language Learning G 3
Follows 8655 as the second in a sequence. Under the supervision of the instructors, students
conduct qualitative research on policy and practice in language education.
Prereq: 8655, or permission of instructor. Cross-listed in EduPL 8267.

8701 Advanced Concepts in Elementary School Science Education G 3
Helps doctoral students develop the knowledge and skills necessary to critically analyze
reports of educational research, specifically for elementary science education.
Prereq: Not open to students with credit for 920.

8711 Current Issues and Trends in STEM Education G 3
An introductory seminar for new STEM education doctoral students and other advanced
graduate students seeking increased familiarity with STEM education research communities.

8721 Advanced Study of Thinking, Learning, and Assessment in Mathematics Education G 3
Develop a deep, foundational knowledge of various theories and types of research related to
mathematical thinking and learning. Students will also develop knowledge of ways of
consider key issues in designing their own L2 study.
Prereq: Not open to students with credit for 916.

8722 Advanced Study of Thinking, Learning, and Assessment in Science Education G 3
Focuses on advanced skills and knowledge used to understand how thinking, learning, and
assessment occur in science education programs.
Prereq: Not open to students with credit for 926.27

8723 Teaching and Teacher Education in STEM Education G 3
Students develop the knowledge and skills necessary to critically analyze reports of
elementary research, current thinking and perspectives, critical issues associated with
science and mathematics teacher education and teacher preparation.
Prereq: Not open to students with credit for 999.23.
### History of Curriculum in STEM Education

Familiarizes students with the changing curriculum in school mathematics. It will examine the history and evolution of K-16 STEM curricula in the United States with particular emphasis on the past century (1890 to 2010). 
Prereq: Not open to students with credit for 937.26.

#### History of Curriculum in Science Education

Focuses on the forces that have shaped the emergence of contemporary curriculum patterns in science education, with particular emphasis given to the trends, issues, and policies that have shaped science curriculum design and development. 
Prereq: Not open to students with credit for 937.27.

### History of Curriculum in Technology/Engineering Education

The history of curriculum development in technology and engineering education from the elementary grades to the graduate level. 
Prereq: Not open to students with credit for 937.21.

### Survey and Critical Analysis of Research in STEM Education

Examines critical issues associated with conducting and analyzing research in STEM education including formulating and evaluating the following: research questions, methodologies, data collection instruments, and analysis techniques. 
Prereq: Not open to students with credit for 808.

### Research in Multicultural and Global Education

Examines research literature and epistemologies in multicultural education and global education. 
Prereq: Not open to students with credit for 889.01

### Social Studies Theory and Practice

Examines social studies education theories, practice and current issues and trends. 
Prereq: Not open to students with credit for 889.02

### Social Studies Education and Deweyan Perspectives

Brings the perspectives of John Dewey to bear on key topics in social studies education. 
Prereq: Not open to students with credit for 889.03

### Decolonization, Culture, and Global Pedagogy

Addresses issues of difference in the global contexts. In particular, it examines the value of looking at global issues through decolonizing perspectives and pedagogy. 
Prereq: Not open to students with credit for 889.04

### Research in Social Studies Education

Reviews recent research studies and research trends in social education. 
Prereq: Not open to students with credit for 889.05

### Advanced Seminar

Advanced graduate seminar focusing on educational scholarship. 
Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 10 completions.

### Research Apprenticeship in Teaching and Learning

The process of researching teaching and learning are explored through working with a faculty member on an established research project. 
Prereq: Permission of PhD coordinator required. Repeatable to a maximum of 40 cr hrs or 15 completions. This course is graded S/U.

### Research

Research for dissertation purposes only. Repeatable to a maximum of 40 cr hrs or 12 completions. This course is graded S/U.

### Educational Studies

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<td>Individual Studies: Educational Studies</td>
<td>U G 1 - 15</td>
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<tr>
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<td>5765</td>
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<tr>
<td>5798.01</td>
<td>Study Tour: Domestic</td>
<td>U G 1 - 5</td>
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### Study Tour: Foreign

Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Repeatable for different titled study tours only. 
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

### Interprofessional Education: Seminar on Interprofessional Care

Develop and practice skills necessary for interprofessional collaboration in solving complex human problems. Case based. 
Prereq: Jr standing, or above. Repeatable to a maximum of 4 cr hrs. Cross-listed in HHRSc and Nursing and MedColl 6880.01.

### Changing Societal Values and the Professions

Interdisciplinary approach to identification and clarification of professional problems and values related to clients and society's changing view of the education, and medicine professions. 
Prereq: Jr standing, or above. Repeatable to a maximum of 4 cr hrs. Cross-listed in MedColl 6880.02.

### Interprofessional Education: Seminar on Ethical Issues

Ethical issues common to the professions (e.g., rapidly advancing technology, death/dying, privacy/confidentiality, professional boundaries). Case based. Limited to students enrolled in Health and Rehabilitation Science, Education, Nursing, and the College of Medicine. 
Prereq: Jr standing, or above. Repeatable to a maximum of 4 cr hrs. Cross-listed in HHRSc and Nursing and MedColl 6880.03.

### Interprofessional Education: Collaboration in Urban Communities

Students, faculty, community residents and professionals offer research-based solutions to community identified challenges. Focus on community asset mapping, best professional and interprofessional practices, and teamwork. 
Prereq: Jr standing, or above. Repeatable to a maximum of 6 cr hrs. Cross-listed in HHRSc and Nursing.

### Interprofessional Approaches to Policy Analysis

Interdisciplinary approach to the history, formation, and implementation of public policy issues of significance. 
Prereq: Jr standing, or above. Repeatable to a maximum of 4 cr hrs.

### Interprofessional Approaches to the Care of Chemically Dependent Youth and Families

Interdisciplinary approach to the impact of chemical dependency on family members, including children and youth, and their patterns of relationships. 
Prereq: Jr standing, or above. Repeatable to a maximum of 4 cr hrs.

### Interprofessional Approaches to Child Abuse and Neglect

Interdisciplinary approach to exploring issues in the identification, treatment, and prevention of child abuse and neglect. 
Prereq: Jr standing, or above. Repeatable to a maximum of 4 cr hrs. Cross-listed in MedColl 6880.07.

### Spirituality in Professional Practice

Students in Edu, SW, HhSc Care, Law, & Theo explore, through inquiry, engagement with community professionals and group discussion, issues of spirituality and spiritual development as they impact their professional discipline and their practice area. 
Prereq: Jr standing. Repeatable to a maximum of 4 cr hrs.

### Colloquia, Workshops and Special Topics: Educational Studies

Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it. 
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

### Proseminar in Educational Studies

An introduction to the areas of research in the Department of Educational Studies This is a core requirement for doctoral students. 
Prereq: Admission to a doctoral program in Educational Studies.

### Educational Policy and Inequality in Social and Cultural Context: Integrating Research Traditions

An introductory seminar course addressing issues of race, ethnicity, language, class, gender, sexuality, and disability as they influence and are influenced by educational policy processes. This is a core requirement for doctoral students. 
Prereq: Admission to a doctoral program in Educational Studies.

### Planned Field Experience: Foreign

Planned professional teaching experience under supervision in a public school or other educational agency. 
Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.
166   Educational Studies

7406   Course Design for Higher Education     G   2
    Students will gain an understanding of how to design a course based on goals and objectives. They will begin the work of planning, within a community of peers, and will leave with the basic structure for a course and the beginnings for materials. Participants will share experiences and ideas, design and implement instructional activities, and develop strategies for assessing teaching and learning.
    This course is graded S/U.

7717   Interdisciplinary Perspectives on Developmental Disabilities     G   3
    Introduction to the psychosocial, medical, and educational implications of developmental disabilities.
    Prereq: Permission of instructor. Not open to students with credit for EduPAES 717.01 or 717.03. Cross-listed in HHRSc, SocWork, Psych, Nursing, and SpHrng.

7718   Interdisciplinary Perspectives on Autism Spectrum Disorders     G   3
    Teaches the analytical skills necessary to comprehend and formulate an interdisciplinary framework relating to major scientific and theoretical perspectives in autism spectrum disorders.
    Prereq: Permission of instructor. Not open to students with credit for EduPAES 717.01 and 717.02. Cross-listed in HHRSc, SocWork, Nursing, Psych, and SpHrng.

7897   Special Topics: Educational Studies     G   1 - 5
    Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments.
    Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.

7999   Research: Educational Studies     G   1 - 18
    Research related to the Master's thesis.
    Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

8081   Introductory Seminar: Applied Developmental Science in Education     G   3
    An introductory professional seminar for doctoral students seeking the Interdisciplinary PhD Specialization in Applied Developmental Science in Education (ADS-E).
    Cross-listed in Edu.TL.

8082   Capstone Seminar: Applied Developmental Science in Education     G   3
    A capstone professional seminar for doctoral students enrolled in the Interdisciplinary PhD Specialization in Applied Developmental Science in Education (ADS-E).
    Prereq: 8081 or Edu.TL 8081. Cross-listed in Edu.TL.

8189   Planned Field Experience: Educational Studies     G   1 - 15
    Planned professional teaching experience under supervision in a public school or other educational agency.
    Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

8191   Research Apprenticeship: Educational Studies     G   1 - 12
    Internship experiences in research, development, or evaluation settings.
    Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.

8193   Advanced Individual Studies: Educational Studies     G   1 - 15
    Advanced individual projects.
    Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

8194   Advanced Group Studies: Educational Studies     G   1 - 15
    Advanced group projects.
    Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

8895   Seminars: Educational Studies     G   2 - 5
    Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times.
    Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.

8999   Dissertation or Thesis Research: Educational Studies     G   1 - 18
    Research for thesis or dissertation purposes.
    Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Educational Studies: Counselor Education

2189   First Education Experience Program (FEEP)     U   3 - 5
    Provides opportunities for students to explore education as a possible career path via a combination of field and seminar requirements. Students spend time in local, public PreK-12 school-based settings, interacting with various professionals and students.

2271   Seminar: Self-Career Development     U   2
    Designed to provide opportunities for self-exploration and skill development; exploration of and clarification of vocational and educational interests.
    Prereq: Not open to students with credit for EduPAES 270.01. This course is progress graded (S/U).

2272   Seminar: Personal Growth to Increase Career Competencies     U   2
    Designed to provide opportunities to assist in self-exploration of and clarification for more effective development beyond the level of average performance.
    Prereq: Not open to students with credit for EduPAES 270.02. This course is progress graded (S/U).

2273   Seminar: Study Skills Related to Career Goals     U   2
    Designed to assist underachieving students with their efforts to ascertain and resolve the causes of low academic productivity, attitudinal and behavioral skills emphasized.
    Prereq: Not open to students with credit for EduPAES 270.03. This course is progress graded (S/U).

2274   Seminar: Career Development and Leadership Training in Higher Education     U   2
    Designed to explore possible careers in higher education and to conduct leadership training in terms of higher educational functions and organizations.
    Prereq: Not open to students with credit for EduPAES 270.04. This course is progress graded (S/U).

2891   Seminar in Exploring Helping Relationships: Teaching/Learning     U   2
    Self development and decision making for students exploring careers through placement in educational, and community agency settings.
    Concur: 2189. Repeatable to a maximum of 4 cr hrs.

4270   Love, Sex, and Relationships     U   3
    Human relations training, including communication skills, conflict resolution, diversity training, and relationship enhancement.

5193   Individual Studies: Counselor Education     U G   1 - 15
    In conjunction with the instructor, students will engage in individual study projects.
    Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

5270   Suicide Prevention & Mental Health Education     U G   3
    Training in suicide prevention, including suicide hotline and suicide gatekeeper training.

5271   Wellness: Achieving a Healthy Lifestyle     U G   3
    Study and application of a holistic approach to understanding and implementing individual wellness for healthy lifestyles.
    Prereq: Not open to students with credit for EduPAES 700.01.

6189.01   Practicum in School Counseling     G   4
    Field practicum in school counseling.
    Prereq: 6731, 6732, and 6733, or EduPAES 6731, 6732, and 6733; and permission of instructor. Not open to students with credit for EduPAES 974 or 978.

6189.02   Practicum in Clinical Health Counseling     G   4
    Practicum in clinical mental health counseling.
    Prereq: 6731, 6732, and 6733, and permission of instructor.

6731   Foundations of Professional Counseling     G   3
    Foundations of professional counseling, including history and philosophy, professional associations, licensure, current settings, advocacy, collaboration, role in national emergencies, and current issues of the profession.
    Prereq: Admission to Counselor Education program, or permission of instructor. Not open to students with credit for EduPAES 773.

6732   Theories of Professional Counseling     G   3
    Theories of change, personality development, and methods to foster client growth.
    Prereq: Admission to Counselor Education program, and permission of instructor. Concur: 6733. Not open to students with credit for EduPAES 774.

6733   Techniques of Individual Counseling     G   1½
    Techniques to facilitate the individual counseling process for client growth.
    Prereq: Admission to Counselor Education program, and permission of instructor. Concur: 6732. Not open to students with credit for EduPAES 800.01.

6734   Assessment in Counseling     G   3
    Studies that provide an understanding of individual and group approaches to counseling assessment and evaluation.
    Prereq: Admission to Counselor Education program, and permission of instructor. Not open to students with credit for EduPAES 767.

6735   Counseling Across the Lifespan     G   2
    Developmental issues across the lifespan, including identity development, diversity, values programming, poverty, and events that alter the developmental trajectory such as trauma.
    Prereq: Admission to Counselor Education program, and permission of instructor.
Educational Studies: Counselor Education

6736 Lifespan Career Development and Counseling  G 2 Study of the career development process across the lifespan and concurrent counseling implications. Prereq: Admission to Counselor Education program, and permission of instructor. Not open to students with credit for EduPAES 779.

6737 Group Counseling  G 3 Study of group counseling theories and developmental processes for therapeutic and psychoeducational groups. Prereq: 6731 and 6732, or EduPAES 6731 and 6732, and permission of instructor. Concur: 6738. Not open to students with credit for EduPAES 775.

6738 Techniques of Group Counseling  G 1½ Experiential group participation and leadership. Prereq: 6731 and 6732, or EduPAES 6731 and 6732, and permission of instructor. Not open to students with credit for EduPAES 800.02.

6739 Legal and Ethical Issues in Counseling  G 1½ Legal and ethical issues in professional counseling. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 926.06.

6740 Techniques for Counseling Children and Adolescents  G 1½ Techniques to facilitate the counseling process with children and adolescents. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 775.

6831 Professional School Counseling  G 3 Foundation concepts for providing professional school counseling through comprehensive school counseling programs. Prereq: 6731, or EduPAES 6731, and permission of instructor.

6931 Diagnosis of Mental and Emotional Disorders  G 3 Study and application of the principles and practices of diagnosis according to the DSM. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 926.01.

7191.01 Internship in School Counseling  G 5 Field internship in school counseling. Prereq: 6189.01 or 6189.02, or EduPAES 6189.01 or 6189.02, and permission of instructor. Repeatable to a maximum of 15 cr hrs.

7191.02 Internship in Clinical Mental Health Counseling  G 5 Internship in clinical mental health counseling. Prereq: 6189.01 or 6189.02, or EduPAES 6189.01 or 6189.02, and permission of instructor. Repeatable to a maximum of 15 cr hrs.

7741 Multicultural Issues in Counseling  G 4 Study and application of concepts for understanding diversity of clients and self, and implications for communication and counseling practice. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 801.01.

7742 Addictions Counseling  G 2 Study and application of the principles and practices of diagnosis, treatment, and referral of addiction disorders. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 801.01.

7743 Family and Couples Counseling  G 2 Study and application of the principles and practices of marriage, family, and couples counseling. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 927.

7745 Theories of Consultation  G 1½ Study and application of concepts and practices of consultation in counseling. Prereq: 6731, or EduPAES 6731, and permission of instructor.

7832 Current Issues in Professional School Counseling  G 3 Study of the current issues in school counseling including student issues, schools issues, and community issues. Prereq: 6831, or EduPAES 6831, and permission of instructor.

7833 Psychopathology, Trauma, and Crisis Counseling  G 3 Study and application of treatment of major mental disorders, trauma, and crisis counseling. Prereq: 6731 and 6931, or EduPAES 6731 and 6931, and permission of instructor. Not open to students with credit for EduPAES 926.02.

7933 Wellness and Prevention Counseling  G 3 Study and application of principles and practices of wellness and prevention in counseling. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 926.03.

7934 Theories of Counseling Supervision  G 1½ Study and application of concepts and practices of supervision for counselors and therapists. Prereq: 6731, or EduPAES 6731, and permission of instructor. Not open to students with credit for EduPAES 926.07.

7935 Advanced Assessment: Personality Testing  G 4 Study and application of principles and practices of comprehensive psychological evaluations. Prereq: 6731 and 6734, or EduPAES 6731 and 6734, and permission of instructor. Not open to students with credit for EduPAES 768.

8100 Leadership in Counselor Education  G 3 Study and application of the principles and practices of leadership in professional counseling and counselor education. Prereq: Admission to Doct program Counselor Education, and permission of instructor. Not open to students with credit for EduPAES 806.00.

8191.01 Doctoral Practicum in Counselor Education - Supervision  G 2 - 8 Practicum in doctoral studies in counselor education. Prereq: Admission to Doc program in Counselor Education, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

8191.02 Doctoral Internship: Counselor Education - Teaching  G 2 - 10 Field experience in doctoral studies in counselor education: Teaching. Prereq: Admission to Doct program in Counselor Education program, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

8191.03 Doctoral Internship: Counselor Education - Research  G 2 - 10 Field experience in doctoral studies in counselor education: Research. Prereq: Admission to Doctoral program in Counselor Education, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

8193 Advanced Independent Studies: Counselor Education  G 1 - 12 Advanced independent study in counselor education. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

8200 Critical Pedagogy Issues in Counselor Education  G 3 Study and application of the principles and practices of teaching counseling in graduate counselor education programs. Prereq: Admission to Doct program in Counselor Education program, and permission of instructor.

8300 Developing a Research Identity in Counselor Education  G 3 Study and application of principles and practices of developing a research agenda and professional scholarship in counselor education. Prereq: Admission to Doct program in Counselor Education, and permission of instructor.

8400 Critical Research Issues in Counselor Education  G 3 Study and application of principles and practices of research and professional scholarship in counselor education. Prereq: Admission to Doct program in Counselor Education, and permission of instructor. Not open to students with credit for EduPAES 926.04.

8895 Seminars: Counselor Ed  G 1 - 4 Study, discussion, and application of concepts related to doctoral study in counselor education. Prereq: Admission to Doct program in Counselor Education, and permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is graded S/U.

8998 Research: Counselor Education  G 1 - 3 Engagement in research and publication. Prereq: Admission to Counselor Education program, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

8999 Dissertation/Thesis Research: Counselor Education  G 1 - 9 Dissertation research - research conducted for dissertation, under supervision of faculty advisor. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

Educational Studies: Cultural Foundations of Edu

### Educational Studies: Cultural Foundations of Educ

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1202</td>
<td>An Historical Account of the Education of Black Folk in the United States: 1950 to Present Day</td>
<td>U 3</td>
<td>Examines the struggle of African Americans for education and advancement in American society from the Civil Right Era to the Present Day. Prereq: Not open to students with credit for EduPL 552. GE diversity soc div in the US course.</td>
</tr>
<tr>
<td>2241</td>
<td>Body Mind Goes to School</td>
<td>U 3</td>
<td>Current and emerging theoretical and cultural conception of body and mind and how they affect educational theories and practices. Prereq: Not open to students with credit for EduPL 411. GE soc sci indivs and groups course.</td>
</tr>
<tr>
<td>3206</td>
<td>School and Society</td>
<td>U 3</td>
<td>Use of concepts and methods of history, philosophy and the social sciences to grasp the interrelationship between society and education. Prereq: Not open to students with credit for EduPL 306. GE diversity soc div in the US course.</td>
</tr>
<tr>
<td>4214</td>
<td>Gender and Education</td>
<td>U 3</td>
<td>Introduction to education as a field of research with a focus on the role of gender in educational settings. Prereq: Not open to students with credit for EduPL 414.</td>
</tr>
<tr>
<td>4215</td>
<td>Sexuality and Education</td>
<td>U 3</td>
<td>Examination of sexual orientation as an arena of diversity in K-12 and higher education as well as society. Prereq: Not open to students with credit for EduPL 415. Cross-listed in EduTL 4015.</td>
</tr>
<tr>
<td>4245</td>
<td>Education and Spirituality: Holistic Perspectives</td>
<td>U 3</td>
<td>Cross-disciplinary examination of spirituality from personal and cultural perspectives, including feminist, ecological, and postmodern views, with inquiry into spiritual practices impact on education. Prereq: Not open to students with credit for EduPL 705.</td>
</tr>
<tr>
<td>4280</td>
<td>History of Modern Education</td>
<td>U 3</td>
<td>Development of educational institutions, practices, and theories in the modern world, particularly in U.S., and the social and intellectual movements influencing them. Prereq: Not open to students with credit for EduPL 650.02.</td>
</tr>
<tr>
<td>5193</td>
<td>Individual Studies: Cultural Foundations of Education</td>
<td>U G 1 - 15</td>
<td>Individual study projects. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies: Cultural Foundations of Education</td>
<td>U G 1 - 15</td>
<td>Group study projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5892</td>
<td>Workshops: Cultural Foundations of Education</td>
<td>U G 1 - 8</td>
<td>Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>6205</td>
<td>Fundamentals of Instruction</td>
<td>G 3</td>
<td>Surveys the literature from its beginnings in psychology to more recent interests in instruction as a fundamentally social, cultural, and interactional organization. Prereq: Not open to students with credit for EduPL 864.</td>
</tr>
<tr>
<td>6212</td>
<td>American Schools and Society</td>
<td>G 3</td>
<td>Sociocultural perspectives on education and schooling in the United States; implications for teaching and learning. Prereq: Not open to students with credit for EduPL 812.</td>
</tr>
<tr>
<td>6217</td>
<td>Comparative Education</td>
<td>G 3</td>
<td>Social and cultural factors influencing the differential development of educational institutions and organization; the role of education in national development; comparative methodologies. Prereq: Not open to students with credit for EduPL 717.</td>
</tr>
<tr>
<td>6250</td>
<td>History of Education</td>
<td>G 3</td>
<td>Examines the historical role of educational institutions in the development of nations; theoretical perspectives regarding the purposes of education and teaching practices. Prereq: Not open to students with credit for EduPL 650.02.</td>
</tr>
<tr>
<td>7210</td>
<td>Fundamentals of Curriculum</td>
<td>G 3</td>
<td>Designed to serve as an historical to contemporary overview of the field of Curriculum Studies; kindergarten through 12th grade. Prereq: Not open to students with credit for EduPL 860.</td>
</tr>
<tr>
<td>7211</td>
<td>Critical Issues in Curriculum: The Politics of and Theorizing in Curriculum Studies</td>
<td>G 3</td>
<td>Advanced study of theorizing in curriculum studies and the politics of curriculum and classroom pedagogy; kindergarten through the 12th grade. Prereq: 7210 or EduPL 7210 (860). Not open to students with credit for EduPL 833 or 865.</td>
</tr>
<tr>
<td>7212</td>
<td>Laboratory in Curriculum Development and Praxis for Educators</td>
<td>G 3</td>
<td>Advanced study of techniques in curriculum development and organization in a field setting. Students will &quot;play&quot; with, construct, implement and critique their classroom curriculum and pedagogy. Prereq: Not open to students with credit for EduPL 868 or 872.</td>
</tr>
<tr>
<td>7213</td>
<td>The Historical Basis of Curriculum Development</td>
<td>G 3</td>
<td>Intensive analysis of the outstanding contributions of curriculum scholars, movements and key ideas that have influenced the field from 1900. Prereq: Not open to students with credit for EduPL 814.</td>
</tr>
<tr>
<td>7214</td>
<td>An Interpretive History of African American Education: 1700 to 1950</td>
<td>G 3</td>
<td>Examination of the education of African Americans from the perspective of African American scholars from 1700 to 1950. Prereq: Not open to students with credit for EduPL 863.</td>
</tr>
<tr>
<td>7215</td>
<td>An Interpretive History of African American Education: 1950 to the Present</td>
<td>G 3</td>
<td>Examination of African American education from the perspective of African American scholars from the 1950s to the Present. Prereq: Not open to students with credit for EduPL 834.</td>
</tr>
<tr>
<td>7217</td>
<td>Globalization Processes in Education</td>
<td>G 3</td>
<td>Comparative sociocultural and historical perspectives of educational processes in an era characterized by geopolitical shifts, neoliberal economic expansion, and rapid movements of people, knowledge, ideologies, commodities and media.</td>
</tr>
<tr>
<td>7220</td>
<td>Cultural Studies in Education</td>
<td>G 3</td>
<td>Examines how cultural studies frames questions and themes pertinent to the study of education, technology and inquiry. Prereq: Not open to students with credit for EduPL 822.</td>
</tr>
<tr>
<td>7222</td>
<td>History of Educational Policy</td>
<td>G 3</td>
<td>Historical analysis of social, economic, and political factors shaping public school policy in the US since 1860. Prereq: Not open to students with credit for EduPL 722.</td>
</tr>
<tr>
<td>7225</td>
<td>Visualizing the Curriculum</td>
<td>G 3</td>
<td>Investigates questions relating to visual literacy and visual culture with emphasis on the design, use, and study of images in educational settings.</td>
</tr>
<tr>
<td>7392</td>
<td>Learning, Culture, and Technology</td>
<td>G 3</td>
<td>Overview of learning theories, and an in depth study of social and cultural influences on student, teacher, and organizational learning in technology-rich education settings. Prereq: Not open to students with credit for EduPL 892.</td>
</tr>
<tr>
<td>7394</td>
<td>Women, Leadership and Empowerment</td>
<td>G 3</td>
<td>Focuses on understanding and enacting leadership and empowerment that is congruent with women's lives and feminist perspectives. Prereq: Not open to students with credit for EduPL 904.</td>
</tr>
<tr>
<td>7572</td>
<td>History of Colleges and Universities</td>
<td>G 3</td>
<td>A historical study of higher education with particular attention to the development of colleges and universities in the United States. Prereq: Not open to students with credit for EduPL 927.</td>
</tr>
<tr>
<td>7897</td>
<td>Special Topics: Cultural Foundations of Education</td>
<td>G 1 - 5</td>
<td>Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments. Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7999</td>
<td>Thesis Research: Cultural Foundations of Education</td>
<td>G 1 - 18</td>
<td>Research for master's thesis purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8189</td>
<td>Planned Field Experience: Cultural Foundations of Education</td>
<td>G 1 - 15</td>
<td>Planned professional teaching experience under supervision in a public school or other educational agency. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.</td>
</tr>
</tbody>
</table>
Educational Studies: Cultural Foundations of Education

8193 Advanced Individual Studies: Cultural Foundations of Education
Advanced individual projects.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions.
This course is graded S/U.

8194 Advanced Group Studies: Cultural Foundations of Education
Advanced group projects.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.
This course is graded S/U.

8200 Themes and Theories in Cultural Foundations
Introduction to themes and theories in cultural foundations of education with interdisciplinary focus on intersections of culture, knowledge and power.
Prereq: Not open to students with credit for EduPL 905.

8201 Social Foundations of Education
Multiple theoretical perspectives that have shaped discussions regarding the social foundations of education from the 19th century to the present.
Prereq: Not open to students with credit for EduPL 906.

8206 Theories of Instruction
Advanced study of contemporary conceptualizations and innovations in our understandings of instruction, with special interest in the description of instruction as situated action.
Prereq: Not open to students with credit for EduPL 850.

8209 Cultural Processes in Education
Examines the role of cultural processes in educational practices at school, after school, in the home, and on the job. Explores how culture, ethnicity, and power operate in formal and informal educational settings.
Prereq: Not open to students with credit for EduPL 909.

8251 Theories of Gender in Education
Introduction to theories of gender in education with focus on issues of voice, experience, difference, identity and scholarly responsibility.
Prereq: Not open to students with credit for EduPL 871.

8252 A History of the Education of Women
Investigation and critical analysis of selected educational theories by significant past and present theorists who have addressed the education of women.
Prereq: Not open to students with credit for EduPL 852.

8266 Policy and Politics of English Language Learning
Introduction to theory, research, and debate on policy and politics of language & language teaching, linguistic ideology. Attention to ESL teaching in relation to transnationalism, immigration, and migration issues.
Cross-listed in EduTL 8655.

8267 Research Practicum in the Policy and Politics of English Language Learning
Follows ESCFE (EduPL) 8266 and EduTL 8655 as the second in a sequence. Under the supervision of the instructors, students conduct qualitative research on policy and practice in language education.

8895 Seminars: Cultural Foundations of Education
Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8995, or for the same section two or more times.
Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.

8999 Dissertation or Thesis Research: Cultural Foundations of Education
Research for thesis or dissertation purposes.
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Educational Studies: Educational Administration

5193 Individual Studies: Educational Administration
Individual study projects.
Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions.
This course is graded S/U.

5194 Group Studies: Educational Administration
Group study projects.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.
This course is graded S/U.

5892 Workshops: Educational Administration
Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

6189 Planned Field Experience and Portfolio Development
The planned field experience, coupled with portfolio development, allows students to demonstrate the knowledge and skills they develop, synthesize, and apply through standards-based work in real settings.
Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

6350 Introduction to Educational Administration
Introduction to the organizational setting of the school, the nature of administration, and personal decision making about careers in educational administration. This is a core course in administrator certification.
Prereq: Not open to students with credit for EduPL 846 or 886.

6354 Collective Bargaining and Contract Administration in Education
Provides a foundation of the Collective Bargaining function in theory and in practice; explores laws and practices related to public policy issues such as governmental authority, the protection of tenure, national boards and teacher unions.
Prereq: EduPL 890 or EduPL 891. Not open to students with credit for EduPL 949.

6356 Legal Aspects of School Administration
A study of statutory and case law, executive opinions, legal principles, and provisions relevant to educational administration, particularly in areas of student rights, personnel, finance, curriculum, contracts, property, liability, and organization.
Prereq: Not open to students with credit for EduPL 952.

6360 School Community Relations and Politics
Principles and practice in developing and maintaining appropriate school community relationships; communication processes; decision-making patterns; politics and micro-politics of schools.
Prereq: Not open to students with credit for EduPL 845 or 953.

6362 Strategic Human Capital Management for P-12 Administration
Provides a foundation of human resource function in theory and practice; explores laws, policies, and practices related to the effective management of human capital management in P-12 education.
Prereq: EduPL 890 or EduPL 891. Not open to students with credit for EduPL 955 or 949.

6366 School Finance and Business Administration
A study of K-12 education finance with special emphasis on public policy and business administration. Criteria for evaluating taxation and models for making business decisions are included.
Prereq: Not open to students with credit for EduPL 956.

6370 Educational Leadership Portfolio Development
Students will be coached through the development of a standards-based portfolio framework that will include artifacts demonstrating the student's knowledge, skills, and dispositions.
Prereq: Not open to students with credit for EduPL 896. This course is graded S/U.

6372 Educational Technology Leadership and Administration
Overview of the uses of technology in schools. Prepares leaders with knowledge and skills to help shape, evaluate, and supervise technology initiatives in educational organizations.
Prereq: Not open to students with credit for EduPL 707.

6374 Database Decision Making for School Leaders
Designed to assist building leaders in their understanding and ability to systematically use a variety of data and school related data to guide educational decision-making. This course will also emphasize ways in which school leaders can collaboratively work with stakeholders to use data to inform the development of a school vision.
Prereq: EduPL 896.

7189 Planned School District Field Experience
The candidate synthesizes and applies knowledge and skills through substantial, sustained, standards-based field work, planned and guided cooperatively by the licensure adviser and school district.
Repeatable to a maximum of 6 cr hrs or 2 completions. This course is progress graded (S/U).

7320 Appreciative Inquiry
Exploration of appreciative inquiry as a research methodology, change process, and dynamic means of facilitating collective action among small and large groups.
Repeatable to a maximum of 6 cr hrs.

7324 History of Educational Administration
A historical study of educational administration and leadership with particular attention to developments in the United States.
Repeatable to a maximum of 6 cr hrs.

7354 Educational Leadership, Organizational Dynamics, and School Culture
Introduction to educational leadership, organizational theory, school culture and climate, and administrative decision-making. This is a core course in administrator certification.
Prereq: EduPL 850 or EduPL 6350 (846). Not open to students with credit for EduPL 886.

7356 Instructional Leadership and Supervision
Instructional leadership requires the development of an organization and its members in support of its teaching and learning mission.
Prereq: Not open to students with credit for EduPL 726 or 891.01.
## Educational Studies: Educational Administration

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>7359</td>
<td>Leadership, Inquiry, and Ethics</td>
<td>G 3</td>
</tr>
<tr>
<td>7360</td>
<td>School District Leadership Portfolio Development</td>
<td>G 2 - 3</td>
</tr>
<tr>
<td>7362</td>
<td>Board Politics and Public Relations</td>
<td>G 3</td>
</tr>
<tr>
<td>7364</td>
<td>Finance of School Districts</td>
<td>G 3</td>
</tr>
<tr>
<td>7366</td>
<td>Administrative Responsibilities, Policy, and Perspectives</td>
<td>G 3</td>
</tr>
<tr>
<td>7368</td>
<td>Educational Facility Planning</td>
<td>G 3</td>
</tr>
<tr>
<td>7372</td>
<td>Supervision as Professional Practice</td>
<td>G 3</td>
</tr>
<tr>
<td>7374</td>
<td>Theory and Foundations of Supervision</td>
<td>G 3</td>
</tr>
<tr>
<td>7897</td>
<td>Special Topics: Educational Administration</td>
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</tr>
<tr>
<td>8738</td>
<td>School District Leadership Portfolio Development</td>
<td>G 2 - 3</td>
</tr>
<tr>
<td>8895</td>
<td>Seminar in Educational Policy</td>
<td>G 2 - 5</td>
</tr>
<tr>
<td>9194</td>
<td>Advanced Group Studies: Educational Administration</td>
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<td>Advanced Individual Studies: Educational Administration</td>
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</tr>
<tr>
<td>8310</td>
<td>Educational Change</td>
<td>G 3</td>
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<tr>
<td>8316</td>
<td>School Business Operations Management</td>
<td>G 3</td>
</tr>
<tr>
<td>8317</td>
<td>Legal Aspects of Special Education Administration</td>
<td>G 3</td>
</tr>
<tr>
<td>8318</td>
<td>Seminar on Human Resources in Education</td>
<td>G 3</td>
</tr>
<tr>
<td>8354</td>
<td>Legal Research in Educational Administration</td>
<td>G 3</td>
</tr>
<tr>
<td>8356</td>
<td>Economic Viewpoints in Education</td>
<td>G 3</td>
</tr>
<tr>
<td>8359</td>
<td>Organizational Behavior: Theory and Research</td>
<td>G 3</td>
</tr>
<tr>
<td>8361</td>
<td>Social and Political Contexts of Education</td>
<td>G 3</td>
</tr>
<tr>
<td>8362</td>
<td>Educational Policy Writing</td>
<td>G 3</td>
</tr>
<tr>
<td>8385</td>
<td>Dissertation or Thesis Research: Educational Administration</td>
<td>G 1 - 18</td>
</tr>
<tr>
<td>8997</td>
<td>EdD Final Project Writing</td>
<td>G 1 - 3</td>
</tr>
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<td>8999</td>
<td>Seminar in Educational Policy</td>
<td>G 2 - 5</td>
</tr>
<tr>
<td>8997</td>
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</tbody>
</table>

## Educational Studies: Educational Policy

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<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>6000</td>
<td>Introduction to Educational Policy</td>
<td>G 3</td>
</tr>
<tr>
<td>7100</td>
<td>Education Policy Writing</td>
<td>G 3</td>
</tr>
<tr>
<td>7224</td>
<td>Educational Policy Analysis in Contemporary Culture</td>
<td>G 3</td>
</tr>
<tr>
<td>8312</td>
<td>Governance and Control in American Education</td>
<td>G 3</td>
</tr>
<tr>
<td>8355</td>
<td>Educational Policy in Democratic Society</td>
<td>G 3</td>
</tr>
<tr>
<td>8310</td>
<td>Educational Change</td>
<td>G 3</td>
</tr>
<tr>
<td>8316</td>
<td>School Business Operations Management</td>
<td>G 3</td>
</tr>
</tbody>
</table>

## Educational Studies: Educational Psychology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1159</td>
<td>Online Learning Strategies and Skills</td>
<td>U 2</td>
</tr>
</tbody>
</table>

This course has been peer reviewed and is officially recognized by Quality Matters as meeting the standards of a quality online course. For more information, visit www.qmprogram.org.

Prereq: Not open to students with credit for EduPL 159.
1259 Individual Learning and Motivation: Strategies for Success in College
Teaches learning and motivation strategies to help students manage time, improve grades, and achieve college success. Prereq: Not open to students with credit for EduPL 259.

1359 Technology-Enhanced Learning Strategies
Imparts specific and general strategies for learning in college with special attention to technology and tools that enhance learning in individual and group settings. Prereq: Not open to students with credit for EduPL 359.

2309 Psychological Perspectives on Education
Examination of research, theory, and practice pertaining to important aspects of learning and teaching; the nature of learners, cognition, problem solving, motivation, teaching approaches and assessment. Prereq: Not open to students with credit for EduPL 309.

5193 Individual Studies: Educational Psychology
Individual study projects. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

5194 Group Studies: Educational Psychology
Group study projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

5401 Adolescent Learning and Development in School Contexts
Provides students with an introduction to the field of adolescent development and psychology and applications to education. Teacher education licensure course. Prereq: Not open to students with credit for EduPL 607.

5404 Developing Discipline for Effective Learning
Causes of and procedures for dealing with school discipline problems; focus upon the teacher, student, classroom, and school situations. Teacher education licensure course. Prereq: Not open to students with credit for EduPL 615.

5892 Workshops: Educational Psychology
Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

6402 Pedagogical Studies: Introduction to Educational Psychology
Provides an overview of major perspective and issues related to classroom pedagogy including effective classroom management, teaching and learning, and school functioning. Prereq: EduTL 5102 (702 and 704), or enrollment in the MED program. Not open to students with credit for EduPL 718.

7350 Educational Leadership, Learning and Teaching
Applies theory from classroom management, learning, motivation, and teaching to the practice of PreK-12 education. Repeatable to a maximum of 6 cr hrs.

7401 Psychological Perspectives on Teaching
Psychological research (including quantitative and qualitative studies) on teaching; teacher characteristics, knowledge and beliefs; learning to teach; and the role of educational psychology in teacher education. Prereq: Not open to students with credit for EduPL 803.

7402 Educational Psychology: Cognition, Learning, and Instruction
Examination of theory and research about cognitive perspectives on classroom learning and instruction, particularly research on the teaching and learning of school subjects. Prereq: Not open to students with credit for EduPL 880.

7403 Motivation in Learning and Teaching
Examines research and theory about motivation to learn in academic settings, including studies of goal theory, social cognitive approaches, and teaching practices. Prereq: Not open to students with credit for EduPL 901.

7404 College Teaching
Designed as initial preparation for instruction at the college level; focuses on the genetic skills, strategies, and issues common to university teaching. Open to grad students committed to teaching in any area or discipline at the college level. Prereq: Not open to students with credit for EduPL 851. This course is graded S/U.

7405 Cooperative Learning: Research and Practice
Examines research, theory, and practice related to cooperative and collaborative learning, including teacher’s role, strategies and structures, and assessment of outcomes. Prereq: Not open to students with credit for EduPL 797.

7406 Social Basis of Behavior in Education
Focuses on the role of behavior in schools as social contexts, social perception, social influence, and social relations from a psychological perspective. The emphasis in this course is on understanding and mastery of conceptual, theoretical, and practical issues in social behavior in educational settings.

7434 Graduate Teaching Fellows Seminar
Study aspects of teaching and teaching support at the university level, and examine models for departmental graduate teaching associate (GTA) preparation and support programs, concentrating on application of these ideas, skills, etc. Prereq: Permission of instructor. This course is graded S/U.

7897 Special Topics: Educational Psychology
Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments. Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.

7999 Thesis Research: Educational Psychology
Research for master’s thesis purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

8189 Planned Field Experience: Educational Psychology
Planned professional teaching experience under supervision in a public school or other educational agency. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

8193 Advanced Individual Studies: Educational Psychology
Advanced individual projects. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

8194 Advanced Group Studies: Educational Psychology
Advanced group projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

8402 Classroom Research on Student Motivation
In-depth study of theories and research that address the development and support of students’ motivation to achieve in classroom settings. Prereq: Not open to students with credit for EduPL 944.

8403 Advanced Seminar in Educational Psychology
Advanced seminar in educational psychology for doctoral students. Current trends in theory and research will be critically examined.

8404 Scientific Writing in Education
Designed to help doctoral students studying Education from a social sciences perspective develop their academic writing, with a specific focus on preparing a comprehensive literature review. This course is graded S/U.

8895 Seminars: Educational Psychology
Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.

8999 Dissertation or Thesis Research: Educational Psychology
Research for thesis or dissertation purposes only. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

2011 Keys to Academic Success for Online Learners
Introduces essential learning strategies and technologies to guide students to successful online learning experiences and ultimately academic success. This two-credit, seven-week online course is designed for students entering online degree programs or taking online courses.

2211 Impact of Technology in Learning and Education
Theories, function, impact, and use of technology in formal and informal learning and education environments. Prereq: Not open to students with credit for EduPL 311.

2250 History of Technologies in Urban Schools and Communities
Introduction to the co-evolution of urban cities and different technologies with a focus on the development of urban population centers in the US.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Department</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2251</td>
<td>Technology Interventions in Urban Schools and Communities</td>
<td>3</td>
<td>Educational Technology</td>
<td></td>
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<tr>
<td>2270</td>
<td>Computers in the Classroom: An Introduction</td>
<td>2 - 4</td>
<td>Educational Technology</td>
<td></td>
</tr>
<tr>
<td>5193</td>
<td>Individual Studies: Educational Technology</td>
<td>1 - 15</td>
<td>Educational Technology</td>
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<tr>
<td>5194</td>
<td>Group Studies: Educational Technology</td>
<td>1 - 15</td>
<td>Educational Technology</td>
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<tr>
<td>5200</td>
<td>Educational Videography</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>5281</td>
<td>Introduction to Developing Educational Web Sites</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>5291</td>
<td>Media and Technology in Education</td>
<td>3</td>
<td>Educational Technology</td>
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</tr>
<tr>
<td>5892</td>
<td>Workshops: Educational Technology</td>
<td>1 - 8</td>
<td>Educational Technology</td>
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<tr>
<td>6223</td>
<td>Issues and Practices in Educational Technology</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>6271</td>
<td>Fundamentals of Computer Applications in Education and Training</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>6273</td>
<td>Improving Professional Practice of Teaching with Technology</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>6278</td>
<td>Introduction to Instructional Design</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>6282</td>
<td>Introduction to Teaching Online for K-12 Educators</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>7229</td>
<td>Technology, Society, and Education</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>7277</td>
<td>Computer-Supported Collaborative Learning</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>7278</td>
<td>Formative Evaluation of Learning Technologies</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>7288</td>
<td>Urban Communities, Technology, and Education</td>
<td>3</td>
<td>Educational Technology</td>
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<td>7289</td>
<td>Practicum in Educational Technology</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>7297</td>
<td>Designing Multimedia for Instruction</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>7999</td>
<td>Thesis Research: Educational Technology</td>
<td>1 - 18</td>
<td>Educational Technology</td>
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<td>8194</td>
<td>Advanced Group Studies: Educational Technology</td>
<td>1 - 15</td>
<td>Educational Technology</td>
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<tr>
<td>8216</td>
<td>Scholarly Perspectives in Learning Technologies</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>8253</td>
<td>Women, Technology, and Education</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>8295</td>
<td>Applied Instructional Design</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>8895</td>
<td>Seminars: Educational Technology</td>
<td>2 - 5</td>
<td>Educational Technology</td>
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</tr>
<tr>
<td>8999</td>
<td>Dissertation or Thesis Research: Educational Technology</td>
<td>1 - 18</td>
<td>Educational Technology</td>
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</tbody>
</table>

**Educational Studies: Higher Educ & Student Affairs**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<th>Notes</th>
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</thead>
<tbody>
<tr>
<td>2570</td>
<td>Team and Organizational Leadership</td>
<td>3</td>
<td>Educational Technology</td>
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<tr>
<td>2571S</td>
<td>Leadership In Community Service</td>
<td>3</td>
<td>Educational Technology</td>
<td></td>
</tr>
<tr>
<td>2572</td>
<td>Introduction to Leadership Development in Learning Organizations</td>
<td>3</td>
<td>Educational Technology</td>
<td></td>
</tr>
<tr>
<td>2575</td>
<td>Student Organization Leadership Training</td>
<td>3</td>
<td>Educational Technology</td>
<td></td>
</tr>
</tbody>
</table>

Overview of the theories and skills necessary for the practice of effective leadership in team and organizational settings. Leadership is explored as an integral component of a student's career and life plan. Repeatable to a maximum of 12 cr hrs.
## Educational Studies: Higher Educ & Student Affairs

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>2576</td>
<td>Leadership for Resident Advisors</td>
<td>U 1 - 3</td>
<td>Provides an overview of the theory and skills necessary for the practice of effective leadership in team and organizational settings. Leadership is explored as an integral component of a student's role as a Resident Advisor. Repeatable to a maximum of 12 or hrs or 4 completions.</td>
</tr>
<tr>
<td>2577</td>
<td>Crossing Boundaries: A Journey Towards Intercultural Leadership Identity Development</td>
<td>U 3</td>
<td>Builds on intellectual and experiential engagement with issues of difference, diversity, social justice, and alliance building. GE diversity soc div in the US course.</td>
</tr>
<tr>
<td>3573</td>
<td>Theories of Leadership in Learning Organizations</td>
<td>U 3</td>
<td>A focus on the particular opportunities and challenges that exist in understanding the theories related to leadership development in a complex and changing world. Repeatable to a maximum of 12 or hrs.</td>
</tr>
<tr>
<td>5193</td>
<td>Individual Studies: Higher Education and Student Affairs</td>
<td>U G 1 - 15</td>
<td>Individual study projects. Prereq: Permission of instructor. Repeatable to a maximum of 24 or hrs or 24 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies: Higher Education and Student Affairs</td>
<td>U G 1 - 15</td>
<td>Group study projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 or hrs or 15 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5892</td>
<td>Workshops: Higher Education and Student Affairs</td>
<td>U G 1 - 8</td>
<td>Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it. Prereq: Permission of instructor. Repeatable to a maximum of 9 or hrs or 9 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7500</td>
<td>Introduction to the Profession of Student Affairs</td>
<td>G 3</td>
<td>Overview of history of higher education and student affairs, the philosophical and theoretical foundations of the profession, codes of ethics, contemporary issues, and organizational structures. Prereq: Not open to students with credit for EduPL 780.</td>
</tr>
<tr>
<td>7510</td>
<td>College Student Development I</td>
<td>G 3</td>
<td>An analysis of psychosocial theories of and research on college student development and their use in the design of educational practice. Prereq: Not open to students with credit for EduPL 782.</td>
</tr>
<tr>
<td>7512</td>
<td>Interaction of Students and Environments</td>
<td>G 3</td>
<td>Analysis of components of the college environment and how students interact with it. Prereq: Not open to students with credit for EduPL 943.</td>
</tr>
<tr>
<td>7513</td>
<td>Understanding Educational Organizations</td>
<td>G 3</td>
<td>Introduction to organization theory and its application to the study of leadership, culture, adaptation, and change in higher education. Prereq: Not open to students with credit for EduPL 813.</td>
</tr>
<tr>
<td>7518</td>
<td>Group Intervention in Higher Education</td>
<td>G 3</td>
<td>Emphasis on group theory, processes, and dynamics and the development of structured learning experiences that facilitate interpersonal growth and group development in educational organizations. Prereq: Permission of instructor. Not open to students with credit for EduPL 888.</td>
</tr>
<tr>
<td>7520</td>
<td>Diversity in Higher Education</td>
<td>G 3</td>
<td>Examines structural and cultural diversity in higher education in relation to race, ethnicity, gender, socio-economic status, sexual orientation, and religion of college/university constituents. Prereq: Not open to students with credit for EduPL 887.</td>
</tr>
<tr>
<td>7530</td>
<td>Practicum in Higher Education and Student Affairs</td>
<td>G 4</td>
<td>Allows students to reflect on internship experiences by offering opportunities to share perspectives about duties and gain appreciation of how theory informs practice. Repeatable to a maximum of 12 or hrs.</td>
</tr>
<tr>
<td>7540</td>
<td>Higher Education Institutions and Core Academic Issues</td>
<td>G 3</td>
<td>Explores different types of institutions, and central issues related to academic quality, through a systems perspective, addressing missions, curriculum, faculty, students and evaluation. Prereq: Not open to students with credit for EduPL 800 or 842.</td>
</tr>
<tr>
<td>7545</td>
<td>Case Studies in Higher Education Administration</td>
<td>G 3</td>
<td>Applies theoretical and scholarly research in the field of higher education to the analysis of real-life cases from U.S. colleges and universities. Prereq: Not open to students with credit for EduPL 858.</td>
</tr>
<tr>
<td>7550</td>
<td>Women in Higher Education</td>
<td>G 3</td>
<td>Examines current situations of women in higher education; focuses on understanding the diversity of experiences and perspectives relevant to organizational structure, policy development, and curriculum. Prereq: Not open to students with credit for EduPL 839.</td>
</tr>
<tr>
<td>7554</td>
<td>Admission and Retention of College Students</td>
<td>G 3</td>
<td>Considers the recruitment, admission, financial aid, advising, student services and retention processes that result in successful students. Social issues and theoretical models are discussed. Prereq: Not open to students with credit for EduPL 910.</td>
</tr>
<tr>
<td>7556</td>
<td>Psychological Types: Implications for Education</td>
<td>G 3</td>
<td>Analysis of psychological types and temperaments and their uses in education, helping professions, and organizations. Prereq: Not open to students with credit for EduPL 947.</td>
</tr>
<tr>
<td>7558</td>
<td>Administration of Service-Learning Programs in Higher Education and Student Affairs</td>
<td>G 3</td>
<td>Examines the historical roots, concepts, and principles of service-learning in higher education; develops knowledge about service-learning and competencies for designing service-learning opportunities in higher education. Prereq: Not open to students with credit for EduPL 708.</td>
</tr>
<tr>
<td>7562</td>
<td>The Community College</td>
<td>G 3</td>
<td>Comprehensive examination of the community college, including history, current status, students, faculty, administrators, governance and administration, finance, curriculum, controversies, and future. Prereq: Not open to students with credit for EduPL 815.</td>
</tr>
<tr>
<td>7564</td>
<td>Finance of Higher Education</td>
<td>G 3</td>
<td>A study of finance of higher education with emphasis on public issues affecting higher education; criteria for identifying and developing resources for higher education institutions; and perceived productivities of departmental and academic units. Prereq: Admission to Higher Education Student Affairs program. Not open to students with credit for EduPL 820.</td>
</tr>
<tr>
<td>7566</td>
<td>Strategy &amp; University Leadership</td>
<td>G 3</td>
<td>Explores different approaches to developing strategy for colleges and universities. Examines leadership and decision-making broadly. Current special focus on the strategic use of technology in higher education, using the simulation Virtual U. Prereq: Not open to students with credit for EduPL 914.</td>
</tr>
<tr>
<td>7568</td>
<td>Higher Education and Public Policy</td>
<td>G 4</td>
<td>Increase student understanding of the historical and contemporary roles of higher education in maintaining the public good in a democratic society, and to provide an understanding of the public policy process.</td>
</tr>
<tr>
<td>7569</td>
<td>Higher Education Governance and Policy Analysis</td>
<td>G 3</td>
<td>Addresses the basic purposes of higher education and how governance practices, policy decisions, and actions serve to facilitate those purposes.</td>
</tr>
<tr>
<td>7570</td>
<td>Internationalizing Colleges and Universities</td>
<td>G 3</td>
<td>Examines the rationale and various strategies for internationalizing colleges &amp; universities. Prereq: Not open to students with credit for EduPL 870.</td>
</tr>
<tr>
<td>7574</td>
<td>Curriculum in Higher Education</td>
<td>G 3</td>
<td>An examination of the history, rationales, content, and organization of the curriculum in colleges and universities, with emphasis on the American experience. Prereq: Not open to students with credit for EduPL 941.</td>
</tr>
<tr>
<td>7576</td>
<td>Assessment in Higher Education</td>
<td>G 3</td>
<td>An introduction to assessment practices in higher education. Students will consider the impact of assessment on student learning and success in a university environment.</td>
</tr>
<tr>
<td>7597</td>
<td>Special Topics: Higher Education and Student Affairs</td>
<td>G 1 - 5</td>
<td>Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments. Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a maximum of 18 or hrs or 18 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7599</td>
<td>Thesis Research: Higher Education and Student Affairs</td>
<td>G 1 - 18</td>
<td>Research for master's thesis purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 30 or hrs or 30 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8119</td>
<td>Planned Field Experience: Higher Education and Student Affairs</td>
<td>G 1 - 15</td>
<td>Planned professional teaching experience under supervision in a public school or other educational agency. Prereq: Permission of instructor. Repeatable to a maximum of 24 or hrs or 24 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8191</td>
<td>Professional Internship</td>
<td>G 4 - 12</td>
<td>Registration for approved Higher Education &amp; Student Affairs professional/academic internships, and approved study abroad collaborative programs. Prereq: Permission of instructor. Repeatable to a maximum of 20 or hrs or 4 completions.</td>
</tr>
</tbody>
</table>
Advanced Individual Studies: Higher Education and Student Affairs

8193 Advanced Individual Studies: Higher Education and Student Affairs G 1 - 15
Advanced individual projects. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

8194 Advanced Group Studies: Higher Education and Student Affairs G 1 - 15
Advanced group projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

8511 College Student Development II G 3
Analysis of theories of reflective judgment and intellectual development of college students and their uses in educational practice. Prereq: Not open to students with credit for EduPL 954 and 954A.

8515 Advanced Seminar in Theories of College Student Development G 3
The purpose of this course is to provide an opportunity for in-depth study, dialogue, and reflection on theoretical frameworks for understanding the development of college students. Through guided reading focusing on a variety of theoretical perspectives, class discussions, and analysis of theories, students will gain increased understanding about student development. ESHESA 7510 highly recommended but not required.

8552 The Impact of College on Students G 3
Analysis of the philosophical assumptions and statistical evidence about the impact of college on students. Prereq: Not open to students with credit for EduPL 912.

8560 Legal Aspects of Higher Education Administration G 3
Statutory, regulatory, and case law are analyzed for the development and maintenance of college and university policy and administrative decision making; recent legal developments in college and university governance patterns. Prereq: Not open to students with credit for EduPL 840.

8895 Seminars: Higher Education and Student Affairs G 2 - 5
Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.

8999 Dissertation or Thesis Research: Higher Education and Student Affairs G 1 - 18
Research for thesis or dissertation purposes only. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Educational Studies: Philosophy of Education

3410 Philosophy of Education U 3
An introduction to key philosophical issues in education, focusing on the questions: Who should be educated? What should be taught? Who gets to decide? Prereq: Not open to students with credit for EduPL 650.01. GE cultures and ideas course.

4403 Ethics and the Professional Context of Teaching U 3
Examination of the practice of teaching at national, state, and local levels, highlighting the legal, professional, and ethical issues surrounding American schools and teaching. Prereq: Not open to students with credit for EduPL 650.03 or 650.

5193 Individual Studies: Philosophy of Education U G 1 - 15
Individual study projects. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

5194 Group Studies: Philosophy of Education U G 1 - 15
Group study projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

5892 Workshops: Philosophy of Education U G 1 - 8
Intensive study of a problem common to the participants for the purpose of developing sound principles and practices related to it. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

6403 Ethics and the Professional Context of Teaching G 3
Examines the practice of teaching at national, state, and local levels, highlighting the legal, professional, and ethical issues surrounding American schools and teaching. Prereq: Not open to students with credit for EduPL 609 or 650.03.

6410 Philosophy of Education G 3
An introduction to key philosophical issues in education, focusing on the questions: Who should be educated? What should be taught? Who gets to decide? Prereq: Not open to students with credit for EduPL 650.01.

7410 Modern Trends in Philosophy of Education G 3
A study of contemporary work in philosophy of education and applications of that work to educational practice. Prereq: Not open to students with credit for EduPL 702.

7411 Sources of Progressive Thought G 3
An examination of the ideas that provided the philosophical basis for progressive education with an emphasis on the historical context in which these ideas were developed. Prereq: Not open to students with credit for EduPL 811.

7413 Professional Education G 3
A study of the history, development, organization, and theories of education for the various professions, with particular attention to experience in the United States. Prereq: Not open to students with credit for EduPL 915.

7414 Examining Knowledge, Truth, and Objectivity: Philosophy of Science for Educational Researchers G 3
Examines the ongoing controversies in educational research in light of work from the philosophy of science and social science. Prereq: Not open to students with credit for EduPL 882.

7415 Philosophical Foundations of Educational Technology G 3
Examines the fundamental conceptual, ethical, and political questions surrounding technology use in education.

7897 Special Topics: Philosophy of Education G 1 - 5
Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments. Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.

7999 Thesis Research: Philosophy of Education G 1 - 18
Research for master's thesis purposes. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

8189 Planned Field Experience: Philosophy of Education G 1 - 15
Planned professional teaching experience under supervision in a public school or other educational agency. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

8193 Advanced Individual Studies: Philosophy of Education G 1 - 15
Advanced individual projects. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

8194 Advanced Group Studies: Philosophy of Education G 1 - 15
Advanced group projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

8410 Ethics and Education: Equality, Freedom, and Justice in Schools G 3
Examines the moral dimensions of educational policy and practice. Topics of consideration will include school choice, educational equality and school funding, civic education, religious and cultural accommodations, and parent and student rights. Prereq: Not open to students with credit for EduPL 828.

8411 Educational Philosophy of John Dewey G 3
A systematic study of the writings of John Dewey and their bearings upon educational theory and practice. Prereq: Not open to students with credit for EduPL 902.

8895 Seminars: Philosophy of Education G 2 - 5
Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.

8999 Dissertation or Thesis Research: Philosophy of Education G 1 - 18
Research for thesis or dissertation purposes only. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Educational Studies: Qualitative Research in Education

5193 Individual Studies: Qualitative Research in Education U G 1 - 15
Individual study projects. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

5194 Group Studies: Qualitative Research in Education U G 1 - 15
Group study projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.
Educational Studies: Qualitative Research in Education

5892 Workshop: Qualitative Research in Education  U  G  1 - 8
Intensive study of a problem common to the participants for the purpose of developing sound
principles and practices relating to it. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

6289 Digital Tools in Qualitative Research  G  3
Seminar and workshop in using digital tools for qualitative research. Uses of audio, video, and
text technologies in qualitative fieldwork; uses of web-based media and on-line documents. Prereq: 8280 or EduPL 6280, or permission of instructor.

7230 Qualitative Research for Educators  G  3
Introduction to qualitative research at the Master's level and to the history, methods, and
 substantive topics of educational ethnography. Prereq: Not open to students with credit for EduPL 798.

7240 Life History Interview Methods in Education  G  3
Explores Life History interview methods in education; provides students opportunity to
conduct life history interviews.

7256 Observing Classroom Instruction  G  3
Exploration of theoretical frameworks and qualitative methods for observational studies of
instruction in classrooms and other educational settings. Relation of classroom research to
research on teaching, student groups, and school organization. Prereq: Not open to students with credit for EduPL 856.

7260 Feminist Qualitative Methodologies  G  3
Issues of feminist qualitative methodologies include history and theoretical development,
ethics, dilemmas of representation and politics, and research design and strategies. Prereq: Not open to students with credit for EduPL 760.

7897 Special Topics: Qualitative Research in Education  G  1 - 5
Special topics for professional educators and graduate students in selected areas; designed to
provide the opportunity to update professional skills and review current research developments.
Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a
maximum of 18 cr hrs or 18 completions. This course is graded S/U.

8189 Planned Field Experience: Qualitative Research in Education  G  1 - 15
Planned professional teaching experience under supervision in a public school or other
educational agency. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

8193 Advanced Individual Studies: Qualitative Research in Education  G  1 - 15
Advanced individual projects. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

8194 Advanced Group Studies: Qualitative Research in Education  G  1 - 15
Advanced group projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

8210 Qualitative Research: The Analysis of Interaction in Educational Settings  G  3
Qualitative research and the analysis of interaction examines the history, conceptualizations
and practices of educational ethnography, field work, and naturalistic inquiry. Prereq: Not open to students with credit for EduPL 817.01.

8211 Analysis of Classroom Discourse  G  3
An introduction to the sequential analysis of classroom discourse structures. This course
addresses the face-to-face organizations of classroom order, interaction and instruction. Prereq: 8210 or EduPL 8210, or permission of instructor. Not open to students with credit for EduPL 817.02 or 817.03.

8280 Qualitative Research in Education: Paradigms, Theories, and Exemplars  G  3
Examination of issues and problems of qualitative research in education research, with
emphasis on the connections of theory, methods, politics, design, and practice in the conduct
of qualitative research in schools and other educational settings.

8290 Qualitative Research in Education: Methods and Analysis  G  3
Qualitative research practitioners. Students learn to use qualitative methods (including
interviewing, observation, participant observation, and document-based research), analysis,
and writing by designing and conducting a small-scale study. Prereq: 8280 or EduPL 6280.

8895 Seminars: Qualitative Research in Education  G  2 - 5
Seminar in topics of special interest. Students with permission of advisers may register for
more than one section of 8895, or for the same section two or more times. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.

8999 Dissertation or Thesis Research: Qualitative Research in Education  G  1 - 18
Research for thesis or dissertation purposes only. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Educational Studies: Qualitative Research in Education

3005 Learner Centered Classroom Assessment  U  3
Offers an in-depth look at classroom assessment that meets the needs of 21st century
teaching and learning. During this course, prospective teachers will determine how classroom
assessment strategies can benefit their teaching practices and their students learning. They
will study how to plan, develop, and manage student-centered assessment.

Individual study projects. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

Group study projects. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

5892 Workshop: Quantitative Research, Evaluation, and Measurement  U  G  1 - 8
Intensive study of a problem common to the participants for the purpose of developing sound
principles and practices relating to it. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

5893 Workshop: Quantitative Research, Evaluation, and Measurement  U  G  1 - 8
Provides an in-depth look at quantitative research and the analysis of interaction examines the history, conceptualizations and practices of educational ethnography, field work, and naturalistic inquiry. Prereq: Not open to students with credit for EduPL 817.01.

5894 Workshop: Quantitative Research, Evaluation, and Measurement  U  G  1 - 8
Provides a general survey of measurement and testing, including test evaluation, basics of
test construction, validity and reliability. Prereq: Introductory grad level statistics course (e.g., Stat 6641) or equiv. Not open to students with credit for EduPL 817.01.

7621 Introduction to Educational Evaluation  G  3
Introduction to educational evaluation, including history, models, theories, politics of
evaluation, and ethical standards for evaluators and the conduct of evaluations.

7625 Introduction to Educational Research  G  3
Designed to acquaint students with the nature of the research process and strategies for
conducting studies of various aspects of education and related fields.

6641 Introduction to Educational Statistics  G  4
Provides a general survey of measurement and testing, including test evaluation, basics of
test construction, validity and reliability.

7627 Sampling Designs and Survey Research Methods  G  3
Provides a general survey of measurement and testing, including test evaluation, basics of
test construction, validity and reliability.

7631 Applied Evaluation Design  G  3
Designed to acquaint students with the nature of the evaluation process and strategies for
conducting educational and other evaluations, including logic models, methods, management, and
cultural competence. Prereq: EduPL 8211 or EduPL 5661.

7635 Advanced Research Methods  G  3
In-depth analysis of threats to causal inferences and methods for developing research
designs to address those threats. Experimental, quasi-experimental, and data collection
strategies will be discussed. Prereq: EduPL 6641 or EduPL 6641, or equiv.

7643 Categorical Data Analysis  G  3
Introduction to the analysis of categorical outcomes and related models for non-normal

7648 Univariate Experimental Design  G  4
An introduction to the concepts of regression analysis and their application to research in

7661 Instrument Construction  G  3
Educational Studies: Quantitative Research in Education, Evaltn & Msrnmnt

5995 Seminars: Quantitative Research in Education  G  2 - 5
Seminar in topics of special interest. Students with permission of advisers may register for
more than one section of 5995, or for the same section two or more times. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>7663</td>
<td>Test Reliability and Validity</td>
<td>3</td>
<td>Conceptual underpinnings of test reliability and validity, historical examination of developments in reliability and validity, classical and modern trends of reliability and validity. PreReq: 6661 or EduPL 6661, or equiv.</td>
</tr>
<tr>
<td>7667</td>
<td>Authentic Assessment</td>
<td>3</td>
<td>Study of authentic assessment techniques including performance-based assessment, and portfolio assessment. Emphasis is on principles, procedures, issues, and innovations in authentic assessment. PreReq: One or more grad level course in assessment or measurement. Not open to students with credit for EduPL 878.</td>
</tr>
<tr>
<td>7897</td>
<td>Special Topics: Quantitative Research, Evaluation, and Measurement</td>
<td>1 - 5</td>
<td>Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments. PreReq: Grad standing, or registration in one of the professional schools. Repealtable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7999</td>
<td>Thesis Research: Quantitative Research, Evaluation, and Measurement</td>
<td>1 - 18</td>
<td>Research for master's thesis purposes only. PreReq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8189</td>
<td>Planned Field Experience: Quantitative Research, Evaluation, and Measurement</td>
<td>1 - 15</td>
<td>Planned professional teaching experience under supervision in a public school or other educational agency. PreReq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8193</td>
<td>Advanced Individual Studies: Quantitative Research, Evaluation, and Measurement</td>
<td>1 - 12</td>
<td>Advanced individual projects. PreReq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8194</td>
<td>Advanced Group Studies: Quantitative Research, Evaluation, and Measurement</td>
<td>1 - 15</td>
<td>Advanced group projects. PreReq: Permission of instructor. Students with permission of advisers may register for more than one section or the same section two or more times. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8648</td>
<td>Multivariate Experimental Designs</td>
<td>4</td>
<td>Design and analysis issues utilizing multivariate analysis of variance and discriminant analysis. PreReq: 7648 or EduPL 7648, or permission of instructor. Not open to students with credit for EduPL 810.</td>
</tr>
<tr>
<td>8657</td>
<td>Factor and Cluster Analyses</td>
<td>3</td>
<td>Multivariate methods useful for statistical detection and summary of relationships among variables. PreReq: 7651 or EduPL 7651, or equivalent.</td>
</tr>
<tr>
<td>8658</td>
<td>Applied Multilevel Data Analysis</td>
<td>3</td>
<td>Methods for the analysis of multilevel data with an emphasis on impact of intraclass correlation, analysis strategies, estimation, model testing, and interpretation. PreReq: 7651 or EduPL 7651, or equiv. Not open to students with credit for EduPL 938.</td>
</tr>
<tr>
<td>8659</td>
<td>Structural Equation Modeling</td>
<td>3</td>
<td>Basic concepts of structural equation modeling, including approaches to regression, path analysis, confirmatory factor analysis, and structural model building, as well as some advanced models. PreReq: Students should have successfully completed several introductory and intermediate level graduate statistics courses. Not open to students with credit for EduPL 933.</td>
</tr>
<tr>
<td>8674</td>
<td>Scaling and Item Response Theory (IRT)</td>
<td>3</td>
<td>Models and methods for scaling data, with a focus on various IRT methods including the one-parameter model. PreReq: 6661 or EduPL 6661. Not open to students with credit for EduPL 874.</td>
</tr>
<tr>
<td>8895</td>
<td>Seminars: Quantitative Research, Evaluation, and Measurement</td>
<td>2 - 5</td>
<td>Seminar in topics of special interest. Students with permission of advisers may register for more than one section of 8895, or for the same section two or more times. PreReq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions.</td>
</tr>
<tr>
<td>8999</td>
<td>Dissertation or Thesis Research: Quantitative Research, Evaluation, and Measurement</td>
<td>1 - 18</td>
<td>Research for thesis or dissertation purposes only. PreReq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
</tbody>
</table>
Educational Studies: School Psychology

5735 Methods of Instruction for Secondary Students with Mild/Moderate Disabilities
Provides advanced training in specialized techniques and advanced teaching strategies for middle and high school students with mild/moderate disabilities.
Prereq: 5743 or EduPAES 5743, and Special Education major; or permission of instructor. Not open to students with credit for EduPAES 735.

5736 Methods of Instruction I for Students with Moderate/Intensive Disabilities
Introduction to designing and developing instructional programs for children with moderate to intensive disabilities, provides skills to identify instructional goals and objectives for children using meaningful assessment techniques.
Prereq: 5742 or EduPAES 5742, and admission to Special Education program; or permission of instructor. Not open to students with credit for EduPAES 796.

5737 Methods of Instruction II for Students with Moderate/Intensive Disabilities with Practicum
Provides teacher candidates with the skills to implement and evaluate student performance using systematic data collection so that skill acquisition can be monitored over time.
Prereq: Open only to special education majors, or by permission of instructor. Not open to students with credit for EduPAES 737.

5738 Reading Instruction for Children with Disabilities or Severe Reading Deficits
Information on how to effectively instruct reading to children with reading disabilities. Students will be paired with an urban learner who is significantly below basic reading level for his/her grade.
Prereq: 5734 and 5736, or EduPAES 5734 (734) and 5736 (736), and permission of instructor; or Grad standing, and enrollment in the Special Education Program. Repeatable to a maximum of 6 cr hrs.

5742 Applied Behavior Analysis for Teachers
Study of principles of behavior for the development and maintenance of academic and social behaviors.

5743 Educational Assessment of Students With Mild/Moderate Disabilities
Advanced training and specialized techniques in teaching methods for middle and secondary students with mild disabilities.
Prereq: 5742 or EduPAES 5742, and admission to the Special Education program; or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 743.

5750 Classroom and Behavior Management for Students with Disabilities
Developing a positive learning environment and understanding definition of social skills; importance of teaching social skills, social skill needs of individuals with disabilities; how to assess, teach, and evaluate social skill instruction.
Prereq: Admission to the Special Education program, or permission of instructor. Not open to students with credit for EduPAES 721.

5760 Educational Assessment in Early Childhood
Study of the assessment of infants and preschoolers and young children with special needs with particular emphasis placed on measurement for screening and instructional program planning.
Prereq: Admission to Special Education program, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 760.

5761 Educational Intervention for Young Children with Disabilities
Study of instructional programming for language, communication, sensorimotor, cognitive, and social development in early childhood environments.
Prereq: Admission to Special Education program, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 761.

5769 Delivering Effective Services to Enhance the Inclusion of Students with Special Needs
Designed to prepare special education teachers to work with administrators, general education teachers, parents and paraprofessionals to deliver instruction in inclusive settings.
Prereq: Special Education major, or permission of instructor. Not open to students with credit for EduPAES 769.

8730 Urban Education & Precision Teaching
Provides information about the challenges in urban education and how Precision Teaching can be used to address these challenges.
Prereq: 5742 and 8861, or EduPAES 5742 (742) and 8861 (871); Grad standing or admission to the special education program, or by permission of instructor. Not open to students with credit for EduPAES 830.

8189 Field Experience in Special Education
Planned counseling, supervisory, assessment, or teaching experience in a public school or other human service setting under supervision.
Prereq: Admission to Special Education graduate program or permission of instructor. Repeatable to a maximum of 15 or hrs or 15 completions.

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5193 Individual Studies: Special Education

5191.01 EdS Internship: School Psychology
Application of school psychologists roles and functions as intern in a public school setting for EdS students.
Prereq: Majoring in School Psychology. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

5191.02 Doctoral Internship: School Psychology
Application of school psychology roles and functions as intern in a public school setting for PhD students.
Prereq: Admission to the School Psychology major. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

8998 Research: School Psychology
Conducting dissertation research.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

8999 Dissertation/Thesis Research: School Psychology
Conducting thesis or dissertation research in school psychology. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

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2251 Introduction to the Special Education Profession
An overview of special education, including individuals with sensory, orthopedic, behavioral, or learning disabilities plus individuals identified as gifted.

3189 Field Experience: Special Education
Professional service in school or community settings.
Prereq: Admission to the Special Education program, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

4191.01 Student Teaching in Special Education: Early Childhood
Student teaching for Special Education students in early childhood intervention.
Prereq: Permission of instructor. This course is graded S/U.

4191.02 Student Teaching in Special Education: Mild/Moderate
Student teaching for Special Education students in mild/moderate intervention.
Prereq: Permission of instructor. This course is graded S/U.

4191.03 Student Teaching in Special Education: Moderate/Intensive
Student teaching for Special Education students in moderate/intensive intervention.
Prereq: Permission of instructor. This course is graded S/U.

5193 Individual Studies: Special Education
Independent study in Special Education.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

5650 Introduction to Exceptional Children
An overview of the education of exceptional learners including a discussion of their characteristics and a review of historical approaches to their education and of contemporary educational practices.
Prereq: Not open to students with credit for EduPAES 650.

5678 The Parent-Professional Partnership
Knowledge and skills necessary for educators to assist parents in facilitating the development, education, and socialization of children and youth and disabilities.
Prereq: 5650 or EduPAES 5650, and Jr standing or above; or permission of instructor. Not open to students with credit for EduPAES 677.

5716 Assistive Technology in Education
Students will gain the skills needed to assist persons with disabilities in the selection and use of adaptive and assistive technology (AT).
Prereq: Not open to students with credit for EduPAES 716.

5722 Communication Skills for Children with Moderate/Intensive Disabilities
Examines current principles and practices in the development of alternative communication programs for individuals with moderate to intensive disabilities.
Prereq: Admission to special education program, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 722.

5734 Methods of Instruction for Elementary Children with Mild/Moderate Disabilities
This is a method course with a field placement that will provide students with information and strategies for working with children who have mild disabilities.
Prereq: 5742 or EduPAES 5742 (742). Open only to special education majors, or by permission of instructor. Not open to students with credit for EduPAES 734.
### Educational Studies: Special Education

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8193</td>
<td>Advanced Individual Studies: Special Education</td>
<td>G</td>
<td>1 - 12</td>
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<tr>
<td></td>
<td>Advanced independent study in Special Education.</td>
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<td>Prereq: Permission of instructor. Repeateable to a maximum of 12 or hrs or 12 completions.</td>
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<tr>
<td>8832</td>
<td>Advanced Applied Behavior Analysis</td>
<td>G</td>
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<td></td>
<td>Advanced study of principles of behavior for the development and maintenance of academic and social behaviors.</td>
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<td></td>
<td>Prereq: Special Education major, or permission of instructor. Not open to students with credit for EduPAES 832.</td>
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<tr>
<td>8833</td>
<td>Emotional and Violent Behavior in Youth: Perspective, Practice, &amp; Promise</td>
<td>G</td>
<td>3</td>
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<td></td>
<td>Historical perspectives of emotional disturbance and violence, understanding mental illness and violent behaviors, and understanding strategies of prevention and intervention.</td>
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<td>Prereq: Admission to Grad program in Special Education, or permission of instructor. Not open to students with credit for EduPAES 925.63.</td>
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<tr>
<td>8861</td>
<td>Behavioral Research Methods in Applied Settings</td>
<td>G</td>
<td>3</td>
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<tr>
<td></td>
<td>Designing, conducting, and critically evaluating research involving applications of the experimental analysis of behavior to problems and needs of individuals with disabilities in educational, clinical, and community settings.</td>
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<td></td>
<td>Prereq: Special Education major, or permission of instructor. Not open to students with credit for EduPAES 871.</td>
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<tr>
<td>8871</td>
<td>Behaviorism: Schedules and Translational Research</td>
<td>G</td>
<td>3</td>
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<tr>
<td></td>
<td>Focuses on schedules of reinforcement and specialized areas of basic research that have influenced application with persons with developmental disabilities.</td>
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<td>Prereq: 8861 or EduPAES 8861 (861), and major in Special Education, or permission of instructor. Not open to students with credit for EduPAES 861.</td>
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<tr>
<td>8874</td>
<td>Behavioral Research in Education</td>
<td>G</td>
<td>3</td>
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<tr>
<td></td>
<td>Examines methodological issues, strategies, tactics, advances, and ethical standards in behavioral research. Concepts will be applied in reviews and critiques of research in education.</td>
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<td>Prereq: 8871 or EduPAES 8871, and major in Special Education, or permission of instructor. Not open to students with credit for EduPAES 874.</td>
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<tr>
<td>8875</td>
<td>Professional Writing/Publishing in Special Education</td>
<td>G</td>
<td>3</td>
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<tr>
<td></td>
<td>Allows students to acquire skills needed to write for publication in refereed journals.</td>
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<td></td>
<td>Prereq: Admission to Special Education program, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 868.</td>
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<tr>
<td>8891</td>
<td>Contemporary Issues in Special Education</td>
<td>G</td>
<td>3 - 9</td>
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<tr>
<td></td>
<td>Weekly teleconference seminars discussing current issues and research in special education with prominent scholars from other universities and research centers.</td>
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<td></td>
<td>Prereq: Admission to Grad program in Special Education, or permission of instructor. Not open to students with credit for EduPAES 868.</td>
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<tr>
<td>8916</td>
<td>Behaviorism: Applications and Implications of Skinner’s Works</td>
<td>G</td>
<td>1%</td>
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<td>Students will be introduced to radical behaviorism as the philosophical foundation of behavior analysis and the implications of that philosophy for research and practice in special education.</td>
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<td></td>
<td>Graduate students preparing for leadership positions in special education should acquire a thorough understanding and appreciation of the philosophical foundations of the science of behavior.</td>
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<td></td>
<td>Prereq: 5742 or EduPAES 5742 (742), and a major in Special Education, or permission of instructor. Not open to students with credit for EduPAES 917.</td>
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<tr>
<td>8917</td>
<td>Verbal Behavior</td>
<td>G</td>
<td>1%</td>
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<tr>
<td></td>
<td>Overview along with the implications and applications of Skinner’s Verbal Behavior. Empirical and conceptual advances in the analysis of verbal behavior will be reviewed.</td>
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<td></td>
<td>Prereq: 5742 or EduPAES 5742 (742), and major in Special Education, or permission of instructor. Not open to students with credit for EduPAES 917.</td>
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<tr>
<td>8919</td>
<td>Behavior Approaches to College Teaching</td>
<td>G</td>
<td>3</td>
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<tr>
<td></td>
<td>Emphasizes evidence-based strategies and tactics in the design of instruction. Pedagogical content and theory will help prepare students for teaching at the college level.</td>
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<td></td>
<td>Prereq: Admission to the special education doctoral program or permission of instructor. Not open to students with credit for EduPAES 925.23.</td>
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<tr>
<td>8921</td>
<td>Ethics and Legal Issues in Special Education</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Allows students to understand and engage in decision-making regarding general and special education practices. Identify critical issues of legal cases and ethical dilemmas.</td>
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<td></td>
<td>Prereq: Open only to special education majors or by permission of instructor. Not open to students who have taken EduPAES 925.23.</td>
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</tr>
<tr>
<td>8922</td>
<td>Topics in Early Childhood Special Education</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>Review of evidence based practices in and methodological issues in early childhood special education.</td>
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<tr>
<td></td>
<td>Prereq: 5742 and 8871, or EduPAES 5742 (742) and 8871 (861); Grad standing, admission to the special education program, or by permission of instructor. Not open to students who have taken EduPAES 925.23.</td>
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<tr>
<td>8898</td>
<td>Research: Special Education</td>
<td>G</td>
<td>1 - 15</td>
</tr>
<tr>
<td></td>
<td>Research for thesis and dissertation purposes only.</td>
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<tr>
<td></td>
<td>Prereq: Grad standing in Special Education, or permission of instructor. Repeateable to a maximum of 15 hr or 15 completions. This course is graded S/U.</td>
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</tr>
<tr>
<td>8999</td>
<td>Dissertation/Thesis Research: Special Education</td>
<td>G</td>
<td>1 - 15</td>
</tr>
<tr>
<td></td>
<td>Research for thesis and dissertation purposes only.</td>
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<tr>
<td></td>
<td>Prereq: Major in Special Education, or permission of instructor. Repeateable to a maximum of 15 hr or 15 completions. This course is graded S/U.</td>
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### Educational Studies: Teacher Educ Policy & Ldrshp

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>5193</td>
<td>Individual Studies: Teacher Education</td>
<td>U</td>
<td>G</td>
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<tr>
<td></td>
<td>Individual study projects.</td>
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<td></td>
<td>Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.</td>
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<td>5194</td>
<td>Group Studies: Teacher Education</td>
<td>U</td>
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<td></td>
<td>Group study projects.</td>
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<td>Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.</td>
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<tr>
<td>5802</td>
<td>Workshops: Teacher Education</td>
<td>U</td>
<td>G</td>
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<tr>
<td></td>
<td>Intensive study of a problem common to the participants for the purpose of developing sound principles and practices relating to it.</td>
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<td></td>
<td>Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.</td>
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<tr>
<td>7420</td>
<td>Professional Education of Teachers</td>
<td>G</td>
<td>3</td>
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<tr>
<td></td>
<td>A study of the development of the teaching profession, teacher education and teacher education programs at the collegiate and university levels. Repeatable to a maximum of 6 hr.</td>
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<tr>
<td>7897</td>
<td>Special Topics: Teacher Education</td>
<td>G</td>
<td>1 - 5</td>
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<tr>
<td></td>
<td>Special topics for professional educators and graduate students in selected areas; designed to provide the opportunity to update professional skills and review current research developments.</td>
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<td></td>
<td>Prereq: Grad standing, or registration in one of the professional schools. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.</td>
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<td>8189</td>
<td>Planned Field Experience: Teacher Education</td>
<td>G</td>
<td>1 - 15</td>
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<tr>
<td></td>
<td>Planned professional teaching experience under supervision in a public school or other educational agency.</td>
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<td>Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.</td>
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<tr>
<td>8193</td>
<td>Advanced Individual Studies: Teacher Education</td>
<td>G</td>
<td>1 - 15</td>
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<tr>
<td></td>
<td>Advanced individual projects.</td>
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<td></td>
<td>Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.</td>
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<tr>
<td>8194</td>
<td>Advanced Group Studies: Teacher Education</td>
<td>G</td>
<td>1 - 15</td>
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<td></td>
<td>Advanced group projects.</td>
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<td></td>
<td>Prereq: Permission of instructor. Repeatable to a maximum of 15 or 15 completions. This course is graded S/U.</td>
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<td>8420</td>
<td>Pedagogy in Teacher Education</td>
<td>G</td>
<td>3</td>
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<td></td>
<td>Study of and experience in planning, instructing, and assessing teacher education at the collegiate level. Repeatable to a maximum of 6 cr hrs.</td>
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<td>8421</td>
<td>Inquiry in Teacher Education</td>
<td>G</td>
<td>3</td>
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<td></td>
<td>Study of research on teacher education and teacher education programs at the collegiate and university levels. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>8422</td>
<td>Program Development of Teacher Education</td>
<td>G</td>
<td>3</td>
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<tr>
<td></td>
<td>Study of the development and assessment of teacher education programs at the collegiate and university levels. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>8423</td>
<td>Issues and Problems in Teacher Education</td>
<td>G</td>
<td>3</td>
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<td>A study of emergent trends, pressing issues, and current problems in teacher education. Repeatable to a maximum of 6 cr hrs.</td>
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<td>8424</td>
<td>Field Experience and Clinical Practice in Teacher Education</td>
<td>G</td>
<td>3</td>
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<tr>
<td></td>
<td>A study of the standards, development, and assessment of field experience and clinical practice in teacher education programs. Repeatable to a maximum of 6 cr hrs.</td>
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Seminars: Teacher Education  
U G  
Lifelong Learning in the Adult Years  
U G  
Research: Workforce Development & Education  
Advanced Software Applications for Teachers and Trainers  
Foundational understanding and skill development of computer software applications.  
Prereq: Not open to students with credit for EduPAES 622 or 623.  
5622 Introduction to Software Applications for Teachers and Trainers  
U G  
5623 Advanced Software Applications for Teachers and Trainers  
U G  
5624 Foundations of Workforce Development and Education  
U G  
5631 Instructional Strategies for Career Based Intervention Programs  
Prereq: Not open to students with credit for EduPAES 624.  
5633 School Health Services  
U G  
The organization and administration of the school health function including health safety, appraisal, counseling, and advocacy.  
Pre req: Not open to students with credit for EduPAES 635.  
5636 School Health Teaching Practices  
U G  
Principles and practices for preparing, implementing, and evaluating health instruction.  
Pre req: Not open to students with credit for EduPAES 636 or 636D.  
5645 School Health Counseling  
U G  
Develops skills in brief incident counseling and to assist students, staff and parents with personal health issues.  
Pre req: Not open to students with credit for EduPAES 605.  
5646 Teaching Methods for Business Education  
U G  
Instructional concepts for teaching business education, including teaching methods and classroom management.  
Pre req: Grad standing, or enrollment in EHE major, or permission of instructor. Concur: 5189.01. Not open to students with credit for EduPAES 646 or 665.  
5649S Teaching Adults in the Workplace  
U G  
Developmental and instructional approaches.  
Pre req: Jr standing or above. Not open to students with credit for EduPAES 649.  
5655 Coordination of Work-Based Learning for Career and Technical Education  
Strategies for the development of work-based learning programs in career and technical education programs.  
Pre req: Standing in EHE, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 646.  
5656 Foundations of Career and Technical Education Teaching  
A foundational course in career and technical education for previously licensed teachers in other subject areas. Covers lab management, career-technical student organizations, advisory committees, funding, and other specialized topics related to career and technical education.  
Pre req: Grad status, or enrollment in EHE major. Not open to students with credit for EduPAES 655.  
5662 Job and Task Analysis  
U G  
The analysis of jobs and tasks for developing training programs and performance support systems.  
Pre req: Jr standing or above. Not open to students with credit for EduPAES 662 or 663.  
5665 Teaching Methods for Career and Technical Education  
U G  
Instructional concepts for teaching career and technical education, including teaching methods and classroom/lab management.  
Pre req: Grad standing or enrollment in EHE, or permission of instructor. Not open to students with credit for EduPAES 665.  
5667 Curriculum/Instruction and Assessment in Career and Technical Education  
Study of curriculum/instruction and assessment procedures in career and technical education courses and programs.  
Pre req: Grad standing, or enrollment in EHE, or permission of instructor. Concur: 5189.02. Not open to students with credit for EduPAES 667 or 675.  
5668 Career and Technical Education Capstone  
U G  
Development of professional teaching portfolio.  
Pre req: Standing in EHE, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 575.06 or 668.06.  
5672 Lifelong Learning in the Adult Years  
U G  
Pre req: Jr standing or above. Not open to students with credit for EduPAES 672.  
5677 New Career and Technical Education Teacher Clinic  
U G  
Development of basic cognitive and performance skills for new career and technical education teachers.  
Pre req: Standing in EHE, or Grad standing, or permission of instructor. Not open to students with credit for EduPAES 688.01. This course is graded S/U.
180 Educational Studies: Workforce Development & Educ

5680 Introduction to Career Based Intervention U G 2
The initial course for adding the Career Based Intervention Endorsement to an existing teaching license.
Prereq: Grad standing, or enrollment in EHE major, or permission of instructor. Not open to students with credit for EduPAES 678.

5701 Fundamentals of Teaching Adults Online U G 3
Apply the concepts of teaching presence, social presence, and cognitive presence to the design and implementation of an online course.
Prereq: Jr standing or above. Not open to students with credit for EduPAES 701 or 701D.

5784 Student Teaching in Career and Technical Education U G 12
Supervised clinical practice for career and technical education majors in a school setting. Prereq: Major in EHE, or Grad standing; and passage of Business content test; or permission of instructor. Not open to students with credit for EduPAES 784.

6701 Boot Camp for the Beginning Online Instructor G 1
This course workshop provides the just in time skills needed to begin teaching online and prepares future faculty for first time online teaching assignments. Learners will be able to develop a management plan for teaching online, develop spaces and places for learning, connect with students and design assessments appropriate for online learning environments. This is a self-paced and managed course. Prereq: Not open to students with credit for 5701. This course is graded S/U.

7289 Practicum in Teaching Adults Online G 3
Course management system and content area. Learners will design and teach a lesson online. Provides an opportunity for students to practice the skills developed in the grad minor. Specialization in teaching in a virtual environment. Prereq: EduPAES 7701, and ESWDE 5701 or EduPAES 5701; or ESETec 6282 or EduPL 6282.

7648 Evaluation of Adult Education and Human Resource Development G 3
Introduces methods of evaluating instructional approaches in education and corporate settings. Prereq: Not open to students with credit for EduPAES 696.

7696 Introduction to Education and Workforce Policy for Public and Private Sector Leaders G 3
Offers key theories, historical background, and economic context for current workforce and education policies. Prereq: Not open to students with credit for EduPAES 696. Cross-listed in PubAffs 7537.

7701 Teaching and Learning at a Distance: Foundations of the Virtual Classroom G 3
An examination of the socio-cultural, political, economic, and educational trends and issues influencing the development and delivery of distance education. Issues of accessibility, access, affordability, technology, will be discussed.

7727 Assuring Quality in Online Course Design: Moving from Face to Face to Online G 3
In this fully online course learners will use the quality matters rubric and supporting documents to inform the design and implementation of instruction specifically for an online teaching/learning environment. The learner will develop and submit for peer review an online course or portion of an online course. Learners will also serve as a peer reviewer using the quality matters standards. Cross-listed in Nursing.

7757 Aspects of Human Resource Development G 3
Overview of theories, principles and practices of the human resource development field. Prereq: Not open to students with credit for EduPAES 757.

7817 Developing Instruction for Business and Industry G 3
Using instructional theory and best practice principles to develop training programs for business and industry. Prereq: Not open to students with credit for EduPAES 811 and 817.

7827 Formal Learning in the Workplace G 3
Examines and applies theories and practices related to formal learning in work settings. Prereq: Not open to students with credit for EduPAES 827.

7935.40 Program Planning in Adult Education G 3
Examines the political, social and educational and cultural components in planning educational programs for adults. Prereq: Not open to students with credit for EduPAES 934 or 935.

8183 Advanced Individual Studies: Workforce Development & Education G 1 - 12
Advanced independent research on topics related to workforce development and education. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

8895 Seminars: Workforce Development & Education G 1 - 3
Advanced research seminars for doctoral level training in a specific WDE area. Prereq: Grad level I program, or permission of instructor. Repeatable to a maximum of 18 cr hrs of 8 completions. This course is graded S/U.

8911 Theoretical and Scholarly Perspectives on Workforce Development and Education G 3
Provides a framework for examining the theories and concepts in Workforce Development and Education. Prereq: Not open to students with credit for EduPAES 911 or 912.

8920 Workforce Development and Organizational Change G 3
Analysis of organizational change in WDE settings.

8931 Theory and Practice of Certification and Facilitation for the Workplace G 3
Theory and techniques for conducting group problem-solving activities in academic, workplace, and community learning environments. Prereq: Not open to students with credit for EduPAES 931.

8932 Adult Learning Theory G 3
Examination of significant learning theories and their application to adult learning experiences. Prereq: Not open to students with credit for EduPAES 932.

8961 Comparative Workforce Development Policy G 3
Provides a detailed overview of national workforce development policies across the world. Prereq: Not open to students with credit for EduPAES 961.

8988 Research: Workforce Development & Education G 1 - 3
Education and workforce policy studies, including role of career and technical education, adult education, and human resource development, as well as more general role of government in training. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

8999 Dissertation/Thesis Research: Workforce Development & Education G 1 - 3
An individual study course for those graduate students conducting independent research for a thesis or dissertation. Prereq: Doctoral standing, and permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions with 999.40. This course is graded S/U.

2000 Electrical and Computer Engineering I U 4
Introduction to the theory and practice of combinational and clocked sequential networks, sampling, discrete linear time invariant systems and discrete finite impulse response filters. Prereq: Math 1152 (152) or 1161.01 or 1161.02 or 1172 or 1181H or 161, and Physics 1250 or 1260 or 131, and CSE 1222 or 2221 or 202 or 206 or 221 or EnGraph 167 or Engr 1281.01H or 1281.02H or 1222 or Engineer 192.01H or 192.02H, and Engr 1182.01 or 1182.02 or 1182.03 or 1182.01H or 1182.02H or 1182.03H or Engineer 183 or 193H, or Engr 1186 (Engineer 186) and 1187 (187) and concur: 1188 (188), or 1187 and 1188 and concur: 1186, or major in CIS or CIS-PRE; and CPHR 2.0 or above. Not open to students with credit for 2000.02, 2000.03, 2000.07, 2000.08, 2001, 2004, 2017, 261, 270, 290, 291, 294.01, 294.02, or 351.

2001 Electrical and Computer Engineering I for Transfer Students Lecture AB
Transition course for transfer students, consisting of approximately the first two thirds of ECE 2000, lecture only. Introduction to the theory and practice of combinational and clocked sequential circuits. Lab must be taken concurrently. Students attend approximately the first two thirds of ECE 2000. Prereq: Math 1152 (152) or 1161.01 or 1161.02 or 1172 or 1181H or 161, and Physics 1250 or 1260 or 131, and CSE 1222 or 2221 or 202 or 206 or 221 or EnGraph 167 or Engr 1281.01H or 1281.02H or 1222 or Engineer 192.01H or 192.02H, and Engr 1182.01 or 1182.02 or 1182.03 or 1182.01H or 1182.02H or 1182.03H or Engineer 183 or 193H, or Engr 1186 (Engineer 186) and 1187 (187) and concur: 1188 (188), or 1187 and 1188 and concur: 1186, or major in CIS or CIS-PRE; and CPHR 2.0 or above. Not open to students with credit for 2000, 2000.02, 261, 290, or 294.01.

2004 Electrical and Computer Engineering I for Transfer Students Lecture C

2010 Electrical and Computer Engineering I for Transfer Students Lecture
Lecture component of ECE 2000, for transfer students only. Prereq: Permission of department, and: Math 1152 (152) or 1161.01 or 1161.02 or 1172 or 1181H, and Physics 1250 or 1260, and CSE 1222 or 2221 or Engr 1281.01H or 1281.02H or 1222; and Engr 1182.01 or 1182.02 or 1182.03 or 1182.01H or 1182.02H or 1182.03H, or Engr 1186 and 1187, with 1188 concurrent, or Engr 1187 and 1188 with 1186 concurrent, or major in CIS or CIS-PRE; Concur: 2017, CPHR 2.0 or above. Not open to students with credit for 2000, 2000.02, 2000.03, 2001, 2004, 261, 290, 291, 294.01, 294.02, or 351.
Electrical and Computer Engineering 181

3020  Introduction to Electronics  U  3
Electronics: diode and transistor models for amplifiers, switches, and logic gates. Multiple transistor circuit analysis, op amps, and electronic systems.
Preereq: 2100, 2100.06, 2100.02, 2106, 292, 294, 301, and enrollment in ECE or EngPhysics major; or prereq or concuro: 2100 or 2110, and permission of department. Not open to students with credit for 323.

3027  Electronics Laboratory  U  1
Electronic amplification, signal processing, timing, and power regulation circuits. Experiments with electronics evaluation modules and use of an analog system lab kit for electronics testing.
Preereq: 2100 or 292 or 294 (Spring 2011) or 209, and enrollment in ECE or EngPhysics major; or prereq or concuro: 3020 (323). Not open to students with credit for 327.

3030  Semiconductor Electronic Devices  U  3
Semiconductor materials and devices. Crystals; bandstructure; charge carrier statistics; excess carriers, transport; PN junction; Schottky barrier; bipolar and field-effect transistors; optoelectronic devices; nanoscale devices.
Preereq: 2100, and Physics 1281, 1281, 133, or both 1240 and 1241; and Chem 1220, 1250, or 121; and enrollment in ECE, MSE, or EngPhysics major. Prereq or concuro: Math 2415 (415) or 2174. Not open to students with credit for 331 or 432.

3040  Sustainable Energy and Power Systems I  U  3
Introduction to electrical energy systems: history, current trends, renewable and non-renewable sources, rotating machines and their operation, and smart grid initiatives.
Preereq: 2100, 2100.02, 2105, 292, or 294 (Spring 2011), and enrollment in ECE or EngPhysics major; or prereq or concuro: 2010 or 2110, and permission of department. Not open to students with credit for 341.

3047  Sustainable Energy and Energy Conversion Lab  U  1
Laboratory introducing basics of energy conversion processes for electrical energy supply systems utilizing conventional rotating machines and hardware-in-the-loop simulation system for sustainable energy systems.
Preereq: 3040 (341), and enrollment in ECE or EngPhysics major. Not open to students with credit for 447.

3050  Signals and Systems  U  3
Linear systems and models; convolution; Fourier series and transform; Laplace transform; frequency response; $z$-transform; feedback.
Preereq: 2100, or 292 or 294 (Fall 2011), or 204, 2104, 2106, 351 and 350; and Math 2588 (568) or 571; and prereq or concuro Math 2415; and enrollment in ECE or EngPhysics major; or prereq or concuro: 2010, and permission of department. Not open to students with credit for 352.

3080  Ethics and Professionalism  U  1
Professional responsibilities; IEEE code of ethics; social justice; engineering as social experimentation; safety and risk; professional issues in organizations; case studies; global awareness.
Preereq: Jr or Sr standing, and enrollment in ECE major. Not open to students with credit for 481. This course is graded S/U.

3090  Technical Writing and Presentations  U  1
Technical writing and communications skills.
Preereq: 2100, 2100.07, 2100.02, 2107, 2127, 292, or 294 (Spring 2011) or 200, and credit for a second writing course, and enrollment in ECE major. Not open to students with credit for 562.

3551  Introduction to Feedback Control Systems  U  3
Provides fundamental concepts in feedback control systems design and analysis.
Preereq: 3050 (352). Not open to students with credit for 551.

3557  Control Systems Laboratory  U  1
Utilization of real-world plants for computer control; use of a commercially available software package (Matlab) for computer-aided analysis and design.
Prereq: concuro: 551 (551), and enrollment in ECE or EngPhysics major. Not open to students with credit for 557.

3561  Advanced Digital Design  U  3
Design and analysis of sequential circuits; digital circuit design using building blocks, programmable logic devices; design of basic computer components such as arithmetic logic units.
Preereq: 2000, 2000.02, 290, 294 (Fall 2011) or 206 and 261. Prereq or concuro: 3020 (323), and enrollment in ECE, EngPhys, or CSE majors; or prereq or concuro: 2010, and permission of department. Not open to students with credit for 561.

3567  Microcontroller Lab  U  1
Laboratory in which a microcontroller is used to interface real-world hardware to make a functioning system.
Preereq: 2560 or CSE 3421 (360), and enrollment in ECE, CSE, or EngPhysics major. Not open to students with credit for 3567.01 or 567.

4193  Individual Studies in Electrical and Computer Engineering  U  0 - 12
Individual studies project.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.
182 Electrical and Computer Engineering

4900 Capstone Design U 3
Design principles and methodology culminating in a capstone design project. Prereq:
Option 1: 2560 (265), 3010 (312), 3020 (323), 3030 (432), 3040 (341), 3050 (352), and 3090 (592), and Sr standing, and enrollment in Electrical Engineering Program of Study (EES subplan) of the ECE major. Prereq or conc: 3080 (481). Option 2: 3020 (323), 3090 (592), 3561 (561), 3567 (567), CSE 2231 (321), and 2451, and Sr standing, and enrollment in Computer Engineering Program of Study (CES subplan). Prereq or conc: 3080 (481) and 5362 (662). Not open to students with credit for 4000H (683H), 4901 (683), or 682, or Enr 4903.

4900H Design with Honors Thesis Project U 3
Design principles and methodology culminating in a capstone design project. Prereq: Honors standing, and permission of department, and:
Option 1: 2560 (265), 3010 (312), 3020 (323), 3030 (432), 3040 (341), 3050 (352), and 3090 (592), and Sr standing, and enrollment in Electrical Engineering Program of Study (EES subplan) of the ECE major. Prereq or conc: 3080 (481). Option 2: 3020 (323), 3090 (592), 3561 (561), 3567 (567), CSE 2231 (321), and 2451, and Sr standing, and enrollment in CSE (CES subplan). Prereq or conc: 3080 (481) and 5362 (662). Not open to students with credit for 4900 (682), 4901 (683), 683H, or Enr 4903.

4901 Capstone Design Special U 3
Design principles and methodology culminating in a capstone design project. Teams of at least three arrange special projects with a faculty member. Prereq: Permission of department, and:
Option 1: 2560 (265), 3010 (312), 3020 (323), 3030 (432), 3040 (341), 3050 (352), and 3090 (592), and Sr standing, and enrollment in Electrical Engineering Program of Study (EES subplan) of the ECE major. Prereq or conc: 3080 (481), or Option 2: 3020 (323), 3090 (592), 3561 (561), 3567 (567), CSE 2231 (321), and 2451, and Sr standing, and enrollment in Computer Engineering Program of Study (CES subplan). Prereq or conc: 3080 (481) and 5362 (662). Not open to students with credit for 4900 (682), 4901 (683), 683H, or Enr 4903.

4998.01 Undergraduate Research U ½ - 3
Supervised undergraduate research in various topics. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.

4998.01H Undergraduate Honors Research U ½ - 3
Supervised research in various topics for undergraduate honors students. Prereq: Honors standing or GPA 3.4 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4998.02 Undergraduate Research U ½ - 3
Supervised undergraduate research in various topics. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4999.01 Undergraduate Thesis Research U ½ - 3
Undergraduate Thesis (Distinction) research on topics in Electrical & Computer Engineering. Prereq: GPA 3.0 or above, and enrollment in ECE major, and approved Thesis (Distinction) project. Repeatable to a maximum of 6 cr hrs or 6 completions.

4999.01H Undergraduate Honors Thesis Research U ½ - 3
Undergraduate Honors Thesis (Distinction) research on topics in Electrical & Computer Engineering. Prereq: Honors standing, or GPA 3.4 or above; and enrollment in ECE major; and approved Honors Thesis (Distinction) project. Repeatable to a maximum of 6 cr hrs or 6 completions.

5000 Introduction to Analog and Digital Communications U 3
Communications channel modeling, analog communication schemes, digital communication schemes, error rate analysis, and error control coding. Prereq: 3050 (352), and Stat 3470 (427) or Physics 3700 (416); or Grad standing. Not open to students with credit for 501 or 502.

5007 Communications Laboratory U ½
A laboratory in analog and digital data communications using a software-defined radio platform; amplitude modulation, frequency modulation, timing recovery, pulse shaping, phase shift keying modulation. Prereq or conc: 5000 (501), and enrollment in ECE or Eng Physics major; or Grad standing in ECE. Not open to students with credit for 4007 or 508.

5010 Wireless Propagation and Remote Sensing U 3
Practical methods for predicting tropospheric, groundwave, and ionospheric propagation, including refraction, reflection, and extinction effects. Study of remote sensing systems and their applications. Prereq: 3010 (312), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 713.

5011 Antennas U 3
Electromagnetic radiation; fundamental antenna parameters; dipole, loops, patches, broadband and other antennas; array theory; ground plane effects; horn and reflector antennas; pattern synthesis; antenna measurements. Prereq: 3010 (312), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 711.

5012 Integrated Optics U 3
Fundamentals of planar lightwave circuits and guided wave devices; laser light in anisotropic media; electrooptic and nonlinear optical effects; concepts in telecommunications, RF photonics, nanobiotechnology. Prereq: 3010 (312), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 717.

5013 Introduction to Radar Systems U 3
Introduces the fundamentals of radar such as the main concepts and techniques used in modern radar systems. The class is a survey course exposing students to a wide range of radar applications and design issues. Prereq: 3050 (352), and 3010 (312) or 3010.01, and Stat 3470 (427); or Grad standing in Eng. Not open to students with credit for 714 or 5194.01.

5017 Microwave Engineering U 4
Transmission line theory; multiconductor S-parameters; transformers, couplers, filters, resonators, circulators; electromagnetic interference and compatibility; computer-aided design; microstrip realization and testing with a network analyzer. Prereq: 3010 (312), and enrollment in ECE major; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 710.

5020 Mixed Signal VLSI U 3
Design and circuit analysis of basic VLSI structures such as registers, cell libraries, digital and analog I/O. Physical layout, timing analysis, PLLs, design tools. Prereq: 3020 (323), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 721.

5021 Analog Integrated Circuits U 3
LVLP analog ICs for mixed signal VLSI, Op-Amps, comparators, sample and hold, bandgaps, SC filters, Nyquist and oversampling converters, applications in wireless communications, bio, multimedia and integrated sensors. Prereq: 3020 (323), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 720 or 722.

5022 Radio Frequency Integrated Circuits U 3
Modulation, wireless standards, transceiver architecture, transistor models, passive component models, LNA, VCO, PLL, Mixers, integrated PA, RFIC layout. Prereq or conc: 5021 (722), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 620.

5025 Power Electronics: Devices, Circuits, and Applications U 3
Provides an introduction to power electronic conversion principles. Analytical techniques will be developed through the study of widely used converter circuits. Prereq: 3020 (323), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 624, 724, or 844.

5027 Microwave Electronics U 4
Design principles of microwave transistor amplifiers and oscillators; low-noise, power and broadband amplifiers; linearization; computer-aided design; microstrip realizations and testing in the laboratory. Prereq: 3020 (323), and enrollment in ECE major; or Grad standing in Engineering, Biological Science, or Math and Physical Sciences. Not open to students with credit for 723.

5031 Semiconductor Process Technology U 3
Discrete and integrated circuit device design, silicon VLSI processing technologies, III-V compound semiconductor device fabrication technologies, epitaxy, doping, bandgap engineering; and device measurements and failure mechanisms. Prereq: 3030 (432), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 734 or 735.

5033 Surfaces and Interfaces of Electronic Materials U 3
Provides the fundamental and practical basis for designing, processing, and characterizing the interfaces controlling the next generations of microelectronic and optoelectronic device structures. Prereq: 3030 (331), and Physics 1250 (132) or 1250H; or Grad standing in Engineering, Biological Science, or Math and Physical Sciences. Not open to students with credit for 736.

5037 Solid State Microelectronics Laboratory U 4
Introduction to laboratory techniques for semiconductor device fabrication including oxidation, chemical processes, photolithography, diffusion, and metallization; fabrication and measurements of planar diodes and transistors. Prereq or conc: 3030 (432), and acceptance in ECE, MSE or Eng Physics major; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 637.

5041 Electric Machines U 3
Principles of electromechanical energy conversion; basic structures of electric machines; steady state models and performance analysis; advanced topics on AC machine control. Prereq: 3020 (323) and 3040 (341), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 743.

5042 Power Systems U 3
A power system analysis course presenting power systems loads, modeling of transformers and power system model for voltage calculation and faults. Prereq: 3040 (341), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 640, 740, or 741.
5043 Power Systems - Analysis and Operation U G 3
Power systems analysis and operations, including steady-state analysis, state estimation, and economic operation. Prereq: 3040, and ECE major; or Sr standing and ISE major; and Math 256B; or Grad standing in engineering or biological sciences or math and physical sciences. Cross-listed in ISE.

5047 High Voltage Engineering and Laboratory U G 3
Dielectric strength and breakdown of gases, liquids, and solids, electric field design problems in power system equipment; laboratory study of high voltage insulation. Prereq: 3040 (341), and enrollment in ECE major; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 747.

5070 Neuroengineering and Neuroprosthetics U G 3
An overview of the broad field of Neuroengineering for graduate and senior undergraduate students with engineering or neuroscience backgrounds. Focusing on neural interfaces and prostheses, this course covers from basic neurophysiology and computational neuronal models to advanced neural interfaces and prostheses currently being actively developed in the field. Prereq: 3030 or BiomedE 3703; or Neurosc 3010 and permission of instructor; or Grad standing in Engineering or Neurosc. Not open to students with credit for 5194.03 or Neurosc 5070. Cross-listed in Neurosc.

5101 Introduction to Wireless Networking U G 3
Fundamental concepts in cellular design, Wireless-LANs, MANETs, and sensor networks will be explored. Specific topics will include propagation, fading, cellular-design, power-management, routing, scheduling, and control. Prereq or conc: 3561 (561) or CSE 3461.07, or Grad standing in Engineering or Math and Physical Sciences. Not open to students with credit for CSE 5463. Cross-listed in CSE 5463.

5120 Introduction to Integrated Circuits Test and Measurement U G 3
Parametric testing techniques for analog, digital, mixed and RF ICs, DSP-based testing; noise effects on accuracy; Design-for-Test and Built-in-Self Tests. Prereq: 3020, or 323 and 351, or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 625, 694 (Spring 2009), or 694.04.

5127 Power Electronics Lab U G 1
Laboratory introducing basic circuits of power electronics, and simulation and control hardware and software for various power and energy applications. Prereq: 3040 (341) and enrollment in ECE major, or Grad standing in Engineering. Not open to students with credit for 629 or 647.

5131 Lasers U G 3
Atomic interaction with radiation, cavities with gain, Gaussian beams, light-emitting diodes, and semiconductor lasers. Prereq: 3100 (312) and 3030 (432), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 732.

5132 Photonics U G 3
Fiber optics, optical systems and devices, optical detection, photonic band gaps, holography, and optical data storage. Prereq: 3100 (312), 3010.01, or 3010.02, and 3030 (432) or 3030.01; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 5132.01 or 731.

5137 Photonics Lab U G ½
Students perform experiments from among: solar cells, laser diode physics, liquid crystals, acousto-optics, optical sensing, and fiber optics. Prereq: 3100 (312) and 3030 (432), and enrollment in ECE major; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 294.05 or 737. Repeatable to a maximum of 1 cr or 2 completions.

5200 Introduction to Digital Signal Processing U G 3
Sampling and reconstruction; discrete-time rate conversion; processing of discrete-time signals, design of discrete-time filters, selected topics in adaptive and/or multidimensional signal processing. Prereq: 3050 (352), and Stat 3470 (427) or Math 530; or Grad standing. Not open to students with credit for 608 or 801.01.

5206 Medical Imaging and Processing U G 3
Introduction to medical imaging techniques (CT, MRI, PET, ultrasound), including data collection, image reconstruction, physics of tissue interactions, and digital processing of medical images. Prereq: 3050 (352), Prereq or conc: 3090 or 582, or Grad standing in ECE, BiomedE, or Biophy. Not open to students with credit for 706.

5207 Real-Time Digital Signal Processing Laboratory U G ½
Real-time signal processing using a digital signal processor; fixed point arithmetic; finite and infinite impulse response filters; adaptive filtering, fast Fourier transform. Prereq: 5200 (600), and enrollment in ECE major or Grad standing in ECE. Not open to students with credit for 4207 or 809.

5237 Photovoltaics Laboratory U G 3
Introduction to laboratory techniques for processing and fabrication of inorganic and organic solar cells, and photovoltaic testing and measurement techniques to characterize solar cells. Prereq: 3030 (432), and enrollment in ECE or MatSciEn major; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences.

5362 Computer Architecture and Design U G 3
Design of general purpose digital computers including arithmetic and control units, input/output, and memory subsystems. Prereq: 2560 (285) and 3561 (561), and undergraduate enrollment in ECE, CSE, or EngPhys major; or Grad standing in Engineering. Not open to students with credit for 662, CSE 675.01, or 679.02.

5400 Instrumentation, Signals, and Control in Transportation U G 3
Applications interdisciplinary course bringing together electrical engineering tools and transportation applications. Students gain valuable experience working in teams while learning traffic flow, surveillance and control. Prereq: 2100 or 292 or 284 (Spring 2011) or 301, and Math 2415 (415); or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 675, CivE 6750 (675), or 4750. Cross-listed in CivE 5750.

5460 Image Processing U G 3
Fundamentals and research directions in image processing: cameras, geometry, calibration, 2D and 3D image reconstruction, stereo, structure from motion, Radon filtering, motion estimation, and applications. Prereq: 5200 (600), and Stat 3470 (427) or Math 530; or Grad standing in Engineering, Biological Sciences, Statistics, Bioinformatics, or Math and Physical Sciences. Not open to students with credit for 707.

5462 HDL Design and Verification U G 3
The detailed design and verification of major components of a computer architecture using a standard hardware description language (HDL). Prereq: 5362, or 561 and 662, or CSE 675.01 or equiv; or Grad standing in Engineering. Not open to students with credit for 762 or 764.

5463 Introduction to Real Time Robotics Systems U G 3
Components of a robot system, types, electronic system components, and analog-digital conversion; robot kinematics and dynamics; error analysis; autonomous mobile robots; hardware and software. Prereq: 2560 (285), 3020 (323), and 3050 or 352; or Grad standing in Engineering. Not open to students with credit for 763.

5465 Advanced Microcomputers U G 3
An investigation of current microcomputer structures with emphasis on hardware implementation of I/O, direct memory access, interrupts, memory, and microprogramming. Prereq: 5362, or 662 and 694A, or Grad standing in Engineering. Not open to students with credit for 765.

5510 Introduction to Computational Electromagnetics U G 3
Numerical methods for solving Maxwell equations both static and electrodynamic, introduction to finite difference, finite element and integral equation methods, and applied linear algebra. Prereq: 5010 (713) and 5011 (711), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 715 or 813.

5511 Nonlinear Optics U G 3
Nonlinear optics for the generation, propagation, amplification, and control of laser light; all-optical switching and solitons; modern applications in high speed lightwave devices and systems. Prereq: 5012, or Grad standing.

5530 Fundamentals of Semiconductors for Microelectronics and Photonics U G 3
Crystal structure, semiconductor energy band structure, electron transport and carrier recombination, heterostructures, and optical and dielectric properties. Prereq: 3030 (432), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 730.

5551 State-Space Control Systems U G 3
Discrete-time state variable representations; pole placement via state-feedback; introduction to realization theory; observer design; introduction to Kalman filtering; linear quadratic regulator theory. Prereq: 3050 (352), and Stat 3470 (427) or Math 530; or Grad standing. Not open to students with credit for 650, 750, or 755.

5553 Autonomy in Vehicles U G 3
Autonomy in the context of modern vehicles; cruise control, anti-lock brake systems (ABS), steering control/keen keeping; introduction to automated highway systems (AHS). Prereq: 3551, 5551, or 551, or Grad standing in Engineering. Not open to students with credit for 753.02.

5554 Powertrain Control Systems U G 3
Application of digital control system theory, from viewpoints of input-output and state variable representations, to realistic problems in automotive powertrain systems. Prereq: 3551, 5551, or 551, or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 753.01.
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5557 Control System Implementation Laboratory U G 2
Laboratory study of advanced feedback control techniques as applied to nonlinear and multi-output systems under computer control. Prereq: 3551 (551), or Grad standing in Engineering or Math and Physical Sciences. Not open to students with credit for 758.

5759 Optimization for Static and Dynamic Systems U G 3
Numerical optimization techniques as applied to selected electrical engineering application areas. Prereq: 3551, 5551, or 551, or Grad standing in Engineering or Math and Physical Sciences. Not open to students with credit for 759.

5832 Photovoltaics and Energy Conversion U G 3
Photovoltaic materials and devices; solar cell device physics; solar cell simulation, design and operation; silicon cell technologies; thin film technologies; III-V technologies; nanоструктуры, terrestrial and space applications. Prereq: 3030, or Grad standing in Engg or Physics. Not open to students with credit for 853.01.

5833 Organic Conducting Devices U G 3
Conducting organic small molecules and polymers (structural, optical and electrical properties); organic light emitting diodes; transport and carrier injection; organic transistors; organic lasers. Prereq: 3030 (432), or permission of instructor for non-ECE majors; or Grad standing in engineering, biological sciences, or math and physical sciences. Not open to students with credit for 7833 (853.02) or 5194.04.

6001 Probability and Random Variables G 3
Probability, random variables, and random vectors for analysis and research in electrical engineering. Distribution functions, characteristic functions, functions of random variables and vectors, Markov chains. Prereq: Not open to students with credit for 804 or 805.

6010 Electromagnetic Field Theory I G 3
Maxwell's Equations; plane waves, field representations and solutions in unbounded space; waveguides and cavities; elements of Green's Functions; cylindrical and spherical waves; electromagnetic theorems. Prereq: 5010 (713), and 5011 or 613; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 719, 810, or 811.

6070 Project Management in Electrical and Computer Engineering G 3
Students learn project management principles and apply them to Electrical and Computer Engineering real-world projects. Prereq: Grad standing in ECE. Not open to students with credit for 6194.02.

6101 Computer Communication Networks G 3
Foundational understanding of network analysis, error-control, routing, congestion-control, multi-access, and their examples in the context of the existing communication networks. Prereq: 6001 (804), Stat 3470 (428), 520, Math 530, or another undergraduate course in Probability. Not open to students with credit for 861, 862, CSE 5461, 861, or 862. Cross-listed in CSE 5461.

6102 Wireless Networks G 3
Design principles and communication algorithms for wireless networks with a focus on MAC and routing protocols, scheduling algorithms, power control, and scaling properties. Prereq: 6101 (861) or CSE 6101 (861). Not open to students with credit for both 867 and 894.03.

6193 Individual Studies in Electrical and Computer Engineering G 0 - 12
Individual studies project. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr or 12 completions. This course is graded S/U.

6200 Signal Processing G 3
Multi-rate signal processing, filter banks, perfect reconstruction, time-frequency analysis, and wavelets and applications. Prereq: Not open to students with credit for 700.

6202 Stochastic Signal Processing G 3
Spectrum estimation, array processing, and adaptive filtering. Prereq: Not open to students with credit for 800 or 801.01.

6531 Fundamentals of Semiconductor Devices G 3
An overview of the physics, design, and engineering of semiconductor electronic and optoelectronic devices. Applications of silicon, compound semiconductor, and nanotechnology will be covered. Prereq: 5530 (730), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 5531.

6532 Nanofabrication and Nanoscale Devices G 3
Fundamentals of nanostuctures and devices; engineering and physics of new devices, confined structures in low dimensions and their effects on traditional devices; nanofabrication and nanomanufacturing. Prereq: 5531, 5531, or 730, or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 5532 (835.03).

6541 Advanced Topics in Sustainable Energy and Power Systems G 3
Advanced topics in sustainable energy and power systems; basic issues and solutions to sustainable energy; the concept of smart grid; cyber control and security. Prereq: 5025 (824) or 724. Not open to students with credit for 5541.

6750 Linear Systems Theory G 3

6754 Nonlinear Systems Theory G 3
Provides fundamental mathematical tools for the analysis of nonlinear dynamical systems. Basic techniques for the synthesis of nonlinear control systems are introduced. Prereq: Not open to students with credit for 5754 (754).

6999 Research for Thesis G ½ - 15
Research for thesis. Repeatable to a maximum of 15 cr or 30 completions. This course is graded S/U.

7001 Statistical Processes, Detection, and Estimation G 3
Stochastic processes; detection and decision theory; hypothesis testing; parameter estimation; and applications to communications and signal processing. Prereq: 6001 (804). Not open to students with credit for 806.

7003 Wireless Communication Theory G 3
Theory and analysis of wireless communication systems. Topics include: multipath fading channels; modulation, equalization, and coding for fading channels; MIMO systems; capacity calculations. Prereq: 6001 (804). Not open to students with credit for 807 or 809.

7005 Information Theory G 3
Mathematical models for channels and sources: entropy, information, data compression, channel capacity, Shannon's theorem, rate distortion theory. Prereq: 6001 (804). Not open to students with credit for 801.02.

7101 Computational Electromagnetics G 3
Advanced topics in numerical methods for solving Maxwell equations, including finite element methods, integral equation methods, and their hybridization. Prereq: 5510 (715) or 6010. Not open to students with credit for 813 or 814.

7103 Advanced Radar Systems G 3
Advanced and emerging topics in radar sensing. For graduates conversant with radar systems. Combination of lectures and student projects based on tutorials. Distributed sensing, bio-inspired sensing, and cognitive sensing will be covered. For each area, students will propose and study in detail a topic, and report on the theoretical foundation, state of the art, and future challenges. Prereq: 5013 or 5194.01, or permission of instructor.

7201 Analog VLSI Design G 3
Advanced analog VLSI design, chip design, validation tools, chip design projects: analog, digital, RF and mixed signal integrated circuits and systems. Prereq: 5020 (721) or 5021 (720 and 722), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 813 or 814.

7202 Advanced RF Integrated Circuits G 3
Advanced topics on RF and mm-wave circuits. Frequency synthesizers, transmitter linearization techniques (e.g. polar circuits), MIMO and phase array circuits, power D/A's. Prereq: 5022 (820), or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences. Not open to students with credit for 694K or 694.02.

7302 Physical Electronics of Advanced Semiconductor Devices G 3
MOSCAPs, Gated Diode, CMOS Bulk/SOI Transistors, Photodiodes, Carrier Transport/Storage, Scaling, Mobility, CCDs, CMOS, EEPROMs, SiGe, SiC, ISFETs, BJTs, Noise and Modeling. Prereq: 5530 (730) or 6531. Not open to students with credit for 894 (Sp'12, Advanced Semiconductor Devices) or 8194.04.

7700 Ethics and Professionalism G 1
Professionalism standards, ethical dilemmas, codes of ethics, moral frameworks and social justice, engineering as social experimentation, safety and risk, workplace rights and responsibilities, professional communications, research integrity, environmental ethics, global issues. Case study based approach. Prereq: Grad standing in ECE. This course is graded S/U.

7100 Network Optimization and Algorithms G 3
Convex optimization, probabilistic, and algorithmic methods for the design and analysis of efficient and practical algorithms for complex and stochastic communication networks. Prereq: Grad standing. Not open to students with credit for 894R.
Electrical and Computer Engineering 185

7859 Sliding Mode Control in Electromechanical Systems G 3
Sliding modes an efficient tool to control high order dynamic plants operating under
uncertainty conditions.
Prereq: 5750 (750) or MechEng 5372. Not open to students with credit for 859 or MechEng
7259 or 859. Cross-listed in MechEng 7259.

7861 Scientific Computing on Emerging Architectures G 3
Introduction to the architectural system design of emerging architectures and techniques
for managing idiosyncrasies of these architectures for developing scientific computing
applications.
Prereq: 5362, 762, CSE 2431, or 5431. Not open to students with credit for 694J or 694.03.

7864 Advanced Computer Design G 3
Parallel computer architectures, pipeline design, multiprocessor design, interprocessor
communication, multi-core architectures, case studies and application examples.
Prereq: 5362 (662) or Grad standing. Not open to students with credit for 694.

7866 Computer Vision G 3
Computer vision systems, image models, feature extraction, shape representation and
recognition, object modeling and recognition, matching, probabilistic and statistical modeling,
semantic knowledge, and face perception.
Prereq: 5460 (707). Not open to students with credit for 663.

7868 Pattern Recognition and Machine Learning G 3
Fundamentals of pattern recognition techniques and their application to computer and
electrical engineering problems, medicine, cognitive science, and bioinformatics.
Prereq: 6001 (804). Not open to students with credit for both 779 and 874.

8001 Advanced Topics in Communications G 3
Current topics in information theory and the practice of digital communications.
Prereq: 7001 (806). Repeatable to a maximum of 6 cr hrs.

8019 Advanced Topics in Electromagnetics and Optics G 3
Topics are chosen to prepare graduate students for research and application in current
problems in electromagnetics and optics.
Prereq: 6010 (719). Repeatable to a maximum of 9 hr hrs.

8101 Advanced Topics in Networking G 3
Advanced topics and new areas of interest in the theory of networking and networked
systems.
Prereq: 6001 (804). Repeatable to a maximum of 6 cr hrs.

8193 Individual Studies in Electrical and Computer Engineering G 0 - 12
Individual studies project.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.
This course is graded S/U.

8201 Advanced Topics in Signal Processing G 3
Current topics in the theory and practice of signal processing.
Prereq: 7001 (806). Repeatable to a maximum of 6 cr hrs.

8250 Continuous Time Optimal Control G 3
Embraces the three historical trends in dynamic optimization: Calculus of Variations,
Pontryagin's Minimum Principle, and Bellman's Principle of Optimality. Not only mathematical
aspects of the three principles will be taught, but also their strengths and weaknesses - it is
often less important to know how to apply a given principle than to know when
Prereq: 5551 or MechEng 5372, or permission of instructor. Not open to students with credit

8861 Special Topics on Computational Modeling G 3
Reviews the latest computational models and advanced methods for modeling processes of
diverse sorts.
Prereq: Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences.

8862 Special Topics in Advanced Computer Design Methodologies G 3
Design automation, computer aided design, testing, and design for energy efficiency.
Prereq: Grad standing in Engineering.

8881 Interdisciplinary Seminar on Biomedical Images G 0 - 3
Graduate seminars for graduate interdisciplinary studies.
This course is graded S/U.

8891 Seminar in Electrical and Computer Engineering G ½ - 2
Seminar in Electrical and Computer Engineering.
Prereq: Grad standing in ECE. Repeatable to a maximum of 12 cr hrs or 6 completions.
This course is graded S/U.

8898 Open Graduate Seminar G ½ - 3
Introduction to potential research areas. Students will attend OSU sponsored talks relevant to
topics in Electrical Engineering and critique them through written reports.
Prereq: Grad standing in ECE. Repeatable to a maximum of 6 cr hrs or 6 completions.
This course is graded S/U.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>1100.01</td>
<td>Introduction to Ohio State and Aeronautical and Astronautical Engineering</td>
<td>Prereq: Enrollment in the College of Engineering. Not open to students with credit for FAES 1100, ArtsSci 1100, HumanEc 1100, or Exp 1100.</td>
<td>1</td>
<td>Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services.</td>
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<td>1100.02</td>
<td>Introduction to Ohio State and Aviation</td>
<td>Prereq: Enrollment in the College of Engineering. Not to open to students with credit for FAES 1100, ArtsSci 1100, HumanEc 1100, or Exp 1100.</td>
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<td>1100.03</td>
<td>Introduction to Ohio State and Biomedical Engineering</td>
<td>Prereq: Enrollment in the College of Engineering. Not to open to students with credit for FAES 1100, ArtsSci 1100, HumanEc 1100, or Exp 1100.</td>
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<td>Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services.</td>
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<td>1100.04</td>
<td>Introduction to Ohio State and Chemical and Biomedical Engineering</td>
<td>Prereq: Enrollment in the College of Engineering. Not to open to students with credit for FAES 1100, ArtsSci 1100, HumanEc 1100, or Exp 1100.</td>
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<td>Introduction to the University community and College of Engineering: Strategies for successful transition, academic requirements, University procedures, grading system, resources, overview of engineering academic areas of study and services.</td>
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<td>1100.05</td>
<td>Introduction to Ohio State and Civil and Environmental Engineering</td>
<td>Prereq: Enrollment in the College of Engineering. Not to open to students with credit for FAES 1100, ArtsSci 1100, HumanEc 1100, or Exp 1100.</td>
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<td>1100.06</td>
<td>Introduction to Ohio State and Computer Science and Engineering</td>
<td>Prereq: Enrollment in the College of Engineering. Not to open to students with credit for FAES 1100, ArtsSci 1100, HumanEc 1100, or Exp 1100.</td>
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<td>1100.07</td>
<td>Introduction to Ohio State and Electrical and Computer Engineering</td>
<td>Prereq: Enrollment in the College of Engineering. Not to open to students with credit for FAES 1100, ArtsSci 1100, HumanEc 1100, or Exp 1100.</td>
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<td>1100.08</td>
<td>Introduction to Ohio State and Engineering Physics</td>
<td>Prereq: Enrollment in the College of Engineering. Not to open to students with credit for FAES 1100, ArtsSci 1100, HumanEc 1100, or Exp 1100.</td>
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<td>Introduction to Ohio State and Environmental Engineering</td>
<td>Prereq: Enrollment in the College of Engineering. Not to open to students with credit for FAES 1100, ArtsSci 1100, HumanEc 1100, or Exp 1100.</td>
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<td>1100.10</td>
<td>Introduction to Ohio State and Food, Agricultural, and Biological Engineering I</td>
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<td>1100.11</td>
<td>Introduction to Ohio State and Industrial and Systems Engineering</td>
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<td>1100.12</td>
<td>Introduction to Ohio State and Materials Science and Engineering I</td>
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<td>1100.14</td>
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<td>1100.15</td>
<td>Introduction to Ohio State and Engineering I</td>
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- **Overview of engineering academic areas of study and services.**
- **Prereq:** Enrollment in Engineering. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), or USAS 1100 (100).

<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1120.01</td>
<td>Introduction to Ohio State and Aeronautical and Astronautical Engineering II</td>
</tr>
<tr>
<td>1120.02</td>
<td>Introduction to Ohio State and Aviation II</td>
</tr>
<tr>
<td>1120.03</td>
<td>Introduction to Ohio State and Biomedical Engineering II</td>
</tr>
<tr>
<td>1120.04</td>
<td>Introduction to Ohio State and Chemical and Biomedical Engineering II</td>
</tr>
<tr>
<td>1120.05</td>
<td>Introduction to Ohio State and Civil Engineering II</td>
</tr>
<tr>
<td>1120.06</td>
<td>Introduction to Ohio State and Computer Science and Engineering II</td>
</tr>
<tr>
<td>1120.07</td>
<td>Introduction to Ohio State and Electrical and Computer Engineering II</td>
</tr>
<tr>
<td>1120.08</td>
<td>Introduction to Ohio State and Engineering Physics II</td>
</tr>
<tr>
<td>1120.09</td>
<td>Introduction to Ohio State and Environmental Engineering II</td>
</tr>
<tr>
<td>1120.10</td>
<td>Introduction to Ohio State and Food, Agricultural, and Biological Engineering II</td>
</tr>
</tbody>
</table>

- **Assessment of major / academic interests, advanced study skills, campus activities, program enrichment opportunities, engineering services, internships, and development of a personalized four-year curricular plan in an engineering major.**
- **Prereq or concur:** Engr 1110.XX. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), or USAS 1100 (100).
1120.11 Introduction to Ohio State and Industrial and Systems Engineering II
Assessment of major / academic interests, advanced study skills, campus activities, program enrichment opportunities, engineering services, internships, and development of a personalized four-year curricular plan in an engineering major.
Prereq or concur: Engr 1110.XX. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), or USAS 1100 (100).

1120.12 Introduction to Ohio State and Materials Science and Engineering II
Assessment of major / academic interests, advanced study skills, campus activities, program enrichment opportunities, engineering services, internships, and development of a personalized four-year curricular plan in an engineering major.
Prereq or concur: Engr 1110.XX. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), and USAS 1100 (100).

1120.13 Introduction to Ohio State and Mechanical Engineering II
Assessment of major / academic interests, advanced study skills, campus activities, program enrichment opportunities, engineering services, internships, and development of a personalized four-year curricular plan in an engineering major.
Prereq or concur: Engr 1110.XX. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), and USAS 1100 (100).

1120.14 Introduction to Ohio State and Welding Engineering II
Assessment of major / academic interests, advanced study skills, campus activities, program enrichment opportunities, engineering services, internships, and development of a personalized four-year curricular plan in an engineering major.
Prereq or concur: Engr 1110.XX. Not open to students with credit for Engr 1100 (Engineer 100), FABEng 1100 (100), ENR 1100 (100), and USAS 1100 (100).

1120.15 Introduction to Ohio State and Engineering II
Assessment of major / academic interests, advanced study skills, campus activities, program enrichment opportunities, engineering services, internships, and development of a personalized four-year curricular plan in an engineering major.
Prereq or concur: Engr 1110.XX. Not open to students with credit for Engr 1100 (Engineer 100), FAES 1100 (100), ENR 1100 (NatRes 100), EXP 1100 (USAS 100).

1121 Graphic Presentation
Presentation of three-dimensional subjects by precise graphics: orthographic, sectional, pictorial, and introduction to computer graphics.
Prereq: Not open to students with credit for EngrGraph 121.

1180 Spatial Visualization Practice and Development
Provide instruction and exercises to develop spatial visualization skills in preparation for Fundamentals of Engineering and advanced coursework.
Prereq: Not open to students with credit for Engineer 180.

1181.01 Fundamentals of Engineering I
Engineering problem solving utilizing computational tools such as Excel and Matlab; hands-on experimentation; modeling; ethics; teamwork; written, oral and visual communications.
Prereq or concur: Math 1150 or above. Not open to students with credit for Engineer 183.01 or 183.02.

1181.02 Fundamentals of Engineering I - Scholars
Engineering problem solving utilizing computational tools such as Excel and Matlab; hands-on experimentation; modeling; ethics; teamwork; written, oral and visual communications.
Prereq or concur: Math 1150 or above and Scholar status. Not open to students with credit for Engineer 183.01 or 183.02.

1182.01 Fundamentals of Engineering II
Introduction to 3D visualization and CAD; engineering design-build process; teamwork; written, oral and visual communications; project management.
Prereq: Engr 1181.01 or 1181.02 or 1281.01H or 1281.02H or 1281.03H. Concur: Math 1151 or above. Not open to students with credit for Engineer 181.01 or 181.02.

1182.02 Fundamentals of Engineering II - Scholars
Introduction to 3D visualization and CAD; engineering design-build process; teamwork; written, oral and visual communications; project management.
Prereq: Engr 1181.01 or 1181.02 or 1281.01H or 1281.02H or 1281.03H, and Scholar status. Concur: Math 1151 or above. Not open to students with credit for Engineer 181.01 or 181.02.

1182.03 Fundamentals of Engineering II - Nanotechnology
Introduction to 3D visualization and CAD; engineering design-build process; teamwork; written, oral and visual communications; project management.
Prereq: Engr 1181.01 or 1181.02 or 1281.01H or 1281.02H or 1281.03H. Concur: Math 1151 or above. Not open to students with credit for Engineer 181.01 or 181.02.

1183 Fundamentals of Engineering II Q2S
Engineering problem solving utilizing computational tools such as Excel and Matlab; engineering design-build process; ethics; teamwork; written, oral and visual communications; project management.
Prereq: Engineer 181.01 or 181.02. Not open to students with credit for Engineer 183.01 or 183.02 or 183.03.

1186.01 Fundamentals of Engineering for Transfer - CAD
Introduction to 3D visualization and CAD; written, oral and visual communications.
Prereq: Not open to students with credit for Engineer 186.

1186.02 Fundamentals of Engineering for Summer Academy - CAD
Introduction to 3D visualization and CAD; written, oral and visual communications.
Prereq: Admission to Engineering Summer Academy. Not open to students with credit for Engineer 186.

1187 Fundamentals of Engineering for Transfer - MATLAB
Engineering problem solving utilizing computational tools such as Matlab.
Prereq or concur: Math 1150 or above. Not open to students with credit for Engr 1221 or Engineer 187.

1188 Fundamentals of Engineering for Transfer - Problem Solving and Design
Introduction engineering problem solving and design through a hands-on design build project; teamwork; written, oral and visual communications; project management.
Prereq: Engr 1188 and 1187, or 1187 and 1121. Concur: Math 1151 or above, or equiv. Not open to students with credit for Engineer 185.

1194 Group Studies in Engineering
Special topics of general interest to engineering students.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

1194H Group Studies in Engineering - Honors
Special topics of general interest to engineering honors students.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

1195 Women in Engineering Seminar
Guest speakers share their knowledge and experience about the career options available in engineering; class discussions; activities for building professional awareness.
Prereq: First-year Women in Engineering learning community students (Autumn semester only). Repeatable to a maximum of 5 or hrs. This course is graded S/U.

1196 Minority Engineering Program Seminar
Course is designed to assist beginning engineering students in making a smooth and informed transition from high school to college. The goal is to aid each student in making a positive adjustment to his/her new environment while exploring and planning career opportunities in the broad field of engineering along with enhancing their personal growth and development.
Repeatable to a maximum of 5 or hrs. This course is graded S/U.

1198 Explore Engineering
Lectures and discussion of various engineering disciplines; current activities, expectations, responsibilities, and future trends.
This course is graded S/U.

1221 Introduction to Computer Programming in MATLAB for Engineers and Scientists
Introduction to computer programming and problem solving techniques with MATLAB applications in engineering and the physical sciences; algorithm development; programming lab experience.
Prereq: Engr 1181.01 or 1181.02 or 1187 or 1281.01H or 1281.02H or 1281.03H. Not open to students with credit for Engineer 167 or CSE 205. This course is available for EM credit. Cross-listed in CSE.

1222 Introduction to Computer Programming in C++ for Engineers and Scientists
Introduction to computer programming and to problem solving techniques using computer programs with applications in engineering and the physical sciences; algorithm development; programming lab experience.
Concur: Math 1151 or equiv. Not open to students with credit for Engr 1281.01H, 1281.02H, or Engineer 187. This course is available for EM credit. Cross-listed in CSE.

1259 Fundamentals of Academic Success for Engineering Students
Teaches time management and study skills to promote academic success. Students learn study skills and practice time management in relation to their engineering coursework.
Prereq: Enrollment in the College of Engineering.

1281.02H Fundamentals of Engineering for Honors I - Advanced Programming
Engineering problem solving utilizing computational tools such as Excel and MATLAB; algorithm development; introduction to C++ programming for engineering; hands-on experimentation; modeling; ethics; teamwork; written, oral and visual communications.
Prereq: Honors standing, and permission of instructor. Prereq or concur: Math 1151, or equiv.
Not open to students with credit for Engr 1181.01, 1181.02, Engineer 191.01H, 191.02H, or CSE/Engr 1222.
2167  Introduction to Data Acquisition and Control Using MATLAB  

- Introduction to simple micro-controllers, primarily the Arduino, using Matlab. Short lectures followed by hands-on interfacing micro-controller with sensors including temperature, pressure, current, magnetic and light intensity, force, and strain. Motor and servo control integrated with sensor knowledge leading to a final group project. Prepares engineering students for projects.

- Prereq: Engr 1221 or 1222 or 1281.01H or 1281.02H or 1281.03H or CSE 1221 or 1222 or 1223 or MechEng 2450.

2193  Individual Studies in Engineering  U  1 - 4

- Special topics of general interest to engineering students not otherwise offered.

- Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

2194  Group Studies in Engineering  U  1 - 4

- Special topics of general interest to engineering students.

- Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

2194H  Group Studies in Engineering  U  1 - 4

- Special topics of general interest to engineering students.

- Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

2201  Technology Basics 1  U  3

- Introduction to technology concepts for design, communications, energy and manufacturing-technical and practical aspects. Intended for students without extensive science or math backgrounds.

- Prereq: A GE nat sci course.

2202  Technology Basics 2  U  3

- Continuation from Tech. Basics 1 introducing technology topics including construction, transportation, bio-related technology, agriculture, sports, entertainment, medical, and nanotechnology.

- Prereq: 2201.

2360  History of Ancient Engineering  U  3

- History of ancient engineers, engineering processes and products.

- Prereq: English 1110 (110) or equiv. Not open to students with credit for Engineer 360.01. GE historical study course.

2361  History of American Engineering  U  3

- History of the interaction of American technology and society from colonial times to the present.

- Prereq: English 1110 (110) or equiv. Not open to students with credit for Engineer 360.02. GE historical study course.

2362  History of American Technology  U  3

- Discussion, analysis, and intensive writing in a technical and professional context based on study of American attitudes about technology.

- Prereq: English 1110 (110), and Soph standing or above. Not open to students with credit for Engineer 367. GE writing and comm: level 2 and diversity soc div in the US course.

2367  American Attitudes About Technology  U  3

- Discussion, analysis, and intensive writing in a technical and professional context based on study of American attitudes about technology.

- Prereq: English 1110 (110), and Soph standing or above. Not open to students with credit for Engineer 367 (367). GE writing and comm: level 2 and diversity soc div in the US course.
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4401</td>
<td>The Ohio State Engineer Magazine Staff</td>
<td>U 1-3</td>
<td>Designed for writers, photographers, and other contributors to The Ohio State Engineer Magazine. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr or 10 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4402</td>
<td>The Ohio State Engineer Magazine Management</td>
<td>U 1-3</td>
<td>Designed for the student managers of The Ohio State Engineer. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr or 10 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4410.01</td>
<td>Computer Graphics Using AutoCad</td>
<td>U 2</td>
<td>An advanced course in graphics with emphasis on the application in computer generated graphics to the solution of engineering problems. AutoCad and Civil 3D to be used. Prereq: Engr 1182, 1185, or 1282. Not open to students with credit for EnGraph 410.</td>
</tr>
<tr>
<td>4410.02</td>
<td>Computer Graphics Using SolidWorks</td>
<td>U 2</td>
<td>An advanced course in graphics with emphasis on the application on computer generated graphics to the solution of engineering problems. SolidWorks to be used. Prereq: Engr 1121 or 1182 or 1185 or 1282. Not open to students with credit for EnGraph 410.</td>
</tr>
<tr>
<td>4692.01S</td>
<td>Service Learning in Engineering</td>
<td>U 1-3</td>
<td>Experimental education characterized by participation in an organized service activity connected to specific learning outcomes. Meets community needs and includes student reflection. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr or 3 completions.</td>
</tr>
<tr>
<td>4692.02S</td>
<td>Engineering Service Learning Ghana Preparation</td>
<td>U 3</td>
<td>International Engineering Service Learning Program developed by the College of Engineering, OIA and Knwoth School of Architecture's City and Regional Planning. This IESL Program preparation course teaches the concepts of humanitarian engineering through an authentic real world service learning experience. Prereq: Second writing course, or Grad standing in the College of Engineering; or permission of instructor. Repeatable to a maximum of 4 cr or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4850</td>
<td>Translating Engineering Research to K-8 (TEK8)</td>
<td>U 3</td>
<td>Students translate a prior engineering research experience through developing and delivering and documenting mini-design challenges for an underserved K-8 school partner. Prereq: Engr 1182, 1188, or 1282H; and permission of instructor.</td>
</tr>
<tr>
<td>4891</td>
<td>Colloquia, Workshops, and College Seminars</td>
<td>U 1-4</td>
<td>Special colloquia, workshops or seminars of general interest to engineering students. Repeatable to a maximum of 2 cr or 4 cr. This course is graded S/U.</td>
</tr>
<tr>
<td>4891.01</td>
<td>College Seminar - Perspectives on Sustainability</td>
<td>U 1</td>
<td>A broad view of sustainability and the environment, with the opportunity to see sustainability through different perspectives. Speakers from different areas of expertise will present on a variety of sustainability topics so students can better understand why sustainability is both important and complex. Prereq: Sr or Grad standing. Repeatable to a maximum of 2 cr or 3 cr. This course is graded S/U.</td>
</tr>
<tr>
<td>4901</td>
<td>Introduction to Multidisciplinary Capstone Design</td>
<td>U 2</td>
<td>A multidisciplinary introduction to the modern engineering design principles, process, professional skills and specific tactical tools used for project management during design. This course is a 1/2 semester (7 week) course. Prereq: Sr or Grad standing, and permission of instructor. Not open to students with credit for Engineer 658.</td>
</tr>
<tr>
<td>4910</td>
<td>Tools for Engineering Career Success</td>
<td>U 1</td>
<td>Designed to prepare students for an effective internship/co-op and job search. Covers a range of topics including: self-assessment, goal setting, time management, communication and correspondence, resumes, and interviewing. Course will also feature experienced guest speakers from industry. Must be registered with Engineering Career Services. Prereq: Enrollment in the College of Engineering, and permission of instructor. This course is graded S/U.</td>
</tr>
<tr>
<td>4988.01</td>
<td>Undergraduate Research in Engineering Education</td>
<td>U 1-4</td>
<td>Opportunity for undergraduates to conduct research in engineering education. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr or 10 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4988.02</td>
<td>Undergraduate Research in Engineering</td>
<td>U 1-4</td>
<td>Opportunity for undergraduates to conduct research in engineering. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr or 10 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4499H</td>
<td>Engineering Education Research for Thesis</td>
<td>U 1-5</td>
<td>Honors program students are offered the opportunity to pursue independent project/research. Student presentation and thesis writing included. Prereq: Honors standing, and Sr standing, and CPHR 3.4 or above; or permission of instructor. Repeatable to a maximum of 5 cr or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5059</td>
<td>Humanitarian Engineering</td>
<td>U G 3</td>
<td>Poverty and underdevelopment. Goal of social justice. Development strategies. Engineering for the poor, weak, and developing communities. Humanitarianism in the university and engineering enterprise. Prereq: 1182 or 1282, or Grad standing; or permission of instructor.</td>
</tr>
<tr>
<td>5081</td>
<td>Engineering Capstone Collaboration</td>
<td>U G 1-3</td>
<td>Students contract to collaborate with an engineering capstone design team for at least one semester and contribute their disciplinary expertise. Prereq: Permission of director of the Engineering Education Innovation Center or the director's designee. Repeatable to a maximum of 6 cr or 2 completions.</td>
</tr>
<tr>
<td>5168</td>
<td>Data Acquisition with LabVIEW</td>
<td>U G 2</td>
<td>Intended for advanced undergraduate and graduate students who need to use computer based data acquisition (DAQ) with LabVIEW either in preparation for other coursework, or for research. It will consist of DAQ concepts, methods, and standard approaches to DAQ programming, emphasizing real world interaction with a hands-on laboratory component. Prereq: 1221 or 1222 or 1281.01H or 1281.02H or 1281.03H, or CSE 1221 or 1222 or 1223, or MechEng 2850, or Grad standing.</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies in Engineering</td>
<td>U G 1-4</td>
<td>Special topics of general interest to engineering students not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5560</td>
<td>Leading in Engineering Organizations</td>
<td>U G 1%</td>
<td>Understanding and utilizing keys to leading in engineering. Exposure to the underpinning of leadership in engineering environments including tenets, theories, debates, strategies, and innovation techniques. Prereq: Not open to students with credit for Engineer 680.</td>
</tr>
<tr>
<td>5565</td>
<td>Engineering Teamwork Seminar</td>
<td>U G 1</td>
<td>Interactive training seminar that teaches communications and interpersonal skills vital to success as an engineer in industry. Sponsored by Tau Beta Pi National Engineering Honor Society. Repeatable to a maximum of 2 cr or hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>5710</td>
<td>Engineering Research Communications</td>
<td>U G 3</td>
<td>Engineering technical communications for academic writing and professional presentations, including authoring refereed journal articles and authoring and presenting conference papers in engineering disciplines. Prereq: Sr or Grad standing.</td>
</tr>
<tr>
<td>5797.01</td>
<td>Engineering Study Abroad in North America</td>
<td>U G ½ -12</td>
<td>Study abroad in North America. Repeatable to a maximum of 30 cr or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5797.02</td>
<td>Engineering Study Abroad in Central America</td>
<td>U G ½ -12</td>
<td>Study abroad in Central America. Repeatable to a maximum of 30 cr or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5797.03</td>
<td>Engineering Study Abroad in South America</td>
<td>U G ½ -12</td>
<td>Study abroad in South America. Repeatable to a maximum of 30 cr or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5797.04</td>
<td>Engineering Study Abroad in East Asia</td>
<td>U G ½ -12</td>
<td>Study abroad in East Asia. Repeatable to a maximum of 30 cr or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5797.05</td>
<td>Engineering Study Abroad in South Asia</td>
<td>U G ½ -12</td>
<td>Study abroad in South Asia. Repeatable to a maximum of 30 cr or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5797.06</td>
<td>Engineering Study Abroad in Central Asia</td>
<td>U G ½ -12</td>
<td>Study abroad in Central Asia. Repeatable to a maximum of 30 cr or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5797.07</td>
<td>Engineering Study Abroad in Oceania</td>
<td>U G ½ -12</td>
<td>Study abroad in Oceania. Repeatable to a maximum of 30 cr or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5797.08</td>
<td>Engineering Study Abroad in Middle East</td>
<td>U G ½ -12</td>
<td>Study abroad in the Middle East. Repeatable to a maximum of 30 cr or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5797.09</td>
<td>Engineering Study Abroad in Africa</td>
<td>U G ½ -12</td>
<td>Study abroad in Africa. Repeatable to a maximum of 30 cr or 4 completions. This course is graded S/U.</td>
</tr>
</tbody>
</table>
6230 Technology Strategy & Innovation for Engineers  G  3
How technology strategy may lead to creation/persistence of competitive advantage. In contrast to core strategy course, provides series of strategic frameworks for managing high-tech businesses.
Prelec: Grad standing, and enrollment in MGEL degree program; or permission of instructor.
Not open to student with credit for BusHR 7461.

6892.01 Studies in Engineering for In-Service Teachers  G  1
In-Service Teachers will explore engineering topics and methods that may be incorporated into the courses they teach.
Prelec: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

7193 Individual Studies in Engineering  G  1 - 4
Opportunity for students to participate in supervised individual engineering experiences.
Prelec: Permission of instructor. Repeatable to a maximum of 8 hr or 4 completions. This course is graded SU.

7194 Group Studies in Engineering  G  1 - 4
Special topics of general interest to engineering students.
Prelec: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded SU.

7220 Engineering Ethics and Professionalism  G  1
To learn professionalism and ethical decision-making strategies; topics include codes of ethics, moral frameworks, engineering as social experimentation, assessment of safety and risk, employer and employee rights and responsibilities, confidentiality and conflict of interest, whistleblowing, research integrity, consulting engineers, expert witnesses. Engineering ethics case studies in detail

7891 Interdepartmental Seminar  G  1 - 4
Seminars of general interest to engineering students.
Prelec: Permission of instructor. Repeatable to a maximum of 8 hr or 4 completions.

7891 Colloquia, Workshops, and Seminars  G  1 - 4
Special colloquia, workshops or seminars of general interest to engineering students.
Prelec: Permission of instructor. Repeatable to a maximum of 8 hr or 4 completions.

8194 Group Studies in Engineering  G  1 - 4
Special topics of general interest to engineering students.
Prelec: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

8998 Research in Engineering Education  G  1 - 10
Opportunity to conduct research in engineering education.
Prelec: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded SU.

8999 Research in Engineering Education for Dissertation  G  1 - 10
Opportunity to conduct dissertation research in engineering education.
Prelec: Permission of instructor. Repeatable to a maximum of 15 hr or 15 completions. This course is graded SU.

Engineering Technology

1201.01T Exploring Engineering Technologies  U  Ø
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

1201.02T Exploring Construction Careers and Industry  U  Ø
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

1201.03T Exploring Agricultural Systems Management  U  Ø
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

2011T Small Engine Basics  U  4
A study of the theory of operation, service and maintenance and repair of small off-road gasoline and diesel engines.
Prelec: Not open to students with credit for 240T and 247T. This course is available for EM credit.

2015T Agricultural Equipment Operation and Maintenance  U  2
A study of tractors and other agricultural equipment with emphasis on operation, maintenance and adjustment for safe, efficient operation.
Prelec: Not open to students with credit for 215.01T or 215.02T. This course is available for EM credit.

2016T Tillage, Planting, Harvesting, and Storage Equipment  U  3
Principles and applications of safely operating, adjusting, and maintaining agricultural equipment and storing crops. Recommended prereq: Completion of tractor/mobile equipment safety certification process.
Prelec: Not open to students with credit for 216T, 217T, and 231T. This course is available for EM credit.
### 192 Engineering Technology

<table>
<thead>
<tr>
<th>Course Number</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>2040T</td>
<td>Soil and Water Conservation Systems</td>
<td>U 4</td>
</tr>
<tr>
<td>2050T</td>
<td>Introduction to Geographic Information Systems</td>
<td>U 3</td>
</tr>
<tr>
<td>2092T</td>
<td>Problem Solving: Career and Society Applications</td>
<td>U 2</td>
</tr>
<tr>
<td>2110T</td>
<td>Construction Drawings &amp; Basic Estimating</td>
<td>U 1</td>
</tr>
<tr>
<td>2120T</td>
<td>Building Science: Methods &amp; Components</td>
<td>U 4</td>
</tr>
<tr>
<td>2121T</td>
<td>Drafting &amp; Computer-Aided Design</td>
<td>U 2</td>
</tr>
<tr>
<td>2160T</td>
<td>Estimating and Scheduling</td>
<td>U 2</td>
</tr>
<tr>
<td>2170T</td>
<td>Construction Project Management</td>
<td>U 2</td>
</tr>
<tr>
<td>2191.01T</td>
<td>Construction Management Internship</td>
<td>U 2 - 3</td>
</tr>
<tr>
<td>2191.02T</td>
<td>Hydraulic Power and Motion Control Internship</td>
<td>U 3</td>
</tr>
<tr>
<td>2191.03T</td>
<td>Power Equipment Internship</td>
<td>U 3</td>
</tr>
<tr>
<td>2193T</td>
<td>Individual Studies</td>
<td>U 1 - 3</td>
</tr>
<tr>
<td>2194T</td>
<td>Group Studies</td>
<td>U 1 - 3</td>
</tr>
<tr>
<td>2214T</td>
<td>Fundamentals of Fluid Power and Components</td>
<td>U 4</td>
</tr>
<tr>
<td>2221T</td>
<td>Component Rebuilding</td>
<td>U 2</td>
</tr>
<tr>
<td>2226T</td>
<td>Components and Hydraulic Circuits</td>
<td>U 2</td>
</tr>
<tr>
<td>2234T</td>
<td>Basic Pneumatic Systems</td>
<td>U 2</td>
</tr>
<tr>
<td>2238T</td>
<td>Electrohydraulics and System Design</td>
<td>U 3</td>
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<tr>
<td>2240T</td>
<td>Welding Technology</td>
<td>U 3</td>
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<tr>
<td>2242T</td>
<td>Metals and Metal Manufacturing</td>
<td>U 2</td>
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<tr>
<td>2248T</td>
<td>Instrumentation and Control Systems</td>
<td>U 4</td>
</tr>
<tr>
<td>2310T</td>
<td>Building Science: Electrical and Lighting Systems</td>
<td>U 3</td>
</tr>
<tr>
<td>2312T</td>
<td>Engineering Technology Fundamentals</td>
<td>U 3</td>
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<tr>
<td>2314T</td>
<td>Introduction to Power Equipment</td>
<td>U 3</td>
</tr>
<tr>
<td>2322T</td>
<td>Basic Electricity and Electronics</td>
<td>U 3</td>
</tr>
</tbody>
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**Notes:**
- **Prereq:** Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.
- **Prereq:** Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
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<tbody>
<tr>
<td>2324T</td>
<td>Engine Diagnosis and Repair</td>
<td>3</td>
<td>An advanced study of multiple cylinder diesel engine diagnostic techniques including repair and rebuilding procedures. A grade of C or better required to meet graduation requirements for Power Equipment. Prereq: 2011T (240T) or 2314T (241T). Not open to students with credit for 2457. This course is available for EM credit.</td>
</tr>
<tr>
<td>2325T</td>
<td>Analog and Digital Electronics</td>
<td>3</td>
<td>An introduction to analog and digital electronics with emphasis on industry applications. A grade of C or better required to meet graduation requirements for Hydraulic Power and Motion Control. Prereq: 2322T (202T). Not open to students with credit for 203T. This course is available for EM credit.</td>
</tr>
<tr>
<td>2331T</td>
<td>Distributor Management</td>
<td>2</td>
<td>Organization and operation of distributor marketing of mobile equipment and fluid power components and systems; emphasis on service and parts distribution. Prereq: BusTec 1151T (151T). Not open to students with credit for 280T. This course is available for EM credit.</td>
</tr>
<tr>
<td>2332T</td>
<td>Mobile Heating and Air Conditioning</td>
<td>1</td>
<td>Principles, operation, maintenance, service, and repair of mobile heating and air conditioning components and systems. Prereq: GenMath 1030T, or Math placement level S or higher. This course is available for EM credit.</td>
</tr>
<tr>
<td>2334T</td>
<td>Vehicle Electrical and Electronic Systems</td>
<td>2</td>
<td>A study of electrical and electronic systems utilized in off-road machinery. A grade of C or better required to meet graduation requirements for Power Equipment. Prereq: 2322T (202T). Prereq or concur: TechPhys 1150T (102T). Not open to students with credit for 205T. This course is available for EM credit.</td>
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<tr>
<td>2336T</td>
<td>Methods of Power Transmission</td>
<td>2</td>
<td>Comparison and evaluation of power transmission by mechanical, electrical, and fluidic means. Prereq: GenMath 1030T, or Math placement level S or higher. Prereq or conc: EngTech 2312T. This course is available for EM credit.</td>
</tr>
<tr>
<td>2338T</td>
<td>Diesel Engine Systems</td>
<td>3</td>
<td>A study of the principles, operation, and service of diesel engine systems with emphasis on fuel systems and engine controls. Prereq: 2324T (245T) and TechPhys 1150T (102T). Prereq or conc: 2334T (205T). Not open to students with credit for 245T. This course is available for EM credit.</td>
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<tr>
<td>2345T</td>
<td>Building Science: Mechanical Systems</td>
<td>3</td>
<td>Principles, equipment, and applications of building mechanical systems with emphasis on energy and resource conservation and sustainability. Prereq: TechPhys 1150T. Not open to students with credit for 2150T. This course is available for EM credit.</td>
</tr>
<tr>
<td>2348T</td>
<td>Performance of Mobile Power Units</td>
<td>2</td>
<td>A study of operator comfort and safety, ballast, traction, stability, hitching, engine power ratings, fuel efficiency and other factors affecting the performance and application of mobile power units. A grade of C or better required to meet graduation requirements for Power Equipment. Prereq: 2336T (2373), 2338T (248T), TechPhys 1150T (102T). Not open to students with credit for 249T. This course is available for EM credit.</td>
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<tr>
<td>2440T</td>
<td>Site Development and Surveying</td>
<td>4</td>
<td>Principles of hydrology, soil mechanics, and surveying as applied to residential and commercial construction. Prereq or conc: 2110T or HortTec 2320T (235T); GenMath 1145T (145T) or Math Placement Level L, M, or N. Not open to students with credit for 253T. This course is available for EM credit.</td>
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<tr>
<td>2600T</td>
<td>Construction Safety &amp; Health</td>
<td>2</td>
<td>Health and construction safety awareness; focusing on OSHA 30-hour training and certification, OSHA mandated recordkeeping, and corporate health plan development. Prereq: English 1110.01 (110.01) or GenComm 1115T (111T).</td>
</tr>
<tr>
<td>1110.01</td>
<td>First-Year English Composition</td>
<td>3</td>
<td>Practice in the fundamentals of expository writing, as illustrated in the student's own writing &amp; in the essays of professional writers. May be available as a service learning course with five hours community service required at the Lima campus only. Prereq: EduTL1902 (108.01) or 1902.04 (108.01), or English Placement Level 4. Not open to students with credit for 1109 (109.01 or 109.02), 1101.01 (non-DL version), 1101.01H (110.01H), 1101.02 (110.02), 1101.02H (110.02H), 1101.03H (110.03), or 1167H (167H). This course is available for EM credit. GE writing and comm course: level 1.</td>
</tr>
<tr>
<td>1110.01H</td>
<td>Honors First-Year English Composition</td>
<td>3</td>
<td>Provides intensive practice in the fundamentals of expository writing, as illustrated in the student's own writing and in the essays of professional writers. Taught with an emphasis on literary texts. Prereq: Honors standing, and 28 or above on the English section of the ACT or 660 on the verbal section of the SAT; or permission of instructor. Not open to students with credit for 1110.01 (110.01), 1110.02 (110.02), 1110.02H (110.02H), 1110.03H (110.03), or 1167H (167H). This course is available for EM credit. GE writing and comm course: level 1.</td>
</tr>
<tr>
<td>1110.02</td>
<td>First-Year English Composition</td>
<td>3</td>
<td>Practice in the fundamentals of expository writing, as illustrated in the student's own writing and in the essays of professional writers. Taught with an emphasis on literary texts. Prereq: EduTL 1902 (108.01) or 1902.04 (108.01), or English Placement Level 4. Not open to students with credit for 1109 (109.01 or 109.02), 1101.01 (110.01), 1101.01H (110.01H), 1101.02 (110.02), 1101.02H (110.02H), 1101.03 (110.03), or 1167H (167H). This course is available for EM credit. GE writing and comm course: level 1.</td>
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<tr>
<td>1110.02H</td>
<td>Honors First-Year English Composition</td>
<td>3</td>
<td>Provides intensive practice in the fundamentals of expository writing, as illustrated in the student's own writing and in the essays of professional writers. Taught with an emphasis on literary texts. Prereq: Honors standing, and 28 or above on the English section of the ACT or 660 on the verbal section of the SAT; or permission of instructor. Not open to students with credit for 1110.01 (110.01), 1110.01H (110.01H), 1110.02 (110.02), 1110.02H (110.02H), 1110.03 (110.03), or 1167H (167H), or equiv. This course is available for EM credit. GE writing and comm course: level 1.</td>
</tr>
<tr>
<td>1110.03</td>
<td>First-Year English Composition</td>
<td>3</td>
<td>Intensive practice in fundamentals of expository writing illustrated in the student's own writing and essays of professional writers; offered in a small class setting and linked with an individual tutoring component in its concurrent course, 1193. This course is available for EM credit only through the AP program. Prereq: 1105, or English Placement Level 5 (Placement Level 4 allowed if student requests service). Conc: 1193. Not open to students with credit for 1110.01 (110.01), 1110.01H (110.01H), 1110.02 (110.02), 1110.02H (110.02H), 1110.03 (110.03), or equiv. GE writing and comm course: level 1.</td>
</tr>
<tr>
<td>1167H</td>
<td>First-Year Writing Seminar in the Humanities</td>
<td>3</td>
<td>Intensive critical reading and writing concerning central issues in the humanities. Prereq: Honors standing, and a 4 or 5 on the Advanced Placement Test; or permission of instructor. Not open to students with credit for 167H. GE cultures and ideas course.</td>
</tr>
<tr>
<td>1193</td>
<td>Individual Studies</td>
<td>1 - 4</td>
<td>Intensive practice in the fundamentals of expository writing. Prereq: Permission of Director of First-Year Writing. Conc: 1110.03. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>2194</td>
<td>Group Studies</td>
<td>1 - 3</td>
<td>Topic varies from semester to semester on subjects not otherwise covered by English courses. Prereq: 1110.01 (110.01), or equiv. Not open to students with 30 qtr cr hrs for 294. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
</tr>
<tr>
<td>2201</td>
<td>Selected Works of British Literature: Medieval</td>
<td>3</td>
<td>An introductory critical study of the works of major British writers from 800 to 1800. Prereq: 1110.01 (110.01), or equiv. Not open to students with credit for 2201H (201H) or 201. GE IR and diversity global studies course.</td>
</tr>
<tr>
<td>2201H</td>
<td>Selected Works of British Literature: Medieval</td>
<td>3</td>
<td>An introductory critical study of the works of major British writers from 800 to 1800. Prereq: Honors standing, and 1110.01 (110.01) or equiv. Not open to students with credit for 2201H (201H) or 201. GE IR and diversity global studies course.</td>
</tr>
<tr>
<td>2202</td>
<td>Selected Works of British Literature: 1800 to</td>
<td>3</td>
<td>An introductory critical study of the works of major British writers of the 19th and 20th centuries. Prereq: 1110.01 (110.01), or equiv. Not open to students with credit for 2202H (202H) or 202. GE IR and diversity global studies course.</td>
</tr>
<tr>
<td>2202H</td>
<td>Selected Works of British Literature: 1800 to</td>
<td>3</td>
<td>An introductory critical study of works of major British writers of the 19th and 20th centuries. Prereq: Honors standing, and 1110.01 (110.01), or equiv. Not open to students with credit for 2202H (202H) or 202. GE IR and diversity global studies course.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Description</td>
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<tr>
<td>2220</td>
<td>Introduction to Shakespeare</td>
<td>U 3</td>
<td>Study of selected plays designed to give an understanding of drama as theatrical art and as an interpretation of fundamental human experience. Prereq: 1110.01 (110.01), or equiv. Not open to students with credit for 2220H (220H) or 220. GE lit and diversity global studies course.</td>
</tr>
<tr>
<td>2220H</td>
<td>Introduction to Shakespeare</td>
<td>U 3</td>
<td>Study of selected plays designed to give an understanding of drama as theatrical art and as an interpretation of fundamental human experience. Prereq: Honors standing, and 1110.01 (110.01) or equiv. Not open to students with credit for 2220 (220) or 220H. GE lit course and diversity global studies course.</td>
</tr>
<tr>
<td>2250</td>
<td>Introduction to Poetry</td>
<td>U 3</td>
<td>Designed to help students understand and appreciate poetry through an intensive study of a representative group of poems. Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 2250 (250) or 250H. GE lit course.</td>
</tr>
<tr>
<td>2260</td>
<td>Introduction to Drama</td>
<td>U 3</td>
<td>A critical analysis of selected dramatic masterpieces from Greek antiquity to the present, designed to clarify the nature and major achievements of Western dramatic art. Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 2260H (260H) or 260. GE lit course.</td>
</tr>
<tr>
<td>2280</td>
<td>The English Bible</td>
<td>U 3</td>
<td>The Bible in English translation, with special attention to its literary qualities, conceptual content, and development within history. Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 2280 (280) or 280H. GE lit course.</td>
</tr>
<tr>
<td>2290</td>
<td>Colonial and U.S. Literature to 1865</td>
<td>U 3</td>
<td>Introductory study of significant works of U.S. literature from its Colonial origins to 1865. Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 2290. GE lit course.</td>
</tr>
<tr>
<td>2291</td>
<td>U.S. Literature: 1865 to Present</td>
<td>U 3</td>
<td>Introductory study of significant works of U.S. literature from 1865 to the present. Prereq: English 1110.01 (110.01), or equiv. Not open to student with credit for 291. GE lit course.</td>
</tr>
<tr>
<td>2296H</td>
<td>Honors Seminar: Literature and Intellectual Movements</td>
<td>U 3</td>
<td>Studies in the relationship of works of literature to their general intellectual contexts, involving such topics as Deism, Marxism, Primitivism, Freudian psychology. Prereq: Honors standing, and 1110.01 (110.01) or equiv. Not open to students with credit for 2296 (296).</td>
</tr>
<tr>
<td>2298</td>
<td>Introduction to the Study of Literature</td>
<td>U 3</td>
<td>Introduction to literary studies in all literary fields and in all genres of creative writing. Focus on a range of media, genres, and modes including literature from a range of historical periods as well as national literatures. Intensive writing instruction and substantial written work. Prereq: 1110.01.</td>
</tr>
</tbody>
</table>
3405 Special Topics in Professional Communication U 3
Study of principles and practices in technical communication, technical editing, managerial communication, international business communication, visual rhetoric, writing for the web, and scientific writing.
Prereq: A 2367 (367) second writing course. Not open to students with 10 qtr cr hrs for 405. Repeatable to a maximum of 6 cr hrs.

3465 Intermediate Creative Writing: Special Topics in Fiction U 3
Designed for students who have experience with the basic elements of fiction writing. Advanced techniques in fiction writing will be explored.
Prereq: A grade of C or above in 2265 (265). Not open to students with 10 qtr cr hrs for 465. Repeatable to a maximum of 6 cr hrs.

3466 Intermediate Creative Writing: Special Topics in Poetry U 3
Poetry workshop will explore the many figures a poem can take and will include practical and theoretical study of some various poetic forms.
Prereq: A grade of C or above in 2266 (266). Not open to students with 10 qtr cr hrs for 466. Repeatable to a maximum of 6 cr hrs.

3467S Issues and Methods in Tutoring Writing U 3
Theories and practices in tutoring and writing: explores writing-learning connections and prepares students to work as writing consultants/tutors for individuals and small writing groups.
Prereq: 1110.01 (110.01) or equiv. Not open to students with credit for 467 or ArtsSc 3467S (HumCol 467). Cross-listed in ArtsSc.

3468 Intermediate Creative Writing: Special Topics in Creative Nonfiction U 3
Designed for students who have experience with the basic elements of creative nonfiction writing. Advanced techniques will be explored.
Prereq: A grade of C or above in 2268 (268). Not open to students with 10 qtr cr hrs for 468. Repeatable to a maximum of 6 cr hrs.

3597.03 Environmental Citizenship U 3
Provides tools for environmental citizenship by teaching interdisciplinary perspectives on biophysical/sociocultural forces that shape environments. Addresses general processes through local case studies.
Prereq: Not open to students with credit for 597.03 or Geog 3597.03 (597.03). GE cross-disciplinary seminar course. Cross-listed in Geog.

3662 An Introduction to Literary Publishing U 3
An introduction to the theory and practice of editing and publishing literature.
Prereq: 2265, 2266, 2267, or 2268. Not open to students with credit for 5662.01 or 662.

4150 Cultures of Professional Writing U 3
Examines writing in various workplaces. Analyze writing discourse that shapes professional organizations. Explore ongoing technological and cultural shifts of workplace writers and the role of digital media.
Prereq: 1110 and any 2367. Not open to students with credit for HumCol 450.01, 450.02, 450.03, or CSTW 4150.

4189 Professional Writing Minor: Capstone Internship U 3
Students work onsite in an organization doing writing-related work and meet weekly to discuss related topics.
Prereq: 4150 or CSTW 4140, and 2 courses in Professional Writing minor. Not open to students with more than 6 cr hrs of CSTW 4191. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

4400 Literary Locations U 3
Study of sites of literary importance, and texts connected with them in the British Isles, Ireland, and elsewhere. Concludes with 10-day visit to location. Taught in conjunction with English 5797.
Prereq: Permission of instructor. Concurs: 5797. Not open to students with 10 qtr cr hrs for 595. Repeatable to a maximum of 6 cr hrs.

4513 Introduction to Medieval Literature U 3
The study of masterpieces from the Middle Ages, chosen for their values in interpreting medieval culture as well as for their independent literary worth.
Prereq: 6 cr hrs in English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs of 367 or 6 sem cr hrs of 2367 in any subject are acceptable towards the 6 cr hrs. Not open to students with credit for 513.

4514 Middle English Literature U 3
A study of non-Chaucerian classics from late medieval England, such as Sir Gawain and the Green Knight, Piers Plowman, and The Book of Margery Kempe.
Prereq: 6 cr hrs in English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs of 367 or 6 sem cr hrs of 2367 in any subject are acceptable towards the 6 cr hrs. Not open to students with credit for 514.

4515 Chaucer U 3
A close study of Troilus and Criseyde and The Canterbury Tales as introduction to the artist and his period.
Prereq: 6 cr hrs in English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs of 367 or 6 sem cr hrs of 2367 in any subject are acceptable towards the 6 cr hrs. Not open to students with credit for 515 or 615.

4520.01 Shakespeare U 3
Critical examination of the works, life, theater, and contexts of Shakespeare.
Prereq: 6 cr hrs in English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 6 sem cr hrs of 2367 in any subject are acceptable towards the 6 cr hrs. Not open to students with credit for 520 or 520.01.

4520.02 Special Topics in Shakespeare U 3
Focused study of the works of Shakespeare in relation to a topic or critical problem.
Prereq: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with 15 qtr cr hrs for English 520.02. Repeatable to a maximum of 9 cr hrs.

4521 Renaissance Drama U 3
Studies in English drama and theater from the early sixteenth century to 1660.
Prereq: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 621 or with 15 qtr cr hrs of 521. Repeatable to a maximum of 9 cr hrs.

4522 Renaissance Poetry U 3
Studies in English poetry from the early sixteenth century to 1660.
Pre req: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 621 or 15 qtr cr hrs of 522. Repeatable to a maximum of 9 cr hrs.

4523 Special Topics in Renaissance Literature and Culture U 3
Study of the topics, themes, and problems in the literature and culture of sixteenth and seventeenth-century England.
Prereq: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 621 or with 15 qtr cr hrs of 523. Repeatable to a maximum of 9 cr hrs.

4531 Restoration and 18th-Century Literature U 3
A selective survey of drama, poetry, novels, or other contemporary genres, such as the moral essay or autobiography.
Prereq: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 531.

4533 The Early British Novel: Origins to 1830 U 3
Features the variety of novel forms emerging in 1660-1830, as well as relevant historical and contemporary theories of the novel, marketplace, reading, or interpretation.
Prereq: 6 credit hours of English at the 2000-3000 level, or permission of instructor. 5 qtr cr hrs for 367 or 3 cr hrs for 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 533.

4535 Special Topics in Restoration and Eighteenth Century Literature U 3
British Literature and Culture
Focused study of a major theme and/or critical problem arising from literature Restoration and/or eighteenth century Britain: race and enlightenment, crime and criminals, sex and the city, the culture of sensibility, transatlantic literary culture.
Pre req: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 540.

4540 Nineteenth-Century British Poetry U 3
Studies the origins of modern poetry in the years following the French Revolution in 1789 and its development throughout the nineteenth century.
Pre req: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 540.

4542 The Nineteenth-Century British Novel U 3
Examines formal and thematic concerns in the novels of the nineteenth century in relation to the historical and cultural issues of the time.
Pre req: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 542.

4543 20th-Century British Fiction U 3
A study of the development of British fiction after 1900, with emphasis on such major novelists as Conrad, Joyce, Lawrence, and Woolf.
Pre req: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 543 or 543.

4547 20th-Century Poetry U 3
A study of twentieth-century British and American poetry, with emphasis on such major figures as Frost, Yeats, Stevens, Eliot, Williams, Auden, Bishop, and Langston Hughes.
Pre req: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 547.
<table>
<thead>
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<th>Course Code</th>
<th>Course Title</th>
<th>Department</th>
<th>Credits</th>
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<tr>
<td>4549</td>
<td>Modern Drama</td>
<td>English</td>
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<td>4550</td>
<td>Special Topics in Colonial and Early National Literature</td>
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<td>3</td>
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<tr>
<td>4551</td>
<td>Special Topics in 19th-Century U.S. Literature</td>
<td>U</td>
<td>3</td>
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<td>4551E</td>
<td>Special Topics in 19th-Century U.S. Literature Honors</td>
<td>U</td>
<td>3</td>
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<tr>
<td>4552</td>
<td>Special Topics in American Poetry Through 1915</td>
<td>U</td>
<td>3</td>
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<tr>
<td>4553</td>
<td>20th-Century U.S. Fiction</td>
<td>U</td>
<td>3</td>
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<td>4554</td>
<td>English Studies and Global Human Rights</td>
<td>U</td>
<td>3</td>
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<td>4555</td>
<td>Rhetoric and Legal Argument</td>
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<tr>
<td>4559</td>
<td>Introduction to Narrative and Narrative Theory</td>
<td>U</td>
<td>3</td>
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<tr>
<td>4560</td>
<td>Special Topics in Poetry</td>
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<td>3</td>
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<tr>
<td>4561</td>
<td>Studies in Fiction and Nonfiction</td>
<td>U</td>
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<tr>
<td>4562</td>
<td>Studies in Literature and the Other Arts</td>
<td>U</td>
<td>3</td>
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<tr>
<td>4563</td>
<td>Contemporary Literature</td>
<td>U</td>
<td>3</td>
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<tr>
<td>4564.01</td>
<td>Major Author in Medieval and Renaissance British Literature</td>
<td>U</td>
<td>3</td>
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<tr>
<td>4564.02</td>
<td>Major Author in 18th- and 19th-Century British Literature</td>
<td>U</td>
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<td>4564.03</td>
<td>Major Author in American Literature to 1900</td>
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<td>4565</td>
<td>Writing of Fiction II</td>
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<td>4566</td>
<td>Writing of Poetry II</td>
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<td>Writing of Poetry II</td>
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<td>4567</td>
<td>Rhetoric and Community Service: A Writing Seminar</td>
<td>U</td>
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<td>4568</td>
<td>Writing of Creative Nonfiction</td>
<td>U</td>
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<td>4569</td>
<td>Digital Media and English Studies</td>
<td>U</td>
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<td>4570</td>
<td>Introduction to the History of English</td>
<td>U</td>
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<tr>
<td>4571</td>
<td>Studies in the English Language</td>
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<tr>
<td>4572</td>
<td>Special Topics vary, including American English; the sociology of American dialects; language and style</td>
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**Prerequisites and Notes:**
- Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 549 or 649.
- Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 563.
- Intensive study of one of the major authors of the period.
- Intensive study of one of the major authors of the period.
- Intensive study of one of the major authors of the period.
- Intensive study of one of the major authors of the period.
- GE diversity global studies.
- GE service learning course.
- GE diversity global studies.
An examination of terminology and structures traditionally associated with the study of English grammar and usage rules, especially problematic ones, governing edited written American English. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 572.

Examination of persuasive strategies in a representative selection of genres, such as oratory, news articles, editorials, essays, advertisements, fiction, digital media, and film. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 573.01.

Honors embedded experience. Examination of persuasive strategies in a representative selection of genres, such as oratory, news articles, editorials, essays, advertisements, fiction, digital media, and film. Prereq: Honors standing, and 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level; or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 573.02.

Study of the origins, definitions, and development of writing, including historical, cultural, technological, theoretical, and/or ideological issues. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 574.

Focuses on special topics in literary forms and themes. Examples include ironic forms; the Trojan War in English literature; the hero and the anti-hero; pastoralism and romance. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 575.

Honors embedded experience. Focuses on special topics in literary forms and themes. Examples include: ironic forms; the Trojan War in English literature; the hero and the anti-hero; pastoralism and romance. Prereq: Honors standing, and 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level; or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 575.

Study of the history of literary criticism and of special topics in critical theory; study of the developments and basic texts in literary criticism and critical theory from Plato to Oscar Wilde. Prereq: Ten quarter credits or six semester credit hours for English courses at the 2000 or 3000 level or permission of instructor: Five quarter credits for 367 or three semester credits for 2367 in any subject is acceptable towards the 6 credit hours. Not open to students with credit for 576.01.

Study of the history of literary criticism and of special topics in critical theory; study of the developments and basic texts in literary criticism and critical theory from 1900 to the present. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 576.02.

Study of the history of literary criticism and of special topics in critical theory; study of the developments and basic texts in literary criticism and critical theory from 1900 to the present. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 576.03.

Study of the history of literary criticism and of special topics in critical theory; study of selected issues or movements in critical theory; topics may include feminist theory, postmodernism, narrative theory, mass culture, and queer theory. Prereq: 6 cr hrs of English courses at the 2000-3000 level, or permission of instructor. A 2367 course in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 576.03.

Study of folk groups/communities, folklore genres, issues/methods in folklore studies. How expressive repertoires shape identity, negotiate conflict, and process change in both established groups and new communities. Folklore Minor course. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 577.01. Repeatable to a maximum of 6 cr hrs.

Study of folk groups/communities, folklore genres, issues/methods in folklore studies. Study of the relationship between cultural forms, community interpretations, and social uses. Folklore Minor course. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 578.02 or 579.01. Repeatable to a maximum of 6 cr hrs.

Study of particular topics, themes, genres, or movements in cinema; topics may include particular directors (Onor Welles), periods (The Sixties), genres (horror). Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 5478 or 5478H. Repeatable to a maximum of 9 cr hrs.

Examination of particular topics, themes, genres, or movements in cinema; topics may include particular directors (Onor Welles), periods (The Sixties), genres (horror). Prereq: Honors program, and 10 cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 5478 or 5478H. Repeatable to a maximum of 9 cr hrs.

Critical analysis of nonfiction written discourse with varied topics, e.g., Victorian prose, American nature writing, business and professional writing, rhetorical discourse, biography and autobiography. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 5479.

Focuses on themes and issues in LGBTQ literature and culture. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 5480. Repeatable to a maximum of 9 cr hrs.

Study of selected issues or forms in U.S. ethnic literatures and cultures. Topic varies. Examples: Native American autobiography, Asian American poetry, Latino/a novel. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 5481. Repeatable to a maximum of 9 cr hrs.

Focuses on themes in African American Literature. Topic varies. Examples: Neo-slave narratives; the Harlem Renaissance; literature by African-American women. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 5482 or 5483. Repeatable to a maximum of 6 cr hrs.

Study of literatures written in English and produced outside of the U.S. and Britain; topics include colonial/postcolonial writing, regional literature, theoretical and historical approaches, genres. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 5484. Repeatable to a maximum of 6 cr hrs.

Study of individual or a small group of authors of interest. Topics may include race, popular culture, gender, or globalization. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 5485. Repeatable to a maximum of 9 cr hrs.

History of literacy in ongoing societies and culture; emphasis on changing ideas and impacts of literacy and its acquisition, uses, and consequences. Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 cr hrs in 367 or 3 cr hrs in 2367 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 5486. Repeatable to a maximum of 9 cr hrs.
4598 Studies in Latin/o Literature and Culture U 3
Focused study of a topic in Latin/o literary and cultural studies.
Prereq: 1110 (110) or equiv. Not open to students with 10 qtr cr hrs of 588. Repeatable to a maximum of 6 cr hrs.

4598 Studies in Latin/o Literature and Culture U 3
Foci on problems and themes in Latin American literature and culture from the late nineteenth century to the present. Topic varies. Examples: American Latin American Literature and Popular Culture; Empire and Sexuality in American Literature.
Prereq: 1110 (110) or equiv. Not open to students with 10 qtr cr hrs or 6 sem cr hrs for English 4597 (587) or CompStd 4804 (544). Repeatable to a maximum of 6 cr hrs. Cross-listed in CompStd 4803.

4599 Special Topics in Rhetoric U 3
Study of rhetorical theories and practices through examination of social communities, texts, movements, and periods both past and present.
Prereq: Honors standing, and 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. Not open to students with 10 qtr cr hrs for 591.02H. Repeatable to a maximum of 6 cr hrs.

4592 Special Topics in Women in Literature and Culture U 3
Using feminist perspectives, students will learn to analyze literature and other cultural works (film, television, digital media) written by or about women. Time period and topic vary.
Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 287 or 3 cr hrs in 2387 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 592. Repeatable to a maximum of 6 cr hrs.

4595 Literature and Law U 3
Exploration of some fundamental questions underlying the cultural representation of legal order, particularly the nature of legal authority and of individual resistance to it.
Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 287 or 3 cr hrs in 2387 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 593.

4597.01 The Disability Experience in the Contemporary World U 3
Global, national, and local issues of disability in the contemporary world; interdisciplinary approach combines historical, literary, philosophical, scientific, and service-oriented analysis of experience of disability.
Prereq: 1110.01 (110.01) or equiv, Jr or Sr standing. Not open to students with credit for 597.01. GE cross-disciplinary seminar course.

4597.02 American Regional Cultures in Transition U 3
Intensive study of selected problems (themes, movements, genres, and styles) emphasizing continuity and development in English and American literary and linguistic history; topic varies by semester.
Prereq: 1110 (110) or equiv. Not open to students with 10 qtr cr hrs or 6 sem cr hrs of 4598 (588) or CompStd 4804 (544). Repeatable to a maximum of 6 cr hrs. Cross-listed in CompStd 4804.

4590.01H The Middle Ages U 3
Intensive study of the middle ages.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.01H.

4590.02H The Renaissance U 3
Intensive study of the Renaissance.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.02H.

4590.03H The Long Eighteenth Century U 3
An intensive study of major British authors and works 1660-1820, their role in literary history, and the theory/criticism that illuminates them.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.03H.

4590.04H Romanticism U 3
Intensive study of Romanticism.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.04H.

4590.05H The Later 19th Century U 3
Intensive study of the later 19th century.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.05H.

4590.06H The Modern Period U 3
Intensive study of The Modern Period.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.06H.

4590.07H Literature in English after 1945 U 3
Intensive study of literature in English after 1945.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.07H.

4590.08H U.S. and Colonial Literature U 3
Intensive study of a topic in colonial and U.S. literature.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 590.08H.

4590.09H Honors Seminar: Selected Topics in Literature and Literary Interpretation U 3
Intensive study of selected problems (themes, movements, genres, and styles) emphasizing continuity and development in English and American literary and linguistic history; topic varies by semester.
Prereq: Honors standing, or permission of instructor. Not open to students with 6 sem cr hrs in 4590.09H or 10 qtr hrs in 5894H. Repeatable to a maximum of 6 cr hrs.

4591.01H Special Topics in the Study of Creative Writing U 3
A seminar in literary forms and themes, with a significant creative writing component.
Prereq: Honors standing, and 2285 (265) or 2286 (266) or 2288 (288); or permission of instructor. Not open to students with 10 qtr cr hrs for 591.01H. Repeatable to a maximum of 6 cr hrs.

4591.02H Special Topics in the Study of Rhetoric U 3
Study of rhetorical theories and practices through examination of social communities, texts, movements, and periods both past and present.
Prereq: Honors standing, and 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. Not open to students with 10 qtr cr hrs for 591.02H. Repeatable to a maximum of 6 cr hrs.

4592 Special Topics in Women in Literature and Culture U 3
Using feminist perspectives, students will learn to analyze literature and other cultural works (film, television, digital media) written by or about women. Time period and topic vary.
Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 287 or 3 cr hrs in 2387 in any subject is acceptable towards the 6 cr hrs. Not open to students with 10 qtr cr hrs for 592. Repeatable to a maximum of 6 cr hrs.

4595 Literature and Law U 3
Exploration of some fundamental questions underlying the cultural representation of legal order, particularly the nature of legal authority and of individual resistance to it.
Prereq: 10 qtr cr hrs or 6 cr hrs of English at 2000-3000 level, or permission of instructor. 5 qtr cr hrs in 287 or 3 cr hrs in 2387 in any subject is acceptable towards the 6 cr hrs. Not open to students with credit for 593.

4597.01 The Disability Experience in the Contemporary World U 3
Global, national, and local issues of disability in the contemporary world; interdisciplinary approach combines historical, literary, philosophical, scientific, and service-oriented analysis of experience of disability.
Prereq: 1110.01 (110.01) or equiv, and Jr or Sr standing. Not open to students with credit for 597.01. GE cross-disciplinary seminar course.

4597.02 American Regional Cultures in Transition U 3
Intensive study of selected problems (themes, movements, genres, and styles) emphasizing continuity and development in English and American literary and linguistic history; topic varies by semester.
Prereq: 1110 (110) or equiv. Not open to students with credit for 590.03H. GE cross-disciplinary seminar course.

4597.04H Interdisciplinary Approaches to Narrative in the Contemporary World U 3
Intensive study of narrative’s role in contemporary culture.
Prereq: Honors standing, and 1110.01 (110.01) or equiv, and Jr or Sr standing; or permission of instructor. Not open to students with credit for 597.04H. GE cross-disciplinary seminar course.

4598 Undergraduate Research in English U 1 - 9
Undergraduate research in variable topics; independent study.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4598H Honors Undergraduate Research in English U 1 - 9
Undergraduate research in variable topics; independent study.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4599 Undergraduate Research: Thesis U 1 - 18
A program of reading arranged for each student, with individual conferences, reports, paper and/or thesis.
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.

5191 Internship in English Studies U G 1 - 3
Students may receive credit for internships across a wide variety of career fields including, but not limited to, the arts and nonprofit administration; creative, business, and technical writing; communications, marketing and public relations; consulting; education; human resources; law and politics; media production; publishing; sales; social services and counseling; and technology services.
Prereq: Permission of instructor. Not open to students with 15 qtr cr hrs for 689. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.
200 English

5193 Individual Studies U G 1 - 3
Students may register for individual directed study under this number for work not normally offered in courses.
Pre-req: Permission of instructor and department undergraduate or graduate committee.
Not open to students with 10 qtr hrs for 693. Repeatable to a maximum of 9 cr hrs or 9 completions.
This course is graded S/U.

5194 Group Studies U G 1 - 3
Group studies.
Pre-req: Permission of instructor. Not open to students with 15 qtr hrs for 694 or 9 sem cr hrs for 5194.
Repeatable to a maximum of 9 cr hrs or 9 completions.

5662.02 Literary Publishing U G 3
Theory and practice of editing and publishing literature.
Pre-req: 2265 (265), 2266 (266), or 2268 (268), and permission of instructor. Not open to students with credit for 5662 (862).
This course is graded S/U.

5664 Studies in Graphic Narrative U G 3
Introduction to advanced study in graphic narrative and theory; thematic topics include the contemporary graphic novel, graphic autobiography, the history of comics, and comics journalism.
Pre-req: 9 cr hrs at the 3000, 4000, or 5000-level in English, or permission of instructor.
Repeatable to a maximum of 9 cr hrs or 9 completions.

5710.01 Introduction to Old English Language and Literature U G 3
Introduction to Old English language, followed by selected readings in Anglo-Saxon prose and verse texts.
Pre-req: 9 cr hrs at the 3000, 4000, or 5000-level, or equiv work in allied departments, or permission of instructor.
Not open to students with credit for 5710.01 (710) or 5710.02.

5710.02 Introduction to Old English Language and Literature U G 3
Introduction to Old English language, followed by selected readings in Anglo-Saxon prose and verse texts.
Pre-req: Grad standing, or permission of instructor. Not open to students with credit for 5710.01 (710) or 5710.02.

5720.01 Graduate Studies in Shakespeare U G 3
Study of topics, themes, and problems in advanced studies of Shakespeare.
Pre-req: 10 qtr hrs of 300, 400, or 500 level, or 9 sem cr hrs of 3000, 4000, or 5000 level, or Grad standing, or permission of instructor.
Not open to students with 5 qtr cr hrs for 720 or 6 sem cr hrs for 5720.01 or 5720.02. Repeatable to a maximum of 6 cr hrs.

5720.02 Graduate Studies in Shakespeare U G 3
Study of topics, themes, and problems in advanced studies of Shakespeare.
Pre-req: 10 qtr hrs at the 300, 400, or 500 level, or 9 sem cr hrs at the 3000, 4000, or 5000 level, or Grad standing, or permission of instructor.
Not open to students with 5 qtr cr hrs for 720 or 6 sem cr hrs for 5720.01 or 5720.02. Repeatable to a maximum of 6 cr hrs.

5721.01 Graduate Studies in Renaissance Drama U G 3
Study of topics, themes, and problems in advanced studies of English drama from the early sixteenth century to 1660.
Pre-req: 10 qtr hrs at 300, 400, or 500 level, or 9 sem cr hrs at 3000, 4000, or 5000 level, or Grad standing, or permission of instructor.
Not open to students with more than 5 qtr cr hrs for 720 or 6 sem cr hrs for 5721.01 or 5721.02. Repeatable to a maximum of 6 cr hrs.

5721.02 Graduate Studies in Renaissance Drama U G 3
Study of topics, themes, and problems in advanced studies of English drama from the early sixteenth century to 1660.
Pre-req: Grad standing, or permission of instructor. Not open to students with more than 5 qtr cr hrs for 720 or 6 sem cr hrs for 5721.01 or 5721.02. Repeatable to a maximum of 6 cr hrs.

5722.01 Graduate Studies in Renaissance Poetry U G 3
Study of topics, themes, and problems in advanced studies of English poetry from the early sixteenth century to 1660.
Pre-req: 10 qtr cr hrs in English at the 300, 400, or 500 level, or 9 sem cr hrs at the 3000, 4000, or 5000 level, or Grad standing, or permission of instructor.
Not open to students with 6 qtr cr hrs for 5722.01 or 5722.02. Repeatable to a maximum of 6 cr hrs.

5722.02 Graduate Studies in Renaissance Poetry U G 3
Study of topics, themes, and problems in advanced studies of English poetry from the early sixteenth century to 1660.
Pre-req: Grad standing, or permission of instructor. Not open to students with 6 cr hrs for 5722.01 or 5722.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5723.01 Graduate Studies in Renaissance Literature and Culture U G 3
Study of topics, themes, and problems in advanced studies of the literature and culture of sixteenth- and seventeenth-century England.
Pre-req: 10 qtr cr hrs in English at the 300, 400, or 500 level, or 9 sem cr hrs at the 3000, 4000, or 5000 level, or Grad standing, or permission of instructor.
Not open to students with 6 qtr cr hrs for 5723.01 or 5723.02. Repeatable to a maximum of 6 cr hrs.

5723.02 Graduate Studies in Renaissance Literature and Culture U G 3
Study of topics, themes, and problems in advanced studies of the literature and culture of sixteenth- and seventeenth-century England.
Pre-req: Grad standing, or permission of instructor. Not open to students with 6 qtr cr hrs for 5723.01 or 5723.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

5797 Study at a Foreign Institution U G 1 - 27
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Arranged. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.
Pre-req: Permission of instructor. Not open to students with 45 qtr cr hrs for 697 or 27 sem cr hrs for 5797.
Repeatable to a maximum of 27 cr hrs or 27 completions. This course is progress graded (S/U).

5892 Workshop U G 1 - 3
Workshop
Pre-req: Permission of instructor. Not open to students with 12 cr hrs for 5892 (892).
Repeatable to a maximum of 12 cr hrs or 12 completions.

6194 Group Studies G 1 - 3
Group Studies
Pre-req: Grad standing, or permission of instructor. Not open to students with 9 sem cr hrs or 15 qtr cr hrs for 6194 (894).
Repeatable to a maximum of 9 cr hrs or 9 completions.

6410 Introduction to Humanities, Culture, and Medicine G 3
Study of medicine from the perspective of the humanities and social sciences; emphasis on how these perspectives complicate an understanding of medicine as pure science.
Pre-req: Grad standing.

6662 Literary Publishing G 3
Theory and practice of editing and publishing literature for MFA students in creative writing.
Pre-req: MFA (Creative Writing) standing, or permission of instructor. Not open to students with credit for 662 or 5662.01.

6700.01 Introduction to Graduate Study in English G 3
Introduction to bibliography, research methods, critical theory, and the principles of literary criticism for advanced work in English studies.
Required of all English doctoral candidates.
Pre-req: Permission of Director of Graduate Studies. Not open to students with credit for 5767.02, 700, or 800.

6700.02 Introduction to Graduate Study in English G 3
Introduction to bibliography, research methods, critical theory, and the principles of literary criticism for advanced work in English studies.
Required of all English doctoral candidates.
Pre-req: Permission of Director of Graduate Studies. Not open to students with credit for 6767.01, 700, or 800. This course is graded S/U.

6713.01 Introduction to Middle English Language G 3
An intensive study of Middle English phonology, morphology, syntax, and dialectology from 1100-1500, with selected readings in the literature.
Pre-req: Grad standing, or permission of instructor. Not open to students with credit for 6713.01 (713) or 6713.02.

6713.02 Introduction to Middle English Language G 3
An intensive study of Middle English phonology, morphology, syntax, and dialectology from 1100-1500, with selected readings in the literature.
Pre-req: Grad standing, or permission of instructor. Not open to students with credit for 6713.01 (713) or 6713.02. This course is graded S/U.

6716.01 Introduction to Graduate Study in the Middle Ages G 3
Introduction to advanced study and current scholarship and criticism in medieval literature, 1300-1500.
Pre-req: Grad standing, or permission of instructor. Not open to students with credit for 6716.01 (716) or 6716.02.

6716.02 Introduction to Graduate Study in the Middle Ages G 3
Introduction to advanced study and current scholarship and criticism in medieval literature, 1300-1500.
Pre-req: Grad standing, or permission of instructor. Not open to students with credit for 6716.01 (716) or 6716.02. This course is graded S/U.

6718.01 Introduction to Graduate Study in Chaucer G 3
Introduction to advanced study in Chaucer, with a focus on The Canterbury Tales and Troilus and Criseyde.
Pre-req: Grad standing, or permission of instructor. Not open to students with credit for 6718.01 (718) or 6718.02.

6718.02 Introduction to Graduate Study in Chaucer G 3
Introduction to advanced study in Chaucer, with a focus on The Canterbury Tales and Troilus and Criseyde.
Pre-req: Grad standing, or permission of instructor. Not open to students with credit for 6718.01 (718) or 6718.02. This course is graded S/U.
English 201

6736.01 Introduction to Graduate Study in the Restoration and 18th Century
Introduction to advanced study and current scholarship and criticism in British literature, 1660-1800. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6736.01 (736) or 6736.02.

6736.02 Introduction to Graduate Study in the Restoration and 18th Century
Introduction to advanced study and current scholarship and criticism in British literature, 1660-1800. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6736.01 (736) or 6736.02. This course is graded S/U.

6746.01 Introduction to Graduate Study in British Literature of the Romantic Period
Introduction to advanced study and current scholarship and criticism in British literature of the Romantic period. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6746.01 (746) or 6746.02.

6746.02 Introduction to Graduate Study in British Literature of the Romantic Period
Introduction to advanced study and current scholarship and criticism in British literature of the Romantic period. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6746.01 (746) or 6746.02. This course is graded S/U.

6747.01 Introduction to Graduate Study in British Literature of the Victorian Period
Introduction to advanced study and current scholarship and criticism in British Victorian literature. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6747.01 (747) or 6747.02.

6750.01 Introduction to Graduate Study in Literacy
Introduction to advanced study of the development of reading and writing, the study of literacy; attention to historical, theoretical, ideological, and technological issues and change. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6750.01 (750) or 6750.02.

6750.02 Introduction to Graduate Study in Literacy
Introduction to advanced study of the development of reading and writing, the study of literacy; attention to historical, theoretical, ideological, and technological issues and change. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6750.01 (750) or 6750.02. This course is graded S/U.

6751.01 Intro to Graduate Study in Folklore I: The Philology of the Vernacular
Introduction to the canonical folklore genres and the history of folklore as a discipline. Why and how do we examine the vernacular? Folklore GIS course. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6751.11, 770.01, or CompSt 6750.01. Cross-listed in CompSt 6750.01.

6751.02 Intro to Graduate Study in Folklore II: Fieldwork and the Ethnography of Communication
Intro to fieldwork & ethnology in humanities: interviewing, participant observation, ethics, ethnographic representation. Ethnography of communication as an approach to community-based expressive forms. Folklore GIS course. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 770.02, 770.03, 6751.22, CompSt 770.02, 770.03, or 6750.02. Cross-listed in CompSt 6750.02.

6751.11 Intro to Graduate Study in Folklore I: The Philology of the Vernacular
Introduction to the canonical folklore genres and the history of folklore as a discipline. Why and how do we examine the vernacular? Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6751.01 (770.01) or CompSt 6750.01 (770.01). This course is graded S/U.

6751.22 Intro to Graduate Study in Folklore II: Fieldwork and the Ethnography of Communication
Introduction to fieldwork and ethnology in humanities: interviewing, participant observation, ethics, ethnographic representation. The ethnography of communication as an approach to community-based expressive forms. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 770.02, 770.03, 6751.22, CompSt 770.02, 770.03, or 6750.02. This course is graded S/U.

6755.01 Introduction to Graduate Study in Early American Literature, Origins to 1840
Introduction to advanced study and current scholarship and criticism in early American literature. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6755.01 (755) or 6755.02.

6755.02 Introduction to Graduate Study in Early American Literature, Origins to 1840
Introduction to advanced study and current scholarship and criticism in early American literature. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6755.01 (755) or 6755.02. This course is graded S/U.

6756.01 Introduction to Graduate Study in American Literature, 1840-1914
Introduction to advanced study and current scholarship and criticism in American literature, 1840-1914. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6756.01 (756) or 6756.02.

6756.02 Introduction to Graduate Study in American Literature, 1840-1914
Introduction to advanced study and current scholarship and criticism in American literature, 1840-1914. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6756.01 (756) or 6756.02. This course is graded S/U.

6757.01 Introduction to Graduate Study in African-American Literature, 1746-1900
A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1746 to 1900. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6757.11, 757.01, or AfrAmSt 6757.01 (757.01). Cross-listed in AfrAmSt.

6757.02 Introduction to Graduate Study in African-American Literature, 1900 to Present
A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1900 to the present. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6757.22, 757.02, or AfrAmSt 6757.02 (757.02). Cross-listed in AfrAmSt.

6757.11 Introduction to Graduate Study in African-American Literature, 1746-1900
A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1746 to 1900. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6757.01 (757.01) or AfrAmSt 6757.01 (757.01). This course is graded S/U.

6757.22 Introduction to Graduate Study in African-American Literature, 1900 to Present
A survey of creative texts and critical interpretations representing and reflecting black culture and literary expression in the United States from 1900 to the present. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6757.22, 757.02, or AfrAmSt 6757.02 (757.02). This course is graded S/U.

6758.01 Introduction to Graduate Study in U.S. Ethnic Literature and Culture
Introduction to graduate study of representative literature and culture of a U.S. ethnic group, such as American-Indian, Jewish-American, Latinx. Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem cr hrs or 10 qtr cr hrs for 6758.01 (758) or 6758.02. Repeatable to a maximum of 6 cr hrs.

6758.02 Introduction to Graduate Study in U.S. Ethnic Literature and Culture
Introduction to graduate study of representative literature and culture of a U.S. ethnic group, such as American-Indian, Jewish-American, Latinx. Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs or 6 sem cr hrs for 6758.01 (758) or 6758.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

6760.01 Introduction to Graduate Study in Postcolonial Literature and Theory
Introduction to graduate-level study of representative examples of the literary, cultural, and theoretical texts that inform postcolonial studies. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 760, 6760.01, or 6760.02.

6760.02 Introduction to Graduate Study in Postcolonial Literature and Theory
Introduction to graduate-level study of representative examples of the literary, cultural and theoretical texts that inform postcolonial studies. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 760, 6760.01, or 6760.02. This course is graded S/U.
6761.01 Introduction to Graduate Study in Narrative and Narrative Theory  
Study of narrative in its different manifestations, e.g., novel, autobiography, film, legal testimony, and of theories of its form and significance.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6761.02 or 761.

6761.02 Introduction to Graduate Study in Narrative and Narrative Theory  
Study of narrative in its different manifestations, e.g., novel, autobiography, film, legal testimony, and of theories of its form and significance.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6761.01 or 761. This course is graded S/U.

6762.01 Introduction to Graduate Study in Drama and Performance  
Introduction to advanced study in the theory, history, and practice of drama and performance.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6762.02 or 762.

6762.02 Introduction to Graduate Study in Drama and Performance  
Introduction to advanced study in the theory, history, and practice of drama and performance.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6762.01 or 762. This course is graded S/U.

6763.01 Graduate Workshop in Poetry  
A graduate-level workshop in the writing of poetry.  
Prereq: MFA standing, or permission of instructor. Not open to students with 20 qtr hrs for 763 or equivalent. Repeatable to a maximum of 12 cr hrs.

6763.02 Graduate Workshop in Poetry  
A graduate-level workshop in the writing of poetry for MFA students in fiction or creative nonfiction with limited experience as poets.  
Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr hrs for 763 or equivalent. Repeatable to a maximum of 12 cr hrs.

6764 Graduate Workshop in Screenwriting  
Students with expertise in fiction- or creative nonfiction-writing or poetry will learn the art and craft of screenwriting and complete their first full-length screenplays.  
Prereq: English MFA standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

6765.01 Graduate Workshop in Fiction  
A graduate-level workshop in the writing of fiction.  
Prereq: MFA standing, or permission of instructor. Not open to students with 20 qtr hrs for 765 or equivalent. Repeatable to a maximum of 12 cr hrs.

6765.02 Graduate Workshop in Fiction  
A graduate-level workshop in the writing of fiction for MFA students in poetry or creative nonfiction with limited experience as fiction writers.  
Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr hrs for 765 or equivalent. Repeatable to a maximum of 12 cr hrs.

6766.01 Introduction to Graduate Study in 20th Century Literature, 1900-1945  
Introduction to advanced study and current scholarship and criticism in literature written in English 1900-1945.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6766.02 or 766.

6766.02 Introduction to Graduate Study in 20th Century Literature, 1900-1945  
Introduction to advanced study and current scholarship and criticism in literature written in English 1900-1945.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6766.02 or 766. This course is graded S/U.

6767.01 Introduction to Graduate Study in 20th Century Literature, 1945-Present  
Introduction to advanced study in 20th-century literature written in English since 1945.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6767.02 or 767.

6767.02 Introduction to Graduate Study in 20th Century Literature, 1945-Present  
Introduction to advanced study in 20th-century literature written in English since 1945.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6767.01 or 767. This course is graded S/U.

6768 Graduate Workshop in Creative Nonfiction  
A graduate-level workshop in the writing of creative nonfiction.  
Prereq: MFA standing, or permission of instructor. Not open to students with 20 qtr hrs for 768 or equivalent. Repeatable to a maximum of 12 cr hrs.

6769 Graduate Workshop in Creative Writing (Special Topics)  
A special topics course in the writing of fiction, poetry, and/or creative nonfiction.  
Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr hrs for 769 or equivalent. Repeatable to a maximum of 6 cr hrs.

6772.01 English Syntax  
A study of various systems of English grammar, with emphasis on their applications to writing and teaching.  
Prereq: 2271 (271) or Ling 2000 (201). Not open to students with credit for 6772.01 (772) or 6772.02.

6772.02 English Syntax  
A study of various systems of English grammar, with emphasis on their applications to writing and teaching.  
Prereq: 2271 (271) or Ling 2000 (201). Not open to students with credit for 6772.01 (772) or 6772.02. This course is graded S/U.

6774.01 History of the English Language  
The historical development of English and its place among the world's languages, emphasis on inner history and outer matrix.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6774.01 (774) or 6774.02.

6774.02 History of the English Language  
The historical development of English and its place among the world's languages, emphasis on inner history and outer matrix.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6774.01 (774) or 6774.02. This course is graded S/U.

6776.01 From Plato to Aestheticism  
A two-course sequence (with English 6776.02) in literary criticism from Plato to contemporary theory. Major texts and issues in criticism from the classical Greeks to Wilde.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 676, 776.01, or 6766.11.

6776.02 From 1900 to the Contemporary Period  
A two-course sequence (with English 6776.01) in literary criticism from Plato to contemporary theory. Major texts and issues from 1900 to the present.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 676, 776.02, 6767.02, or 6768.22.

6776.11 From Plato to Aestheticism  
A two-course sequence in literary criticism from Plato to contemporary theory. Major texts and issues in criticism from the classical Greeks to Wilde.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 676, 776.01, 6766.01 or 6766.11. This course is graded S/U.

6776.22 From 1900 to the Contemporary Period  
A two-course sequence in literary criticism from Plato to contemporary theory. Major texts and issues from 1900 to the present.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 676, 776.02, 6767.02, or 6768.22. This course is graded S/U.

6777.01 American English  
Introduction to various aspects of the English language as it is used, and has been used in the continental United States.  
Prereq: 2271 (271) or 771, or equivalent; or permission of instructor. Not open to students with credit for 6777.02 or 771.

6777.02 American English  
Introduction to various aspects of the English language as it is used and has been used in the continental United States.  
Prereq: 2271 (271) or 771, or equivalent; or permission of instructor. Not open to students with credit for 6777.01. This course is graded S/U.

6778.01 Introduction to Graduate Study in Film and Film Theory  
An advanced survey of the methodologies, contexts, and development of film and film theory.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6778.01 (778) or 6778.02.

6778.02 Introduction to Graduate Study in Film and Film Theory  
An advanced survey of the methodologies, contexts, and development of film and film theory.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6778.01 (778) or 6778.02. This course is graded S/U.

6779.01 Introduction to Graduate Study in Rhetoric: Classical to Early Renaissance  
Provides foundational study in the history and theory of rhetoric from classical Greece to early modern Europe.  
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6779.01 (779.01) or 6779.11.
6779.02 Introduction to Graduate Study in Rhetoric: Renaissance to 20th Century

Provides foundational study in the history and theory of rhetoric from the Renaissance to the present. 6779.01 (779.01) recommended. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6779.02 (779.02) or 6779.22.

6779.11 Introduction to Graduate Study in Rhetoric: Classical to Early Renaissance

Provides foundational study in the history and theory of rhetoric from classical Greece to early modern Europe. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6779.01 (779.01) or 6779.11. This course is graded S/U.

6779.22 Introduction to Graduate Study in Rhetoric: Renaissance to 20th Century

Provides foundational study in the history and theory of rhetoric from the Renaissance to the present. 6779.01 (779.01) recommended. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6779.02 (779.02) or 6779.22. This course is graded S/U.

6780.01 Current Theory and Practice in the Teaching of Writing

Modern theories of composition; topics include: invention, style, sentence combining, evaluation, and the composing process. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6780.01 (870) or 6780.22.

6780.02 Current Theory and Practice in the Teaching of Writing

Modern theories of composition; topics include: invention, style, sentence combining, evaluation, and the composing process. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6780.01 (870) or 6780.02. This course is graded S/U.

6781 Introduction to the Teaching of First-Year English

Introduction to the theory and practice of teaching first-year English. Required of new GTA's in English. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 781 or 881.01. This course is graded S/U.

6788.01 Studies in the Theory and Practice of Imaginative Writing

Instruction in imaginative writing as a method for studying scholarly issues in English, e.g., disability narratives, ethnicity and literature, gender and genre. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 781 or 781.01. This course is graded S/U.

6788.02 Studies in the Theory and Practice of Imaginative Writing

Instruction in imaginative writing as a method for studying scholarly issues in English, e.g., disability narratives, ethnicity and literature, gender and genre. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 781.01 (781.02) or 6788.02. This course is graded S/U.

6789.01 Introduction to Graduate Study in Digital Media

Explores how scholars in English studies use computer technologies and multiple media to make meaning, represent and analyze information, teach, and conduct research. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6789.01 (789) or 6789.02.

6789.02 Introduction to Graduate Study in Digital Media

Explores how scholars in English studies use computer technologies and multiple media to make meaning, represent and analyze information, teach, and conduct research. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 6789.01 (789) or 6789.02. This course is graded S/U.

6790.01 Foundations in Contemporary Critical Theory

Interdisciplinary survey of the theoretical bases of major contemporary approaches to the study of literature; readings in Marx, Freud, Derrida, Cixous, and others. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 790 or equiv. Cross-listed in CompStd, French, German, Italian and Spanish 6790.

6790.02 Foundations in Contemporary Critical Theory

Interdisciplinary survey of the theoretical bases of major contemporary approaches to the study of literature; readings in Marx, Freud, Derrida, Cixous, and others. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 790 or equiv. This course is graded S/U. Cross-listed in CompStd, French, German, Italian, and Spanish 6790.

6791.01 Introduction to Graduate Study in Critical Theory: Contemporary Movements

Introduction to a movement in critical or cultural theory such as feminist, marxist, reader-response, queer, or postcolonial, and its relation to current critical practices. 
Prereq: Grad standing, or permission of instructor. Not open to students with 9 sem cr hrs or 15 qr cr hrs for 6791.01 (791) or 6791.02. Repeatable to a maximum of 9 cr hrs.

6795.01 Introduction to Research Methods in Rhetoric and Composition

Introduction to the research methods most widely used in rhetoric, composition, and literary studies. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 795 or equiv.

6795.02 Introduction to Research Methods in Rhetoric and Composition

Introduction to the research methods most widely used in rhetoric, composition, and literary studies. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 795 or equiv. This course is graded S/U.

6799 Graduate Research in English

Graduate research. Arranged. 
Prereq: Permission of Director of Grad Studies. Not open to students with 30 qr cr hrs for 699 or 18 sem cr hrs for 6998. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.

7350.01 Theorizing Folklore I: Tradition and Transmission

The transmission of cultural forms through time and space across social networks, with special attention to the dynamics of conservation, and innovation, reflexivity, and habit. Folklore GIS course. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 7350.11, 870, or CompStd 7350.01 (792). Cross-listed in CompStd.

7350.02 Theorizing Folklore II: The Ethnography of Performance

Performance as a heightened mode of communicative characteristic of vernacular cultural process, studied in the context of ongoing social interaction. Folklore GIS course. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 7350.22, 870, or CompStd 7350.02 (792). Cross-listed in CompStd.

7350.03 Theorizing Folklore III: Differentiation, Identification, and the Folk

Cultural form as a social tool for both differentiation and integration. "Folklore" and other metacultural concepts in the history of modernity. Folklore GIS course. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 870 or CompStd 7350.03 (792). Cross-listed in CompStd.

7350.11 Theorizing Folklore I: Tradition and Transmission

The transmission of cultural forms through time and space across social networks, with special attention to the dynamics of conservation, and innovation, reflexivity, and habit. Folklore GIS course. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 7350.11 (870) or CompStd 7350.01 (792). This course is graded S/U.

7350.22 Theorizing Folklore II: The Ethnography of Performance

Performance as a heightened mode of communicative characteristic of vernacular cultural process, studied in the context of ongoing social interaction. Folklore GIS course. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 7350.22 (870) or CompStd 7350.02 (792). This course is graded S/U.

7350.33 Theorizing Folklore III: Differentiation, Identification, and the Folk

Cultural form as a social tool for both differentiation and integration. "Folklore" and other metacultural concepts in the history of modernity. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 7350.33 (870) or CompStd 7350.03 (792). This course is graded S/U.

7871.01 Seminar in Early Medieval English Literature

Topics include: Beowulf and its background; Old English poetry exclusive of Beowulf. 
Prereq: 7817.01 (710), or equiv. Not open to students with 10 qtr cr hrs or 15 qr cr hrs for 7817.01 (791) or 7817.02. Repeatable to a maximum of 6 cr hrs.

7871.02 Seminar in Early Medieval English Literature

Topics include: Beowulf and its background; Old English poetry exclusive of Beowulf. 
Prereq: 7817.01 (710) or equiv. Not open to students with 6 sem hrs of 7817.01 or 7817.02, or 10 qr hrs of 817. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.
7810.01 Seminar in Later Medieval Literature
Topics include: Poetry of the alliterative revival; medieval English drama; fifteenth-century non-dramatic literature.
Prereq: Grad standing, or permission of instructor. Not open to students with 12 sem hrs of 7818.01 or 7818.02, or 20 qr hrs of 818. Repeatable to a maximum of 12 cr hrs.

7818.02 Seminar in Later Medieval Literature
Topics include: Poetry of the alliterative revival; medieval English drama; fifteenth-century non-dramatic literature.
Prereq: Grad standing, or permission of instructor. Not open to students with 20 qr hrs for 818 or 12 sem hrs or hrs for 7818.01 or 7818.02. Repeatable to a maximum of 12 or 4 completions. This course is graded S/U.

8720.01 Seminar in Shakespeare
An intensive consideration of selected problems in the scholarly study of Shakespeare.
Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7820.01 or 7820.02, or 10 qr hrs of 820. Repeatable to a maximum of 6 cr hrs.

8720.02 Seminar in Shakespeare
An intensive consideration of selected problems in the scholarly study of Shakespeare.
Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7820.01 or 7820.02, or 10 qr hrs of 820. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7827.01 Seminar in English Renaissance Literature
Topics include: Renaissance and early seventeenth-century poetry; Spenser; Renaissance drama; Milton; Renaissance prose.
Prereq: Grad standing, or permission of instructor. Not open to students with 12 sem hrs of 7827.01 or 7827.02, or 20 qr hrs or 827. Repeatable to a maximum of 12 or cr hrs.

7827.02 Seminar in English Renaissance Literature
Topics include: Renaissance and early seventeenth-century poetry; Spenser; Renaissance drama; Milton; Renaissance prose.
Prereq: Grad standing, or permission of instructor. Not open to students with 12 sem hrs of 7827.01 or 7827.02, or 20 qr hrs or 827. Repeatable to a maximum of 12 or cr hrs. This course is graded S/U.

7837.01 Studies in 18th Century Genre
Introduction to advanced study and current scholarship and criticism of one of the following: eighteenth-century fiction, poetry, drama, or non-fiction.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 737, 7837.01 or 7837.02.

7837.02 Studies in 18th Century Genre
Introduction to advanced study and current scholarship and criticism of one of the following: eighteenth-century fiction, poetry, drama, or non-fiction.
Prereq: Grad standing or permission of instructor. Not open to students with credit for 737, 7837.01 or 7837.02. This course is graded S/U.

7838.01 Seminar in Critical Issues in the Restoration and 18th Century
An intensive consideration of a selected critical problem or a selected intellectual focus in the scholarly study of Restoration and/or eighteenth-century literature and culture.
Prereq: Grad standing, or permission of instructor. Not open to students with 20 qr hrs for 838 or 12 sem hrs or hrs for 7838.01 or 7838.02. Repeatable to a maximum of 12 or cr hrs.

7838.02 Seminar in Critical Issues in the Restoration and 18th Century
An intensive consideration of a selected critical problem or a selected intellectual focus in the scholarly study of Restoration and/or eighteenth-century literature and culture.
Prereq: Grad standing, or permission of instructor. Not open to students with 20 qr hrs for 838 or 12 sem hrs or hrs for 7838.01 or 7838.02. Repeatable to a maximum of 12 or cr hrs. This course is graded S/U.

7840.01 Seminar in English Romantic Literature
Literary romanticism in relation to contemporary intellectual and political movements; topics vary from year to year.
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qr hrs or hrs for 840 or 9 sem hrs or hrs for 7840.01 or 7840.02. Repeatable to a maximum of 9 or hrs.

7840.02 Seminar in English Romantic Literature
Literary romanticism in relation to contemporary intellectual and political movements; topics vary from year to year.
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qr hrs or hrs for 840 or 9 sem hrs or hrs for 7840.01 or 7840.02. Repeatable to a maximum of 9 or hrs. This course is graded S/U.

7844.01 Seminar in Victorian Literature
Topics include: Victorian poetry; nineteenth-century non-fictional prose; nineteenth-century novels.
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qr or hrs for 844 or 9 sem or hrs for 7844.01 or 7844.02. Repeatable to a maximum of 9 or hrs.

7844.02 Seminar in Victorian Literature
Topics include: Victorian poetry; nineteenth-century non-fictional prose; nineteenth-century novels.
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qr or hrs for 844 or 9 sem or hrs for 7844.01 or 7844.02. Repeatable to a maximum of 9 or hrs. This course is graded S/U.

7850.01 Seminar in U.S. Literatures before 1900
Topics include: American authors ( Poe, Melville); history of genres, forms, and media (poetry, U.S. serial fiction); intensive study of ‘periods’ (the early Republic, the 1890s).
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 850. Repeatable to a maximum of 12 cr hrs.

7850.02 Seminar in U.S. Literatures before 1900
Topics include: American authors ( Poe, Melville); history of genres, forms, and media (poetry, U.S. serial fiction); intensive study of ‘periods’ (the early Republic, the 1890s).
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 850. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7851.01 Seminar in Critical Approaches to Black Literatures
A close reading of major literary critical discourses that have shaped and determined the course of black literary production in Africa, North America, and the Caribbean.
Prereq: A course in AfAmASt literature, or permission of instructor. Not open to students with 6 sem hrs of 7851.01 or 7851.02, or 10 qr hrs of 851, or AfAmASt 7851 (851). Repeatable to a maximum of 6 cr hrs. Cross-listed in AfAmASt 7851.

7851.02 Seminar in Critical Approaches to Black Literatures
A close reading of major literary critical discourses that have shaped and determined the course of black literary production in Africa, North America, and the Caribbean.
Prereq: A course in AfAmASt literature, or permission of instructor. Not open to students with 6 sem hrs of 7851.01 or 7851.02, or 10 qr hrs of 851, or AfAmASt 7851 (851). Repeatable to a maximum of 6 cr hrs. This course is graded S/U. Cross-listed in AfAmASt 7851.

7860.01 Seminar in U.S. Ethnic Literatures and Culture
Advanced work in U.S. ethnic literatures and cultures through study of a specific issue, theme, or problem of central concern to the field. Topic varies.
Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7860.01 or 7860.02, or 10 qr hrs of 860. Repeatable to a maximum of 6 cr hrs.

7860.02 Seminar in U.S. Ethnic Literatures and Culture
Advanced work in U.S. ethnic literatures and cultures through study of a specific issue, theme, or problem of central concern to the field. Topic varies.
Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7860.01 or 7860.02, or 10 qr hrs of 860. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7861.01 Seminar in 20th Century British and/or American Literature
Problems, forms, and themes in twentieth-century British and/or American literature; study of particular twentieth-century British and/or American writers.
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qr hrs for 860 or 9 sem hrs or hrs for 7861.01 or 7861.02. Repeatable to a maximum of 9 cr hrs.

7861.02 Seminar in 20th Century British and/or American Literature
Problems, forms, and themes in twentieth-century British and/or American literature; study of particular twentieth-century British and/or American writers.
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qr hrs for 860 or 9 sem hrs or hrs for 7861.01 or 7861.02. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7864.01 Seminar in Narrative and Narrative Theory
Seminar in narrative theory and practice; focus on an approach (e.g., feminist narratology), a problem (ethics), or subcategory of narrative (the graphic novel).
Prereq: Grad standing, or permission of instructor. Not open to students with 20 qr hrs for 864 or 9 sem or hrs for 7864.01 or 7864.02. Repeatable to a maximum of 12 cr hrs.

7864.02 Seminar in Narrative and Narrative Theory
Seminar in narrative theory and practice; focus on an approach (e.g., feminist narratology), a problem (ethics), or subcategory of narrative (the graphic novel).
Prereq: Grad standing, or permission of instructor. Not open to students with 20 qr hrs for 864 or 9 sem or hrs for 7864.01 or 7864.02. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

8764.01 Postcolonial/Transnational Literatures
Topics include postcolonial and transnational literature in English; theories of colonial, postcolonial, and transnational literature and culture.
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qr or hrs for 864 or 9 sem or hrs for 7864.01 or 7864.02. Repeatable to a maximum of 9 or hrs.

8764.02 Postcolonial/Transnational Literatures
Topics include postcolonial and transnational literature in English; theories of colonial, postcolonial, and transnational literature and culture.
Prereq: Grad standing, or permission of instructor. Not open to students with 15 qr or hrs for 864 or 9 sem or hrs for 7864.01 or 7864.02. Repeatable to a maximum of 9 or hrs. This course is graded S/U.
8781.01 Seminar in the Forms of Literature
G 3
A graduate seminar in the forms of poetry, fiction, and/or creative nonfiction. Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 781, or equiv. Repeatable to a maximum of 12 cr hrs.

8781.02 Seminar in the Forms of Literature
G 3
A graduate seminar in the forms of poetry, fiction, and/or creative nonfiction. Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 871 or equiv. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

8782.01 Studies in the English Language
G 3
Advanced English language study; topics vary. Prereq: 771 or Linguist 601, or equiv, and permission of instructor. Not open to students with 10 qtr cr hrs for 872 or 6 sem cr hrs for 7872.01 or 7872.02. Repeatable to a maximum of 6 cr hrs.

8782.02 Studies in the English Language
G 3
Advanced English language study; topics vary. Prereq: 771 or Linguist 601, or equiv, and permission of instructor. Not open to students with 10 qtr cr hrs for 872 or 6 sem cr hrs for 7872.01 or 7872.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8786.01 Seminar in Critical Theory
G 3
A review of theory and practice in some of the principal forms of literary analysis; focus on a single theoretical movement or a single critical problem. Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 876 or 6 sem cr hrs for 7876.01 or 7876.02. Repeatable to a maximum of 6 cr hrs.

8786.02 Seminar in Critical Theory
G 3
A review of theory and practice in some of the principal forms of literary analysis; focus on a single theoretical movement or a single critical problem. Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 876 or 6 sem cr hrs for 7876.01 or 7876.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8787.01 Seminar in Film & Media Studies
G 3
An intensive study of selected issues, themes, and forms in Film & Media Studies. Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 878 or 6 sem cr hrs for 7878.01 or 7878.02. Repeatable to a maximum of 6 cr hrs.

8787.02 Seminar in Film & Media Studies
G 3
An intensive study of selected issues, themes, and forms in Film & Media Studies. Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 878 or 6 sem cr hrs for 7878.01 or 7878.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8789.01 Seminar in Rhetoric
G 3
Rhetoric of a particular period; major figures in rhetoric, rhetorical analysis of literature. Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 879 or 6 sem cr hrs for 7879.01 or 7879.02. Repeatable to a maximum of 6 cr hrs.

8789.02 Seminar in Rhetoric
G 3
Rhetoric of a particular period; major figures in rhetoric, rhetorical analysis of literature. Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 879 or 6 sem cr hrs for 7879.01 or 7879.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7880.01 Seminar in Composition
G 3
Invention; the composing process and revision; evaluating and responding to writing; discourse analysis. Prereq: Grad standing or permission of instructor. Not open to students with 10 qtr cr hrs for 880 or 6 sem cr hrs for 7880.01 or 7880.02. Repeatable to a maximum of 6 cr hrs.

7880.02 Seminar in Composition
G 3
Invention; the composing process and revision; evaluating and responding to writing; discourse analysis. Prereq: Grad standing or permission of instructor. Not open to students with 10 qtr cr hrs for 880 or 6 sem cr hrs for 7880.01 or 7880.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

7881.02 Teaching Basic Writing
G 3
Theory and practice in the teaching of basic writing. Prereq: 781 or equiv, or permission of instructor. Not open to students with credit for 881.02, 7881.02 or equiv. Repeatable to a maximum of 9 cr hrs.

7881.03 Teaching of College Composition in English as a Second Language
G 3
Research in teaching English as a second language at the college level; materials and pedagogical techniques to use in English as a second language courses. Prereq: 671 or Ling 602,01, or permission of instructor. Not open to students with credit for 881.03, 7881.33 or equiv.

7881.04 Teaching Business and Professional Communication
G 3
Theoretical foundations of and teaching techniques for major units in business communication, designed to prepare graduate students to do research in and to teach business and professional writing. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 881.04, 7881.44 or equiv.

7881.33 Teaching of College Composition in English as a Second Language
G 3
Research in teaching English as a second language at the college level; materials and pedagogical techniques to use in English as a second language courses. Prereq: 671 or Linguist 602,01, or permission of instructor. Not open to students with credit for 881.03 (881.03) or equiv. This course is graded S/U.

7881.44 Teaching Business and Professional Communication
G 3
Theoretical foundations of and teaching techniques for major units in business communication, designed to prepare graduate students to do research in and to teach business and professional writing. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 881.04, 7881.44 (881.04) or equiv. This course is graded S/U.

7882.02 Seminar in Literacy Studies
G 3
Study of a special topic in literacy studies; topics vary, but may include race, popular culture, gender, technology, or globalization. Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 882 or 9 sem cr hrs for 7882.01 or 7882.02. Repeatable to a maximum of 9 cr hrs.

7883.01 Seminar in Literacy Studies
G 3
Study of a special topic in literacy studies; topics vary, but may include race, popular culture, gender, technology, or globalization. Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 882 or 9 sem cr hrs for 7883.01 or 7883.02. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7884.01 History of Literacy/Literacy Past and Present
G 3
Advanced exploration of the history of literacy; its relationship to societies, cultures, and change; the acquisition, practice, and impacts of literacy in historical contexts. Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7884.01 or 7884.02, or 10 qtr hrs of 884 or History 775. Repeatable to a maximum of 9 cr hrs. Cross-listed in History 7884 and CompStd 7884.

7884.02 History of Literacy/Literacy Past and Present
G 3
Advanced exploration of the history of literacy; its relationship to societies, cultures, and change; the acquisition, practice, and impacts of literacy in historical contexts. Prereq: Grad standing, or permission of instructor. Not open to students with 6 sem hrs of 7884.01 or 7884.02, or 10 qtr hrs of 884 or History 775. Repeatable to a maximum of 9 cr hrs. This course is graded S/U. Cross-listed in History 7884 and CompStd 7884.

7886.01 Interdepartmental Seminar
G 3
Interdepartmental seminar. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 899 or equiv.

7886.02 Interdepartmental Seminar
G 3
Interdepartmental seminar. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 899 or equiv. This course is graded S/U.

7888.01 Interdepartmental Studies in the Humanities
G 1 - 3
Two or more departments present colloquia on subjects of mutual interest; topics to be announced. Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 792 or 9 sem cr hrs for 7888.01 or 7888.02 or equiv. Repeatable to a maximum of 9 or 15 qtr hrs or 9 completions. Cross-listed in AfAmASt, Clas, English, French, German, NELC, Spanish and WGSST.

7888.02 Interdepartmental Studies in the Humanities
G 1 - 3
Two or more departments present colloquia on subjects of mutual interest; topics to be announced. Prereq: Grad standing, or permission of instructor. Not open to students with 15 qtr cr hrs for 792 or 9 sem cr hrs for 7888.01 or 7888.02 or equiv. Repeatable to a maximum of 9 or 15 qtr hrs or 9 completions. This course is graded S/U. Cross-listed in AfAmASt, Clas, English, French, German NELC, Spanish or WGSST.

7889.01 Seminar on Digital Media Studies
G 3
Advanced theoretical and practical approaches to digital media in English studies. Examines such intellectual questions as authorship, narrative, argument, and the nature of texts. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 10 qtr cr hrs for 889 or 6 sem cr hrs for 7889.01 or 7889.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.
7890.01 Seminar in Feminist Studies in Literature and Culture  G  3
Analysis of literary and cultural texts through feminist methodologies. Time, period, and topic vary. Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 892 or 12 sem cr hrs for 7890.01 or 7890.02. Repeatable to a maximum of 12 cr hrs.

7890.02 Seminar in Feminist Studies in Literature and Culture  G  3
Analysis of literary and cultural texts through feminist methodologies. Time, period, and topic vary. Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 892 or 12 sem cr hrs for 7890.01 or 7890.02. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7891.01 Seminar in Disability Studies in Language and Literature  G  3
Intensive study of disability as a representational system and of key issues in disability studies. Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 891 or 12 sem cr hrs for 7891.01 or 7891.02. Repeatable to a maximum of 12 cr hrs.

7891.02 Seminar in Disability Studies in Language and Literature  G  3
Intensive study of disability as a representational system and of key issues in disability studies. Prereq: Grad standing, or permission of instructor. Not open to students with 20 qtr cr hrs for 891 or 12 sem cr hrs for 7891.01 or 7891.02. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7895.01 Seminar in Research Methods in Rhetoric and Composition  G  3
Advanced study in a specific quantitative or qualitative research method in rhetoric and composition. Prereq: 6795 (795), or permission of instructor. Not open to students with 10 qtr cr hrs for 895 or 6 sem cr hrs for 7895.01 or 7895.02. Repeatable to a maximum of 6 cr hrs.

7895.02 Seminar in Research Methods in Rhetoric and Composition  G  3
Advanced study in a specific quantitative or qualitative research method in rhetoric and composition. Prereq: Grad standing, or permission of instructor. Not open to students with 10 qtr cr hrs for 895 or 6 sem cr hrs for 7895.01 or 7895.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8193 Individual Studies  G  1 - 9
Doctoral students may register for individual study in areas not normally covered by courses. Prereq: Grad standing or permission of instructor. Not open to students with 30 qtr cr hrs for 901 or 18 sem cr hrs 8103. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.

8858.01 Seminar in Folklore  G  3
Advanced seminar on current or specialized topics in folklore studies. Prereq: Gradstanding, or permission of instructor. Not open to students with 9 sem cr hrs of English 8858.01 (can include equiv qtr cr hrs for 870). English 8858.02, or CompStd 8858. Repeatable to a maximum of 9 cr hrs. Cross-listed in CompStd 8858.

8858.02 Seminar in Folklore  G  3
Advanced seminar on current or specialized topics in folklore studies. Prereq: Gradstanding, or permission of instructor. Not open to students with 9 sem cr hrs of English 8858.01 (can include equiv qtr cr hrs for 870). English 8858.02, or CompStd 8858. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

8888.01 Interdepartmental Seminar in Critical Theory  G  3
Interdisciplinary study of a movement (phenomenology, feminism, deconstruction, etc.) or problem (intentionality, evaluation, etc.) in literary theory. Prereq: Grad standing, or permission of instructor. Background in critical theory recommended. Not open to students with credit for 890 or equiv. Cross-listed in CompStd, French, German, Spanish, and WGSSt.

8888.02 Interdepartmental Seminar in Critical Theory  G  3
Interdisciplinary study of a movement (phenomenology, feminism, deconstruction, etc.) or problem (intentionality, evaluation, etc.) in literary theory. Prereq: Grad standing, or permission of instructor. Background in critical theory recommended. Not open to students with credit for 890 or equiv. This course is graded S/U. Cross-listed in CompStd, French, German, Spanish, and WGSSt.

8900.01 The Long Seminar: Research in Literary History, Theory, and Forms I  G  3
Reading and research in literature, its theory and forms, and its intellectual and social backgrounds. English 8900 must be followed by English 8901; Credit is awarded upon completion of English 8901. Prereq: Min 25 qtr hrs of Grad instruction. Not open to students with 10 qtr cr hrs for 900 or 6 sem cr hrs for 8900.01 or 8900.02. Repeatable to a maximum of 6 cr hrs. This course is progress graded.

8900.02 The Long Seminar: Research in Literary History, Theory, and Forms II  G  3
Reading and research in literature, its theory and forms, and its intellectual and social backgrounds. 8900 must be followed by 8901; Credit is awarded upon completion of 8901. Prereq: Min 25 qtr hrs of Grad instruction. Not open to students with 10 qtr cr hrs for 900 or 6 sem cr hrs for 8900.01 or 8900.02. Repeatable to a maximum of 6. This course is progress graded (S/U).

8901.01 The Long Seminar: Research in Literary History, Theory, and Forms II  G  3
Continuation of 8900. Prereq: 8900. Not open to students with 10 qtr cr hrs for 901 or 6 sem cr hrs for 8901.01 and 8901.02. Repeatable to a maximum of 6 cr hrs.

8901.02 The Long Seminar: Research in Literary History, Theory, and Forms II  G  3
Continuation of 8900. Prereq: 8900. Not open to students with 10 qtr cr hrs for 901 or 6 sem cr hrs for 8901.01 and 8901.02. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8903 Teaching College English  G  1 - 3
Students work as apprentices to faculty members in the planning and execution of an undergraduate English course; 8903 (903) must be taken prior to the candidacy exam. Not open to ABD students. Prereq: 8903 (903). Not open to students with 15 qtr cr hrs for 903 or 9 sem cr hrs for 8903. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8904 Writing for Publication  G  1 - 3
Assists students in English in learning to write publishable critical essays and in becoming familiar with publishing protocols. Prereq: Not open to students with credit for 904, except by permission of director of Graduate Studies. Repeatable with permission of director of Graduate Studies. This course is graded S/U.

8908.01 Bibliography and Method  G  1 - 3
For advanced graduate students in the methods and tools of literary research. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 980 or equiv.

8908.02 Bibliography and Method  G  1 - 3
For advanced graduate students in the methods and tools of literary research. Prereq: Grad standing or permission of instructor. Not open to students with credit for 980 or equiv. This course is graded S/U.

8982.01 Textual Criticism and Editing  G  1 - 3
Evaluation of literary editorial methods, past and present; training in skills requisite to the textual critic and scholar-editor; practice in textual editing. Prereq: 8980 (980) or equiv. Not open to students with credit for 892, 8982.01, or 8982.02.

8982.02 Textual Criticism and Editing  G  1 - 3
Evaluation of literary editorial methods, past and present; training in skills requisite to the textual critic and scholar-editor; practice in textual editing. Prereq: 8980 (980) or equiv. Not open to students with credit for 892, 8982.01, or 8982.02. This course is graded S/U.

8996 Research in English: Candidacy Examination  G  1 - 18
Research in preparation for PhD exams; arranged. Prereq: Permission of director of Grad studies. Not open to students with 30 qtr cr hrs for 996 or 18 sem cr hrs for 8996. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.

8997 The Dissertation Seminar  G  1 - 3
Doctoral candidates present their research-in-progress to faculty and each other. Prereq: Successful completion of candidacy exam. Not open to students with 15 qtr cr hrs for 8997 or 9 sem cr hrs for 8997. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

8998 Research in English  G  1 - 18
Research in English. Prereq: Not open to students with credit for 998. Repeatable. This course is graded S/U.

8999 Research in English: Dissertation  G  1 - 18
Research for dissertation purposes only. Prereq: Not open to students with credit for 999. Repeatable. This course is graded S/U.

Entomology  U  ¼
Basic understanding of the global trends within entomology, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.
1101 Insect Biology U 4
Acquaints people with the incredible biological diversity represented by the largest group of living animals, the insects. Insects will be used to illustrate important biological principles and functions as well as the scientific process. Prereq: Not open to students with credit for Entmgy 1111 (Entomol 101), 3000 (500), or 4600. GE nat sci bio course.

1111 Biology of Insects, Animals & Fungi Affecting Buildings U 4
Acquaint construction engineers with the incredible biological diversity found on Planet Earth using insects as examples and biological models. Management of building attacking and inhabiting insects, animals and fungi will be covered. Prereq: Not open to students with credit for Entmgy 1101 (Entomol 101), 3000 (500), or 4600. GE nat sci bio course.

1260 Introductory Insect Field Biology U 2
Biology of insects and their relatives, with emphasis on behavior, ecology, and diversity; collection is required. Offered as one week summer course at Stone Lab. Prereq: Course in high school biology. Not open to students with credit for Entomol 102. GE nat sci bio course.

2101 Insects and Human Affairs: Pests, Plagues, Poisons U 3 and Politics
Insects are a daily fact of life, exerting major influence on human affairs over the course of history. The course analyses the extensive and sometimes uncomfortable relationships between insects and humans, including historical roots of insect/human interactions, impact of insects on development of scientific thought, use of insects as experimental models in drug design and military applications. Prereq: Not open to students with credit for Entomol 102. GE nat sci bio course.

2200 Beekeeping U 3
General information on the biology, behavior and management of honey bee colonies, including pollination behavior and simple honey processing. Class will be video linked from Wooster.

2400H Evaluating Evidence in Biology & Medicine U 3
Explores information and scientific literacies in biology and medicine, with emphasis on science as reported in the media and the use of insects and other organisms as model systems. We use evolutionary theory as the unifying framework for all life on earth. The ability to scrutinize science as reported in popular sources and to procure additional, credible information is emphasized. Prereq: Honors standing, one biological or physical science course, and Soph standing; or permission of instructor. GE nat sci bio course.

3330 Social Insects U 3
Three hour general education course. Exploration of biological factors that permit ants, bees, wasps, and termites to maintain large and complex societies. Includes lecture and recitation. Prereq: Entmgy 1101 (Entomol 101) or Biology 1101 (101), or equiv. Not open to students with credit for Entomol 4440H (Entomol 444H) or Entomol 333. GE nat sci bio course.

4000 General Entomology U 3
Introduction to the study of insects. Serves both as a single, concise exposure to the subject and as a foundation for more advanced work in entomology. Prereq: Biology 1114 (114) or 1115H (115H). Not open to students with credit for 3000 or Entomol 500.

4191 Internship Experiences in Entomology U 1 - 2
Ten or more weeks of an individualized experiential learning opportunity designed to link theoretical classroom knowledge with practical field application or research experience in an ongoing research environment. Prereq: Entmgy 3000 (Entomol 500), and an additional Entmgy course at the 3000 (320) level or above, and Soph standing or above, and permission of advisor. Repeatable to a maximum of 4 cr hrs or 2 completions. This course is graded S/U.

4193 Individual Studies U 1 - 3
Individual work in the field of entomology, involving laboratory, field, or library studies, appropriate for the student's needs. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4194 Group Studies U 1 - 3
Special group study of a selected area in the field of entomology not provided in other courses. Repeatable to a maximum of 9 cr hrs or 9 completions.

4200 Insect Biology for Teachers U 2
A hands-on 1-week course designed for teachers K-12 in formal and informal education. Includes morphology, identification, and behavior of insects, as well as integrated activities to use with students in both terrestrial and aquatic entomology. Prereq: Enrollment as Education major, and Jr standing or above; or in-service teacher; or non-formal educator; or permission of instructor. Not open to students with credit for Entomol 520.

4440H Honors Social Insects U 3
Exploration of biological factors that allow ants, bees, wasps, and termites to maintain large complex societies. Prereq: Honors standing, and Entmgy 1101 (Entomol 101) or Biology 1101 (101), or equiv. Not open to students with credit for Entmgy 3330 (Entomol 333) or 444H.

4600 Introduction to Insect Science U 1
This digital course provides basic information on insects to students intending to take additional coursework in entomology. Prereq: Biology 1101 (101), 1113 (113), or 1119H (115H), or equiv. Not open to students with credit for Entmgy 1101 (Entomol 101), 1111, 3000 (500), 460, or 462.

4601 General Insect Pest Management U 2
Exploration of insect pests that affect crops, landscapes, public health, and domestic animals, and the biological, cultural, and chemical tactics used to manage them. Prereq: 1101, 1111, 3000, 4000, or 4600. Not open to students with credit for Entomol 460.

4602 Urban Landscape and Greenhouse Entomology U 2
An economic entomology course covering the insect and mite pests of ornamental plants, turfgrass and greenhouse crops. Major pest groups are covered and control of the pests using Integrated Pest Management is emphasized. Prereq: Entmgy 1101 (Entomol 101), 1111, 3000 (500), or 4600. Not open to students with credit for Entomol 462.

4603 Agricultural Entomology U 2
An exploration of insect pests that affect grain, forage, vegetable, and fruit crops, and the biological, cultural, and chemical tactics used to manage them. Prereq: 1101, 1111, 3000, 4000 or 4600. Not open to students with credit for Entomol 460.

4604 Urban Entomology U 2
An introduction to household and structural insect pests, and integrated pest management strategies for combating these insects in urban and sensitive environments. Prereq: 1101, 1111, 3000, 4000, or 4600 (Entomol 460 or 462)

4606 Introduction to Forensic Entomology U 2
Introduction to the basics of using insects as a tool in forensic science. Coverage includes introduction to relevant insect life cycles, factors affecting development time and working as part of a forensic team to solve crimes. Prereq: Entmgy 1101 (Entomol 101), 1111, 3000 (500), or 4600 (462 or 462).

4607 Veterinary Entomology U 2
Examine the role for arthropods in direct causation and transmission of animal diseases with emphasis on prevention and treatment.

4998 Undergraduate Research in Entomology U 1 - 3
Undergraduate experience in entomological research in variable topics. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4999 Research with Distinction U 1 - 5
Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4999H Honors Research with Distinction U 1 - 3
Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the University's Denman Undergraduate Research Forum. Prereq: Honors standing, and FAES 4590.01H (590H), and CPHR 3.40 or above, and GPA 3.40 or above in major, and permission of honors project supervisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5110 Ecology and Management of Pathogens and Insects U G 3
Affecting Trees in Forest and Urban Environments
Overview of major pathogens and insects affecting forest and shade trees with emphasis on diagnosis, ecology, and management. Video-linked to Wooster. Sp Sem. Prereq: Not open to students with credit for Entomol 461 or PntPh 610. Cross-listed in PntPh.

5120 Aquatic Insect Biology and Ecology U G 3 - 4
A field course that allows students to develop interest, knowledge, and appreciation of aquatic insects. Use lake, river, and stream habitats to collect insects and study insect ecology and behavior. Summer course at Stone Lab. Prereq: 15 cr hrs or 9 sem cr hrs of Biological Science courses, and 2.5 GPA or above, and Jr standing; or permission of instructor. Not open to students with credit for Entomol 612.

5130 Field Insect Taxonomy U G 3
This is a traditional entomology "collect, preserve and identify" course. It is designed for majors, minors and plant health care students to become more fluent in their identification skills using taxonomic keys and performing biodiversity studies. Prereq: Entmgy 1101 (Entomol 101), 1111, 3000 (500), or 4600 (462 or 462), or permission of instructor. Not open to students with credit for Entomol 621.

5420 Insect Behavior: Mechanisms and Function U G 3
Understanding the mechanisms and evolution of insect behavior and communication. Course will address behavioral physiology and ecology, sociality, learning and cognition, as well as applied aspects of insect behavior. Prereq: Entmgy 3000 (Entomol 500), Biology 1114 (114), or 1114H (116H), or equiv, or permission of instructor. Not open to students with credit for Entomol 642.
### Biological Control of Arthropod Pests

#### G 5500

Covers philosophy, science, and application of biological control. Biology, mass-production, formulation, and application of various parasites, predators, and pathogens of pests will be discussed.

**Prereq:** Entmgy 1101 (Entomol 101), 1111, 3000 (500), or 4600 (460 or 462). Not open to students with credit for 650.

### Principles and Applications of Integrated Pest Management

#### G 5600

Overview of the principles of integrated pest management (IPM) of arthropod pests using an ecological approach, including examining how various management tactics can be used in an integrated manner.

**Prereq:** 1101, 1111, 3000, 4000, or 4600. Not open to students with credit for Entomol 660.

### Current Topics in Entomology, Science and Society

#### U 5601

Capstone study of one timely issue intersecting science and society; critical and creative analysis of diverse standpoints and disciplines within and beyond agricultural and environmental sciences, including entomology and environmental toxicology.

**Prereq:** Sr permission of instructor. Repeatable to a maximum of 6 cr hrs.

### Capstone Course: Problem-Based Studies in Plant Health

#### U 5604

Students will be presented with a current plant health problem from the industry. They will gather diverse information from consultants, synthesize novel solutions, and develop implementation plans.

**Prereq:** Jr, Sr or Grad standing in Entmgy, PintPth, or Plant Hlth Mgmt. Not open to students with credit for PintPth 5604. Cross-listed in PintPth.

### Human Health Entomology

#### G 5605

An overview of arthropod-related epidemiology will examine the role for insects and arachnids in direct causation of disease and the transmission of parasites; students will identify practices that promote the emergence of vector-borne diseases.

**Prereq:** Entmgy 1101 (Entomol 101), 1111, 3000 (500), or 4600 (460 or 462).

### Insect Morphology

#### G 5623

A classical course that surveys the external and internal morphology of insects. Dissection techniques, making biological illustrations and histochmical techniques are also covered.

**Prereq:** Entmgy 3000 (Entomol 500), or permission of instructor. Not open to students with credit for 623.

### Emerging Arthropods, Pathogens, and Challenges in Vector Biology

#### G 5797

Provides students with immersive field and lab experiences that span the entire spectrum of vector biology. The course consists of a study abroad component in Xalapa, Mexico (INECOL) focused on the collection and identification of arthropod vectors (e.g., mosquitoes) in the field, and a local component in Wooster, OH (CARDIC) focused on molecular approaches used in vector biology. A prior introductory course in entomology or public health/infecituous diseases is highly encouraged. Familiarity with the Spanish language is highly recommended for OSU students, and English is needed for INECOL students.

**Prereq:** Entmgy 1101 (Entomol 101), 1111, 3000 (500), or 4600 (460 or 462).

### Pesticide Science

#### U 5800

Exploration of pesticide toxicology and practical use; modes of action in target organisms, regulations, application methods, environmental fate, and management, and use in integrated pest management programs.

**Prereq:** Entmgy 1101 (Entomol 101), 1111, Biology 1101 (101), 1113 (113), or 1115H (115H).

### Individual Studies

#### G 6193

Individual work in the field of entomology, involving laboratory, field, or library studies, appropriate for the student's needs.

**Prereq:** Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

### Group Studies

#### G 6194

Special group study of a selected area in the field of entomology not provided in other courses. Repeatable to a maximum of 9 cr hrs or 9 completions.

### Insect Physiology and Molecular Biology

#### G 6310

Explores physiological and molecular mechanisms that regulate insect development and function.

**Prereq:** Entmgy 3000 (Entomol 500), Chem 231, 251, or 251H. Not open to students with credit for Entomol 631.

### Insect Ecology and Evolutionary Processes

#### G 6410

Overview of abiotic and biotic factors influencing the diversity, distribution, and abundance of insects, including the role of insects as model systems in the development of general ecological and evolutionary principles.

**Prereq:** EEEOB 503.01 or 503.03, or equiv, or permission of instructor. Not open to students with credit for Entomol 641.

### Biodiversity Analysis for Ecosystem Sustainability and Resilience

#### G 6701

A graduate level course covering techniques for assessing and quantifying biodiversity and ecosystem services through the use of insects and related organisms; students will measure biodiversity and ecosystem services in specified habitats.

**Prereq:** Entmgy 3000 (Entomol 500) and 5130 (621), or permission of instructor.

### Entomological Techniques and Data Analysis

#### G 6702

A hands-on course about techniques used with living insects, and design and analysis of simple experiments. Entomological techniques include rearing, colony establishment, behavior assays, growth analysis, and insecticide dose/response bioassays.

**Prereq:** 3000 or 4000, or equiv.

### Molecular Techniques and Data Analysis

#### G 6703

Deals with basic molecular biology techniques required to conduct genomics, proteomics and metabolomic studies. Hands-on experience in bioinformatics, functional genomics and metabolite analysis will be emphasized.

### System Analysis, from Molecules to Ecosystems

#### G 6704

Theory and practice of systems analysis and quantitative methods to describe and test complex hypotheses about insects in natural and managed ecosystems, focusing on processes of interest in entomology from molecular to ecosystem levels.

**Prereq:** Math 117, 1130 (130), 1145 (145), 1150 (150), 1151.01 (151), or 1161 (161), and Stat 1350 (135), 1450 (145), or 5301 (528). Not open to students with credit for Entomol 645.

### Special Topics in Entomology

#### G 7890

Seminar on publications, current research, or research techniques. Repeatable to a maximum of 6 cr hrs or 6 completions.

### The Nature and Practice of Science

#### G 7910

Analysis and application of logic underlying scientific reasoning, theory, hypothesis, and their integration with experimental design, discovery, ethics, and science as a human endeavor.

**Prereq:** Not open to students with credit for Entomol 790.

### Presentation Skills for Scientists

#### G 7920

Professional development course for graduate students who are interested in developing and improving their presentation skills for communicating with peer scientists and the public, using a variety of media.

### Scientific Writing & Grant Proposal Development

#### G 7930

For graduate students who wish to develop and improve their written skills for communicating with technical and nontechnical audiences.

### Interdisciplinary Research, Teamwork and Leadership

#### G 7940

Examines theories of interdisciplinary research, collaborative teamwork, and leadership in the context of complex global challenges. Students will use interdisciplinary research process and team approach to solve a real world problem.

### Entomology Seminar

#### G 8000

Weekly departmental seminars given by experts in the field are used to give students insight into current trends in entomological research.

**Prereq:** Grad standing in Entmgy. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

### Research and Training Seminar

#### G 8800

Presentation of procedures, resources, and faculty research in the Department of Entomology. Required of all graduate majors during the first year of registration.

**Prereq:** First year Grad standing in Entmgy. Not open to students with credit for Entomol 880. This course is graded S/U.

### Research in Entomology

#### G 8999

For research and dissertation purposes only. Repeatable to a maximum of 60 cr hrs or 20 completions. This course is graded S/U.

### Environment and Natural Resources

#### 1100

Environment and Natural Resources Survey

**U 1**

Survey course for ENR students. Covers academic requirements; university procedures, grading system, resources; students right and responsibilities; overview of academic areas of study. Also covers career opportunities in Env’t and Nat Res.

**Prereq:** Not open to students with credit for 119 or FAES 100.

#### 1100H

Environment and Natural Resources Survey - Honors

**U 1**

Section

Survey course for ENR Honors students. Covers academic requirements; university procedures, grading system, resources; student rights and responsibilities; overview of academic areas of study. Also covers career opportunities in Env’t and Nat Res.

**Prereq:** Honors standing. Not open to students with credit for 119 or FAES 100.

#### 1110

Soils in Our Environment

**U 4**


**Prereq:** Not open to students with credit for 101, 3000.01 (300.01, or SoilSci 3000.01 (300.01), or Soil Science majors. GE nat sci phys course.

#### 1150

ENR Scholars Seminar

**U 1**

Designed for first year Environment and Natural Resources Scholars students to explore personal interests, interdisciplinary opportunities, campus and local community resources, and issues and activities related to Environment and Natural Resources.

**Prereq:** Must be an ENR Scholar.
Exploring Sustainability: SUSTAINS LC Seminar U 1
This seminar is designed for SUSTAINS Learning Community students to explore their interests within sustainability, learn about opportunities to be involved in campus and local community sustainability efforts, and connect with campus partners and faculty working and researching in the field. Students must be a part of the SUSTAINS Learning Community in order to take this seminar.
Prereq: Must be in the SUSTAINS Learning Community. Repeatable to a maximum of 2 cr hrs. This course is graded SU. Cross-listed in AEDEcon.

Natural Resources Data Analysis U 3
Introductory data analysis course that focuses on understanding and applying basic statistical concepts, problem solving, and interpreting the results of statistical analysis.
Au, Sp, Semesters. Prereq: Not open to students with credit for 222. GE data anly course.

Introduction to Environmental Science U 3
Introduction to environmental science, the ecological foundation of environmental systems, the ecological impacts of environmental degradation by humans, and strategies for sustainable management of environment and natural resources.
Au, Sp, Su Semesters. Prereq: Not open to students with credit for 201. This course is available for EM credit. GE nat sci bio course.

Energy and Environment U 3
This course introduces and examines the fundamentals of energy sources, energy use, energy efficiency, and resulting environmental implications of the various energy supplies.
Sp, Semesters. Prereq: Not open to students with credit for 155 or EarthSc 2155 (EarthSc 155); GE nat sci phy s course. Cross-listed in EarthSc.

Natural Resources Practicum U 3
Experience in the application of principles and techniques of environmental/natural resources problem solving.
Enrollment in the school of Environment and Natural Resources, and permission of instructor. Not open to students with 2 cr hrs or 2 completions for 2191 (289). Repeatable to a maximum of 2 cr hrs. This course is progress graded (SU).

Society and Natural Resources U 3
Introduction to interactions between humans, natural resources, and ecosystems from a social science perspective.
Au, Sp, Su Semesters. Prereq: Not open to students with credit for 203. GE soc sci human, nat, and econ resources course.

Landscaping Maintenance U 3
Management of landscape plantings with special emphasis on transplanting, mulching, nutrition, pest control, pruning, physiological disorders and diagnosing plant problems.
Prereq: Not open to students with credit for 232 or HCS 232. This course is available for EM credit. Cross-listed in HCS.

Ecology and Conservation of Birds U 2 - 3
Introduction to the ecology and conservation of birds, with special emphasis on field ornithology and student research projects. Course integrates many concepts to build understanding of how research and management can support bird conservation.
Prereq: Not open to students with credit for 230 or 231.

Communicating Environmental and Natural Resources Information U 3
Concepts, skills development, and practice in accessing and communicating information about the environment and natural resources to varied audiences; emphasis on written and oral communication.
Au, Sp, Su Semesters. Prereq: English 1110 (110) or 111. Not open to students with credit for 367 or LArch 367. GE writing and comm course: level 2.

Introduction to Environment, Economy, Development, and Sustainability U 3
Introduces students to principles from various disciplines related to social, economic and environmental sustainability. Students will evaluate key concepts and examine tradeoffs that are a part of sustainability action using case studies representing diverse perspectives.
Prereq: Soph standing, or permission of instructor. Cross-listed in AEDEcon.

Soil Science U 3
Introduction to soil physical, chemical, and biological properties related to land use, environmental quality, and crop production.
Au, Sp, Su Semesters. Prereq: Not open to students with credit for 300.01. This course is available for EM credit. GE nat sci phy s course. NS Admins Cond course.

Soil Science Laboratory U 1
Observation and quantitative determination of soil properties.
Prereq or concours: 3000 (300.01). Not open to students with credit for 300.02. GE nat sci phy s course. NS Admins Cond course.

Water Quality Management U 2
Causess, consequences, and solutions of pollution in lakes, rivers, wetlands, and groundwater; analysis of the physical, chemical, and biological indicators of water quality.
Au, Semesters. Prereq: Not open to students with credit for 355.

Watershed Hydrology U 3
Covers all aspects of hydrologic processes occurring within a watershed, including precipitation, infiltration, evapotranspiration, runoff, and streamflow. We will evaluate how the complex combination of watershed characteristics, climate, and land use practices influence these processes. In addition, we will explore approaches on how to address pertinent watershed management issues.

Introduction to Forestry, Fisheries, and Wildlife U 3
Ecological principles applied to integrated management of forest, fish, and wildlife resources; economic, policy, and administrative aspects of forestry, fisheries, and wildlife management.
Au, Sp, Semesters. Prereq: 2100 (201). Not open to students with credit for 319.

Biology and Identification of Woody Forest Plants U 3
Field identification of trees, shrubs, and vines in temperate forest ecosystems; basic biological principles of morphology, reproduction, growth, genetics, and taxonomy of major woody species.
Au, Semesters. Prereq: Not open to students with credit for 221.

Forest Ecosystems U 3
Structure and function of temperate forest ecosystems; field-oriented study of the relationships among ecosystem components, and of the composition and successional dynamics of forest communities. One or more all-day field trips.
Au, Semesters. Prereq or concours: 2100 (210), 2300 (203), and 3321 (221), or permission of instructor. Not open to students with credit for 322.

Forest Biometrics U 3
A study of the quantitative decision tools necessary to measure the forest resource; confidence and probability measures of land area, timber, water, wildlife, and recreation.
Sp, Semester. Prereq: 2000 (222), Stat 1450 (145), HCS 2260 (260), or AnimSci 2260 (260). Not open to students with credit for 323.

Silviculture U 3
Ecological principles and practical applications of methods for controlling forest ecosystem structure and function; prescription of silvicultural practices in the field. One or more all-day field trips.
Sp, Semester. Prereq or concours: 2100 (201), 2300 (203), and 3321 (221), or permission of instructor. Not open to students with credit for 333.

Introduction to Wildland Fire Management U 2
Wildland fire behavior, fire safety, control of wildland fires, and the use of prescribed fire in management objectives. Meets S-110 and S-190 requirements for wildland firefighter certification.
Au, Semesters. Prereq: Not open to students with credit for 350.01.

Wildland Fire Management Laboratory U 1
Teaches wildland firefighter skills and safety, and provides familiarity with tools and apparatus. Meets S-130 requirements for wildland firefighter certification. One weekend field work required.
Au, Semesters. Prereq: Concours: 3335.01. Not open to students with credit for 350.02.

Psychology of Environmental Problems U 3
The theory and psychology behind individual and group behavior as it relates to environmental problems.
Au, Semesters. Prereq: 2300 (203) or Psych 1100 (100). Not open to students with credit for 615.

Religion and Environmental Values in America U 3
Examines development & influence of religious environmental values & their impact on environmental citizenship in America; Jewish, Muslim, Buddhist & Christian environmental perspectives, stewardship, eco-justice & creation spirituality.
Sp, Semesters. Prereq: Not open to students with credit for 347. GE cultures and ideas course.

Community, Environment and Development U 3
Social change related to natural resource and environmental issues. Includes a focus on community-level initiatives, environmental social movements, and issues of environmental justice.
Sp, Semesters. Prereq: 2300 (203), RurlSoc 1500 (105), or Sociol 1101 (101).

Women, Environment and Development U 3
Interdisciplinary study of women's roles as environmental stewards and in resource-based development in global context. Attention given to gender differences in environmental and rural development practices.
Cross-listed in WGSSt.

Management of Public Lands U 2
Examination of parks and recreation concepts including development, rationale, and frameworks for park and recreation systems in the United States.
Sp, Semesters. Prereq or concours: 2100 (201) and 2300 (203), or permission of instructor. Not open to students with credit for 340.

Foundations for Environmental Communications, Education and Interpretation U 2
Foundational course that prepares students for understanding the theoretical bases that relate to and differentiate between environmental communications, education, and interpretation. Course includes required field trips.
Au, Semesters. Prereq: Not open to students with credit for 311.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3700</td>
<td>Introduction to Spatial Information for Environment and Natural Resources</td>
<td>2</td>
<td>Introduction to methods of collecting and utilizing spatial information (GIS, RS and GPS) for Environmental and Natural Resources management.</td>
</tr>
<tr>
<td>3750</td>
<td>Applied Remote Sensing for Environment and Natural Resources</td>
<td>3</td>
<td>Principles and methods of remote sensing and geographic information systems as applied to Environmental and Natural Resources problems.</td>
</tr>
<tr>
<td>3900</td>
<td>Sustainability Metrics</td>
<td>4</td>
<td>Addresses the use of metrics, data, and indicators to measure sustainability and track progress. The course will survey a broad range of environmental challenges and evaluate the choices confronting public and private groups.</td>
</tr>
<tr>
<td>4000</td>
<td>Environmental and Natural Resources Policy</td>
<td>3</td>
<td>Conceptual and historic development, implementation, and evaluation of environmental and natural resource policy.</td>
</tr>
<tr>
<td>4191</td>
<td>Professional Practice in Environment and Natural Resources</td>
<td>2</td>
<td>Preparation of a written report and delivery of a presentation based on internship employment in environment and natural resources professions.</td>
</tr>
<tr>
<td>4193</td>
<td>Individual Studies in Environment and Natural Resources</td>
<td>1 - 3</td>
<td>Individual Studies in Environment and Natural Resources.</td>
</tr>
<tr>
<td>4260</td>
<td>Soil Resource Management</td>
<td>3</td>
<td>Degradation of the soil by erosion, compaction and salinity. Methods of preventing degradation and remediating existing problems.</td>
</tr>
<tr>
<td>4320</td>
<td>Sustainable Forest Products</td>
<td>3</td>
<td>Study of forest operations &amp; environmental effects, including timber harvesting &amp; transport from forest to the mill. Uses of wood, fiber products, &amp; wood waste, including solid wood products, wood composites, biomass energy, &amp; biofuel.</td>
</tr>
<tr>
<td>4360</td>
<td>Zoo Science and Management</td>
<td>2</td>
<td>Introduces students to zoo science and management through combination of formal course work and experience with zoo/aquarium professionals.</td>
</tr>
<tr>
<td>4400</td>
<td>Law and Legal Process</td>
<td>3</td>
<td>Introduction to American law and legal process.</td>
</tr>
<tr>
<td>4567</td>
<td>Assessing Sustainability: Project Experience</td>
<td>3</td>
<td>Students gain experience in sustainability assessment by applying concepts and quantitative methods to evaluate environmental, economic, social, &amp; technical sustainability of specific projects. EEDS major capstone. Co-taught by ENR/AEDE/FABE faculty.</td>
</tr>
<tr>
<td>4597.02</td>
<td>Antarctic Marine Ecology and Policy</td>
<td>3</td>
<td>Historical and contemporary evaluation of Antarctic resource management and its scientific basis.</td>
</tr>
<tr>
<td>4597.02H</td>
<td>Antarctic Marine Ecology and Policy</td>
<td>3</td>
<td>Historical and contemporary evaluation of Antarctic resource management and its scientific basis.</td>
</tr>
<tr>
<td>4610</td>
<td>Natural History of Ohio</td>
<td>3</td>
<td>Field course emphasizing inter-relationship among physical and biological factors in various ecological settings; field techniques and identification skills used for research paper. Sat field trip.</td>
</tr>
<tr>
<td>4611</td>
<td>Environmental Interpretation and Visitor Services</td>
<td>3</td>
<td>Principles and practice in communicating with visitors in leisure and non-formal education settings.</td>
</tr>
<tr>
<td>4648</td>
<td>Environment and Natural Resources Law Enforcement</td>
<td>3</td>
<td>An examination of the law enforcement function in environment and natural resources and recreation management. Prerequisite for acceptance to the Natural Resources Ranger Academy program.</td>
</tr>
<tr>
<td>4890H</td>
<td>Honors Colloquium</td>
<td>1</td>
<td>Instruction in the preparation of research proposals and discussion of current research in natural resources. Required of all ENR honors students.</td>
</tr>
<tr>
<td>4900.01</td>
<td>Environment and Natural Resources Management</td>
<td>3</td>
<td>Integration of technical knowledge with social and institutional constraints as they relate to professions in ENR management. Required of ENR EPDIM and ES majors.</td>
</tr>
<tr>
<td>4900.02</td>
<td>Environment and Natural Resources Management for Forestry Fisheries and Wildlife</td>
<td>3</td>
<td>Application and integration of technical knowledge and methodologies in the forestry, fisheries, and wildlife sciences to planning, problem-solving, and decision-making in environment and natural resources.</td>
</tr>
<tr>
<td>4950</td>
<td>Wilderness Leadership Education</td>
<td>3</td>
<td>Affiliate program with the North Carolina Outward Bound School (NCOBS). Field studies and practice of wilderness expedition skills, leadership, group dynamics, safety, judgment, and environmental studies. Approval of NCOBS application required. Specific content, location, semester(s) of offering and prerequisites vary. Students will pay OSU fees and any fees in excess of OSU tuition, incl. travel.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research</td>
<td>1 - 6</td>
<td>Conducting and reporting undergraduate research.</td>
</tr>
<tr>
<td>4999</td>
<td>Research with Distinction</td>
<td>1 - 3</td>
<td>Conducting and reporting undergraduate research. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.</td>
</tr>
<tr>
<td>4999H</td>
<td>Honors Research with Distinction</td>
<td>1 - 3</td>
<td>Conducting and reporting honors research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies</td>
<td>1 - 3</td>
<td>Group studies on the nature and management of environmental and natural resources encompassed in various developing and special topics.</td>
</tr>
<tr>
<td>5210</td>
<td>US Environmental Impact Assessment</td>
<td>3</td>
<td>Study of impact of human activity in natural resources through evaluation of environmental impact.</td>
</tr>
<tr>
<td>5211</td>
<td>International Environmental Impact Assessment</td>
<td>3</td>
<td>Fundamental concepts of international environmental impact assessment including the legal and institutional frameworks, practice and performance, and social and cultural contexts that shape EIA's implementation worldwide.</td>
</tr>
</tbody>
</table>

Additional courses include: 4340, 4610, 4611, 4648, 4890H, 4900.01, 4950, 4998, 4999, 4999H, 5194, 5210, 5211.
<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>5220</td>
<td>Ecosystems of the World: Temperate, Boreal and High Latitude Ecosystems</td>
<td>U G 2</td>
<td>Intermediate course in ecology emphasizing structure-function relations at broad scales, incorporating soil development, geomorphology, climate, and human impact into analyses of major temperate, boreal, and polar ecosystems. PreReq: Sr or Grad standing; or permission of instructor. Not open to students with credit for 656. EEB 656 or PCMB 656. Cross-listed in EEB 6.</td>
</tr>
<tr>
<td>5222</td>
<td>Ecological Engineering and Ecosystem Restoration</td>
<td>U G 3</td>
<td>Definition, classification, and practice of Ecological Engineering. Course describes ecological systems and the design of natural systems to provide societal services and benefits to nature. PreReq: Not open to students with credit for 618 or CivilEn 618, FABEng 618 or EnvEng 618. Cross-listed in CivilEn 618 and FABEng 618.</td>
</tr>
<tr>
<td>5225</td>
<td>Ecosystem Modeling</td>
<td>U G 3</td>
<td>Development and simulation of ecological models for natural resource/ecosystem management; conceptual and symbolic models, simulation techniques on main frame and microcomputers. PreReq: Math 1151 (151) and EEDB 3005 (503.01); or Grad standing. Not open to students with credit for 760. Cross-listed in FABEng 760.</td>
</tr>
<tr>
<td>5240</td>
<td>Environmental Molecular Sciences</td>
<td>U G 2</td>
<td>Advanced interdisciplinary course for students in related fields (env microbi, env eng, env sci, geochem, mineralogy). Offers thorough understanding of molecular-scale biogeochemical Earth processes (natural &amp; human), to address env problems.</td>
</tr>
<tr>
<td>5250.01</td>
<td>Wetland Ecology and Restoration</td>
<td>U G 3</td>
<td>Wetland hydrology, biogeochemistry, vegetation, biotic adaptations. Ecosystem services, classification, and management of wetlands. Fundamental concepts of ecological engineering applied to wetland creation and restoration and river restoration. PreReq: EEB 6.03 (503.01) or Grad standing. Not open to students with credit for 725 or 726.</td>
</tr>
<tr>
<td>5250.02</td>
<td>Wetland Field Laboratory</td>
<td>U G 1</td>
<td>Laboratory on wetland hydrology, vegetation, water quality, soils, and aquatic biota. PreReq: Concur: 5250.01. Not open to students with credit for 725 or 726.</td>
</tr>
<tr>
<td>5260</td>
<td>Soil Landscapes: Morphology, Genesis and Classification</td>
<td>U G 3</td>
<td>Course in soil genesis, classification and mapping. PreReq: 3000 (300.01) and 3001 (300.02); or Grad standing; or permission of instructor. Not open to students with credit for 650.</td>
</tr>
<tr>
<td>5261</td>
<td>Environmental Soil Physics</td>
<td>U G 3</td>
<td>Principally involves the state and transport of water, heat and gas within soil, and the associated soil physical properties. PreReq: Not open to students with credit for 655 or 671.</td>
</tr>
<tr>
<td>5262</td>
<td>Soil Chemical Processes and Environmental Quality</td>
<td>U G 3</td>
<td>A comprehensive study of chemical processes in soils and their impact on environmental quality. Computer laboratory provides hands-on experience with geochemical speciation models. PreReq: Chem 121 and 122 or 125, or Grad standing, or permission of instructor. Not open to students with credit for 660.</td>
</tr>
<tr>
<td>5263</td>
<td>Biology of Soil Ecosystems</td>
<td>U G 3</td>
<td>A comprehensive study of microbial communities and their role in providing ecosystems services. PreReq: 3000 (300.01) or SoilSci 300.01, or Grad standing. Not open to students with credit for 665 or 682.</td>
</tr>
<tr>
<td>5265</td>
<td>Characterization of Soil in the Field and Laboratory: Sampling</td>
<td>U G 2</td>
<td>Field soil observations; sampling across the landscape; GPS and GIS data acquisition systems and spatial statistical analysis; soil physical and water measurements in the field. PreReq: 3000 (300.01) and 3001 (300.02); or Grad standing. Not open to students with credit for 720.</td>
</tr>
<tr>
<td>5266</td>
<td>Field Soil Investigation: Soil Chemistry, Fertility and Biology</td>
<td>U G 3</td>
<td>A comprehensive overview of theory, principles and techniques of laboratory methods used for chemical analysis of soil, plant material, and environmental samples. PreReq: Not open to students with credit for 740.</td>
</tr>
<tr>
<td>5268</td>
<td>Soils and Climate Change</td>
<td>U G 2</td>
<td>Soil processes, abrupt climate change, trace gases and their properties, global C cycle, gaseous emissions, C-neutral fuels, carbon sequestration, Kyoto Treaty, trading of C credits. PreReq: Not open to students with credit for 871.</td>
</tr>
<tr>
<td>5270</td>
<td>Soil Fertility</td>
<td>U G 3</td>
<td>Principles of soil fertility, plant nutrition, and nutrient management; environmental considerations and low input concepts in soil fertility. PreReq: 3000 (300.01). or Grad standing, or permission of instructor. Not open to students with credit for 580.</td>
</tr>
<tr>
<td>5271</td>
<td>Soils of Forest Ecosystems</td>
<td>U G 3</td>
<td>Characteristics and processes of soils in natural and managed forests; interactions of forest communities and soils, mgmt of soils in forest ecosystems. Designed for all students &amp; practicing professionals in forestry &amp; soil science. PreReq: 3000 (300.01). or Grad standing, or permission of instructor. Not open to students with credit for 630.</td>
</tr>
<tr>
<td>5272</td>
<td>Turfgrass Soils</td>
<td>U G 2</td>
<td>Soil properties and processes of specifically designed and constructed soils meeting the agronomic and playability requirements of golf course and athletic field venues. PreReq: 3000 (300.01). or Grad standing; or permission of instructor. Not open to students with credit for 540.</td>
</tr>
<tr>
<td>5273</td>
<td>Environmental Fate and Impact of Contaminants in Soil and Water</td>
<td>U G 3</td>
<td>An overview of contaminant sources, transport through soil and water, and environmental fate and impact to human and ecosystem receptors. PreReq: 3000 (300.01) and 3001 (300.02), or Grad standing. Not open to students with credit for 730.</td>
</tr>
<tr>
<td>5274</td>
<td>Ecosystems Simulation</td>
<td>U G 3</td>
<td>A laboratory course in conducting computer simulations of agricultural, forest and aquatic ecosystems addressing both production and environmental protection issues. PreReq: 3000 (300.01) and 3001 (300.02), or Grad standing. Not open to students with credit for 730.</td>
</tr>
<tr>
<td>5279</td>
<td>Urban Soils and Ecosystem Services: Assessment and Restoration</td>
<td>U G 3</td>
<td>A comprehensive study focused on assessment and restoration of urban soil to provide essential ecosystem services. Urban soil laboratory provides hands-on experience with soil assessment and restoration.</td>
</tr>
<tr>
<td>5280</td>
<td>Stream Ecology</td>
<td>U G 4</td>
<td>Structure, function, and biota of streams and rivers. Emphasis on ecosystem processes and community dynamics over space and time. PreReq: 3300 (319), or Grad standing, or permission of instructor. Not open to students with credit for 622.</td>
</tr>
<tr>
<td>5282</td>
<td>Forest Management</td>
<td>U G 3</td>
<td>Application of biological, economic, and planning principles to address the sustainable management of forest resources with emphasis of the timber resource and associated products. PreReq: 3323 (323) and 3333 (333), or Grad standing, or permission of instructor. Not open to students with credit for 635.</td>
</tr>
<tr>
<td>5289</td>
<td>Arboriculture</td>
<td>U G 3</td>
<td>Integration of environmental factors and culture practices necessary to establish, grow, maintain plant function in the landscape in an ethical, cost effective manner. A 4000 (400) level course in Entmty (Entomol) or PnPlPh is strongly recommended. PreReq: 3321 (221) or HCS 234, or Grad standing. Not open to students with credit for 631. This course is available for EM credit.</td>
</tr>
<tr>
<td>5295</td>
<td>Public Forest and Lands Policy</td>
<td>U G 3</td>
<td>Explores fundamental and leading-edge concepts in U.S. public forest and lands policy. Emphasizes political, legal, and administrative issues of federal and state lands, especially forests. PreReq: 3321 (221), or Grad standing, or permission of instructor. Not open to students with credit for 736.</td>
</tr>
<tr>
<td>5301</td>
<td>Anthropology of Forest Ecosystems</td>
<td>U G 3</td>
<td>Principles of vegetation and soil science. PreReq: 3300 (319), or Grad standing, or permission of instructor. Not open to students with credit for 734.</td>
</tr>
<tr>
<td>5300</td>
<td>Apiculture</td>
<td>U G 3</td>
<td>Principles of fisheries management including social and economic factors. PreReq: 3300 (319), or Grad standing, or permission of instructor. Not open to students with credit for 620.</td>
</tr>
<tr>
<td>5344</td>
<td>Methods in Aquatic Ecology</td>
<td>U G 4</td>
<td>Introduction to experimental designs, field and laboratory techniques, and statistical methods commonly used to study aquatic ecosystems. PreReq: 2100 (201), or Grad standing, or permission of instructor. Not open to students with credit for 626.</td>
</tr>
<tr>
<td>5356</td>
<td>Conservation &amp; Management of Aquatic Populations</td>
<td>U G 3</td>
<td>Applies concepts and principles from the fields of population ecology, demography and population genetics to current conservation and management problems facing populations of aquatic organisms. PreReq: 5280 (620), or permission of instructor. Not open to students with credit for 627.</td>
</tr>
</tbody>
</table>
### 5350.02 Taxonomy and Behavior of Fishes  
**UG 3**  
Taxonomy and behavior of the major groups of fishes, with an emphasis on North American freshwater fishes. Sp Sem. Prereq or concn: 5280 (622), or permission of instructor.

### 5355 Aquaculture  
**UG 3**  
Overview of physical, biological, and economical factors influencing fish culture systems. World fish production practices comparisons. Emphasis on propagation and conservation efforts. 3 cr, 1 4-hr lab, 2 hatchery trips. Prereq: 3300 (319) or Biochem 511, or grad standing, or permission of instructor. Not open to students with credit for 628.

### 5360 Principles of Wildlife Ecology and Management  
**UG 3**  
Principles of population and community ecology applied to conservation and mgmt of terrestrial vertebrates. Principles of wildlife management including social and economic factors. Au Sem. Prereq: Not open to students with credit for 623.

### 5362 Wildlife Ecology Methods  
**UG 3**  
Methods used by wildlife ecologists to measure population characteristics and habitat quality for wild terrestrial vertebrates. 1-2 Sat and 1 full weekend field trips required. Au Sem. Prereq: 2000 (222) or 3300 (319) or Stat 145; or Grad standing. Not open to students with credit for 622.

### 5364.01 Mammalian Wildlife Biology and Management  
**UG 3**  
Identification, ecology, and population management of North American mammals. 1-2 Sat field trips required. Au Sem. Prereq: 3300 (319) or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 624.

### 5364.02 Avian Wildlife Biology and Management  
**UG 3**  
Identification, ecology, and population management of North American birds. 1-2 Sat field trips required. Sp Sem. Prereq: 3300 (319) or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 624.

### 5370 Management of Wildlife Habitat  
**UG 2**  
Principles of wildlife-habitat relationships, natural history of major North American terrestrial ecosystems, and conservation and management of wildlife habitats. Sp Sem. Prereq: 3300 (319) or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 625.

### 5375 Ecology and Management of Wetlands  
**UG 2**  
Ecology and habitat relationships of wetland birds that inhabit the Great Lakes Erie region. Management of wetlands as wildlife habitat. College course work in Biology or Ecology recommended. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 629.

### 5448H Tragedy of the Commons? Environment, Government and Collective Action  
**UG 3**  
Interdisciplinary study of common pool resources to understand the interplay of communities, markets and states in solving collective action problems. Includes strategic game simulations. Sp Sem. 2.5-hr cl. Prereq: Honors and Jr or Sr standing, or Grad standing, or permission of instructor. Not open to students with credit for 648H.

### 5451 Water Law  
**UG 3**  
Review and advanced analysis of Ohio, interstate, and federal institutions and policies which influence the use and management of water resources. Sp Sem. Prereq: 4000 (400), or Sr standing or Grad standing, or permission of instructor. Not open to students with credit for 651.

### 5480 Local Peoples and International Conservation  
**UG 3**  
Uses interdisciplinary thinking to explore the global environmental crises and the conflicts between indigenous/local peoples, conservationists, and policy makers regarding natural resource use. The course examines biodiversity conservation, protected areas, community-based conservation, global inequities, environmental history and politics, and sustainable development. Prereq: 15 cr hrs of Social, Physical, and/or Biological sciences, or teacher certification; and permission of instructor.

### 5560 Rehabilitation/Restoration of Ecosystems  
**UG 2**  
Intermediate-level course dealing with ecosystems drastically disturbed by human impacts and strategies employed to rehabilitate and restore them for long-term biological productivity and use. Au Sem. 2.5-hr cl. Prereq: 2100 (201), 2300 (203), and additional 12 cr hrs in natural resources or natural sciences; or Sr or grad standing; or permission of instructor. Not open to students with credit for 756.

### 5600 Sustainable Agriculture and Food Systems  
**UG 3**  
Integrative look at the social, economic, and production/environmental dimensions of sustainable agriculture and food systems. Particular attention to sociological, soil science and related disciplinary perspectives. Prereq: 3000 (300.01) and 3500, or grad standing.

### 5611 Great Lakes Education Workshop  
**UG 2**  
Techniques and curricula for presenting interdisciplinary aspects of the oceans and Great Lakes in formal and nonformal education settings. Taught at F.T. Stone Lab. Su Sem. Prereq: Jr standing or above. Repeatable to a maximum of 6 cr hrs.

### 5614 Marine and Aquatic Education  
**UG 2**  
Overview of oceanic and Great Lakes resources, their roles in history, climate, commerce, and culture; examination of teaching materials for formal and informal settings. Students pay travel costs for field trip. Taught at F.T. Stone Lab. Prereq: 15 cr hrs of Social, Physical, and/or Biological sciences, or teacher certification; and permission of instructor.

### 5640 Natural Resources Program Planning  
**UG 4**  
Inventory and evaluation of natural resources for program planning with consideration of goals, objectives and actions, budgeting, and planning documents. Au Sem. Prereq: 2100 (201), 2300 (203), 3500 (340) and 4000 (400), or Grad standing. Not open to students with credit for 640.

### 5642 Environment and Natural Resources Administration  
**UG 3**  
Organization and administration of environment and natural resource agencies and non-governmental organizations. Sp Sem. Prereq: 4000 (400), or grad standing, or permission of instructor. Not open to students with credit for 642.

### 5649 Wildlife Conservation Policy  
**UG 3**  
Overview of fish and wildlife policy in the US and key issues affecting wildlife conservation in North America. Sp Sem. Prereq: 4000 (400), or Grad standing. Not open to students with credit for 649.

### 5690 Workshop in Environmental Education  
**UG 2**  
Problems of instruction in environmental education with consideration of both traditional approaches and current developments in content and methodology. Taught at F.T. Stone Lab. Su Sem. Prereq: Jr standing or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs.

### 5699 Current Topics in Environment and Engineering  
**UG 1**  
Summer seminar which presents research, management and policy of topics in science, environment, engineering and technology. Taught at F.T. Stone Laboratory. Repeatable to a maximum of 3 or hrs. This course is graded S/U.

### 5790.01 Iceland Study Abroad Seminar  
**UG 1**  
Pre-departure preparation for Iceland Study Abroad. Provides a general introduction to the country so that learning opportunities in-country will be maximized. Prereq: Accepted and committed to participate in the SENR Study Abroad Program in Iceland.

### 5790.07 Dominican Republic Study Abroad Seminar  
**UG 1**  
Pre-departure preparation for Dominican Republic Study Abroad. Prereq: Accepted and committed to participate in the SENR Study Abroad Program in Dominican Republic.

### 5790.08 China Research Abroad Seminar  
**UG 1**  
Pre-departure seminar for students participating in the China Research Abroad trip. Students will develop a research project during this course with the guidance from the instructor, creating the protocols necessary to execute the project in China. Prereq: Students must be participating in the China Research Study Abroad program. This course is graded S/U.

### 5797.01 Study at a Foreign Institution: Australia  
**UG 3**  
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees. Au, Sp, Su Sem. Prereq: Permission of dep chairperson. Not open to students with 30 cr hrs or 2 completions of 5797 (697). Repeatable to a maximum of 30 cr hrs or 2 completions. This course is progress graded.

### 5797.02 Study at a Foreign Institution: Australia  
**UG 3**  
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees. Prereq: Permission of resident director. Not open to students with 2 completions or 30 cr hrs of 5797 (697). This course is progress graded.

### 5797.03 Study at a Foreign Institution: New Zealand  
**UG 3**  
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees. Prereq: Permission of resident director. Not open to students with 30 cr hrs or 2 completions of 5797 (697). This course is progress graded.

### 5797.04 Study at a Foreign Institution: New Zealand  
**UG 3**  
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees. Prereq: Permission of resident director. Not open to students with 30 cr hrs or 2 completions of 5797 (697). This course is progress graded.

### 5797.05 Study at a Foreign Institution: Fiji  
**UG 3**  
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees. Prereq: Permission of resident director. Not open to students with 2 completions of 5797 (697). This course is progress graded.
5797.06 Study at a Foreign Institution: Iceland U G 3
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.
Prereq: Permission of dept chairperson.

5797.07 Study at a Foreign Institution: Dominican Republic U G 3
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.
Prereq: Permission of resident director. Not open to students with 2 completions of 5797 (697). This course is progress graded.

5797.08 Study at a Foreign Institution: China Research U G 3
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.
Prereq: Permission of resident director. Not open to students with 2 completions of 5797 (697). This course is progress graded.

5797.09 Study at a Foreign Institution U G 1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students pay OSU and other fees.
Prereq: Permission of department chairperson. Not open to students with 2 completions or 30 cr hrs of 5797 (697). Repeatable to a maximum of 30 cr hrs or 2 completions. This course is progress graded.

6000 Research in Environment and Natural Resources G 2
The use of science and research to address natural resource problems; development of a thesis proposal.
Au Sem. Prereq: Grad standing. Not open to students with credit for 800. This course is graded S/U.

6193 Individual Studies in Environment and Natural Resources G 1 - 3
Individual Studies in Environment and Natural Resources.
Au, Sp, Su Sem. Prereq: Permission of instructor. Not open to students with 9 cr hrs for 6193 (693). Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

6194 Advanced Group Studies G 1 - 3
Group studies on the science and discipline of environmental and natural resources encompassed in various developing and special topics.
Au, Sp Sem. Prereq: Permission of instructor. Not open to students with 6 cr hrs or 2 completions for 694. Repeatable to a maximum of 6 cr hrs or 2 completions.

6610 Soil and Environmental Biochemistry G 2
Soil biochemical techniques, elemental transformations, biologically active compounds, pesticide metabolism, and fate of genetic materials in soils.
Prereq: 3000.01 (300.01), Chem 231, or Biochem 511, or Grad standing. Not open to students with credit for 761.

7310 Principles and Applications of Forest Ecosystem Restoration G 2
Analysis of ecological processes as they relate to the restoration of disturbed forest ecosystems.
Sp Sem. Prereq: Grad standing, and permission of instructor. Not open to students with credit for 731.

7333 Successional Dynamics of Forests G 3
Analysis of past development of forest stands; examination of major processes causing changes over time in communities of trees. One or more all-day field trips.
* Sp Sem (odd yrs). Prereq: Grad standing, and permission of instructor. Not open to students with credit for 733.

7380 Climate and Society G 3
Examines links between climatic changes and human societies and examines social influences on our current state of knowledge, impacts, and potential responses.
Au Sem. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 738.

7400 Communicating Environmental Risk G 2
Introduction to the design and implementation of public-focused risk communication as it relates to environmental, agricultural and public health contexts.
Sp Sem. Prereq: Grad standing, or permission of instructor.

7500 Resolving Social Conflict G 3
Multidisciplinary examination of social conflict, its dynamics & negotiated & consensual resolution; offers broad-based framework for diagnosing & managing conflict; applied to legal, environmental, organizational, & geopolitical conflicts.
Au Sem. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 750, BusAdm 750, or CRPlan 750. Cross-listed in BusAdm and CRPlan.

7520 Environmental Science and Law G 3
Introduction to the common and statutory law and administration of environmental protection, with special emphasis on scientific and technological aspects.
Au-Sem. 2.1-5 cr. Prereq: ENR 4000 (400), or grad standing, or permission of instructor. Not open to students with credit for 752.

Environment and Natural Resources 213

7530 Soil Mineralogy G 3
Theory and application of methods for analyzing minerals in soil environments, including X-ray, thermal, and wet chemical techniques.
2-1 hr cl, 1.3-hr lab. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 753.

7700 Watershed Ecology and Restoration G 3
Fundamental ecological processes affecting streams, wetlands, and rivers at the watershed scale and the emerging roles of restoration and adaptive management in disturbed aquatic ecosystems.
Au Sem. Prereq: Grad standing. Not open to students with credit for 770.

7888 MENR Project G 1 - 3
Conducting and reporting MENR applied science project.
Prereq: Grad standing, and permission of advisor. Not open to students with 9 cr hrs for 7888 (893). Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

8120 Spatial Methods in Environment and Natural Resources G 2
Spatial analysis methods for environmental and natural resources data in small scale settings.
Au Sem. 2.1-hr cl. Prereq: A grad course in Statistics. Not open to students with credit for 812.

8150 Advanced Environment, Risk and Decision Making G 3
Theory of individual and participatory risk-based decision making and applications to improve decision making in environmental and other risk-based management contexts.
Sp Sem. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 815.

8350 Ecosystem Management Policy G 3
Theory and practice of integrating natural and social science for managing watersheds, forests, and regions. Evolution of policies to address human-ecological systems. Service learning "lab".
Au Sem. Prereq: Grad standing. Not open to students with credit for 835.

8400 Human Dimensions of Ecosystems Management G 2
Provides an overview of interdisciplinary theories and frameworks for understanding and addressing environmental problems and natural resources management issues.
Au Sem. Prereq: Grad standing. Not open to students with credit for 840.

8510 Research Design for Environmental Social Sciences G 3
Introduction to designing research for building and testing theory in environmental social science disciplines. Bridges qualitative and quantitative research approaches, applied to developing a practice thesis proposal.
Sp Sem. Prereq: Grad standing. Not open to students with credit for 851.

8780 Quantitative Methods for Environment and Natural Resources G 3
Multivariate statistical methods used by natural resource scientists to study environmental relationships of plants and animals. Analytical methods are explained with real Forestry, Fisheries, and Wildlife data sets.
* Sp Sem (even years). Prereq: Stat 5302 (530) or equiv, and Grad standing; or permission of instructor. Not open to students with credit for 822.

8785 Research Paradigms G 3
An examination of research paradigms and techniques used in the disciplines involved in natural resource science and management.
* Sp Sem (odd yrs). Prereq: Doct standing, or permission of instructor. Not open to students with credit for 885.

8890.01 Fisheries and Wildlife Science Seminar G 1 - 12
Seminar on special topics in fisheries and wildlife science in environment and natural resources.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.

8890.02 Ecological Restoration Seminar G 1 - 12
Seminar on special topics in ecological restoration in environment and natural resources.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.

8890.03 Ecosystem Science Seminar G 1 - 12
Seminar on special topics in ecosystem science in environment and natural resources.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.

8890.04 Soil Science Seminar G 1 - 12
Seminar on special topics in soil science in environment and natural resources.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.

8890.05 Forest Science Seminar G 1 - 12
Seminar on special topics in forest science in environment natural resources.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 96 cr hrs or 8 completions.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Hours</th>
<th>Credits</th>
</tr>
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<tbody>
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<td>Environmental Social Sciences Seminar</td>
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<tr>
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<td>2097</td>
<td>Research Proposal Symposium</td>
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<tr>
<td>2100</td>
<td>Environmental Engineering Analytical Methods</td>
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<tr>
<td>2193</td>
<td>Individual Studies in Environmental Engineering</td>
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<tr>
<td>2199</td>
<td>Group Studies in Environmental Engineering</td>
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<tr>
<td>3080</td>
<td>Economic Evaluation and Optimization in Civil and Environmental Engineering</td>
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<td>3200</td>
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<td>Environmental Engineering Process Development</td>
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<tr>
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<td>4194</td>
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<td>4200</td>
<td>Environmental Engineering Unit Operations Lab</td>
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<td>4985</td>
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<tr>
<td>4999</td>
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<td>5110</td>
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<td>5194</td>
<td>Group Studies in Environmental Engineering</td>
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<td>5430</td>
<td>Principles of Risk Assessment</td>
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</table>
Environmental Engineering 215

8998 Graduate Research in Environmental Engineering  G 1 - 15
Opportunity for graduate students to conduct research in Environmental Engineering. 
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. 
This course is graded S/U.

8999 Environmental Engineering Research Dissertation  G 1 - 15
Research for dissertation purposes only. 
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. 
This course is progress graded (S/U).

Environmental Science

6193 Individual Studies in Environmental Sciences  G 1 - 12
Afford the qualified student the opportunity for independent reading, study, practical experience, or laboratory work in specialized field of interest. 
Au, Sp, Su Sems. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

6194 Group Studies  G 1 - 5
Group studies in environmental sciences. 
Au, Sp, Su Sems. 
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

7899 Current Issues in Environmental Sciences  G 1
Graduate seminar where faculty from within and outside the University and graduating students will present their research. 
Au, Sp Sems. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

Environmental Sciences Technology

1201T Exploring Environmental Sciences  U ½
Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success.

2191T Environmental Internship  U 3
Experience of employment in Environmental Science to provide varied occupational experience, supervised by an employer, and coordinated by faculty. A grade of C or better required to meet graduation requirements. 
Prereq: GPA 2.0, and permission of instructor. Not open to students with credit for 290T.

Evolution, Ecology and Organismal Biology

1910 Introduction to Biological Studies - Local Plants (Stone Lab)  U 2
Structures, processes, and stages of the plant life cycle; common families of flowering plants; plant geography, ecology, and conservation; and uses of plants. 1-wk course available summer session at Stone Lab. 
Prereq: Completion of high school Biology course. Not open to students with credit for 110. 

1920 Introduction to Biological Studies - Birds (Stone Lab)  U 2
An introductory course for students interested in ornithology including bird identification, behavior, and ecology, with an emphasis on field and laboratory techniques. 1-wk course available summer session at Stone Lab. 
Prereq: Completion of high school Biology course. Not open to students with credit for 126.

1930 Introduction to Biological Studies - Aquatic Biology (Stone Lab)  U 2
An introduction to the organisms of the ecosystem in freshwater aquatic environments. 1-wk course available summer session at Stone Lab. 
Prereq: Completion of high school Biology course. Not open to students with credit for 125.

2210 Biodiversity of Ohio - Plants  U 2
A lecture and field course in identifying common Ohio plants; emphasis on taxonomic principles, use of keys and manuals, and field recognition of plants; includes some Saturday field trips. 
Prereq: 4 sem cr hrs in Biological Sciences. Not open to students with credit for 210. NS Admis Cond course.

2220 Biodiversity of Ohio - Birds  U 2
The general biology of birds with emphasis on their natural histories and field identification of local species 
Prereq: 4 sem cr hrs in Biological Sciences. Not open to students with credit for 322.

2250 Dynamics of Dinosaurs  U 2
A review of current information on dinosaur biology; emphasizing scientific approaches to reconstructing dinosaurs as living, dynamic animals. 
Prereq: 4 sem cr hrs in Biological Sciences or Historical Geology.

2510 Human Anatomy  U 3
An introduction to human anatomy: small mammal dissection. 
Prereq: 3 sem cr hrs in Biological Sciences. Not open to students with credit for 235. GE nat sci bio course. NS Admis Cond course.

5600 Science, Engineering, and Public Policy  U G 3
Presents a history of the interactions between science, engineering, and public policy in the United States and in the context of global concerns (e.g., climate change, competitiveness), inquire into how various federal government, universities, & corporations conduct & fund science and engineering & explore how public sector interests & processes influence sci, engr & public policy. 
Prereq: Jr, Sr, or Grad standing; or permission of instructor. Cross-listed in PUBAfrs.

5850 Advanced Topics in Environmental Engineering  U G 1 - 3
Exploration of advanced topics in Environmental Engineering. 
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.

5880 Environmental Engineering Seminar  U G 1
Seminar course which presents current research findings on Environmental Engineering and science. 
Prereq: Jr, Sr, or Grad standing in Environmental Engineering, and permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

6100 Environmental Engineering Analytical Methods  G 3
Application of analytical methods to calculate, measure and interpret chemical characteristics of water, soil, and air. 
Prereq: Chem 1220 (122) or 1250 (125), or Grad standing. Not open to students with credit for 210D (610) or CivEn 610.

6193 Individual Studies in Environmental Engineering  G 1 - 5
Individual conferences, assigned readings, and reports on minor investigations. 
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

6194 Group Studies in Environmental Engineering  G 1 - 5
Provides groups of students opportunities to pursue special studies not otherwise offered. 
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

6200 Fundamentals of Environmental Engineering  G 3
Quantitative assessment of water quality, air quality, and solid/hazardous waste management, with an emphasis on monitoring human health and environmental impacts through sustainable design. 
Prereq: Chem 1220 (122) or 1250 (125), or Grad standing, or permission of instructor. Not open to students with credit for 3200 (511) or CivEn 511.

6210 Environmental Engineering Unit Operations  G 3
Selection and Design of Unit Operations and Processes used in Environmental Engineering. 
Prereq: 413 or CivEn 3130 (413), and Chem 1220 (122) or 1250 (125), or Grad standing; or permission of instructor. Not open to students with credit for 3210 (520) or CivEn 520.

6220 Data Analysis in Environmental Engineering  G 3
Application of programming and statistical methods for engineering data analysis. Will explore distribution, variance, and multivariate methods. Will provide a deeper understanding of analysis theories in the space, time, and spectral domain. Students will develop computer programming toolboxes and theoretical skills for analyzing and modeling data in their own research. 
Prereq: Stat 3450, 3460, 3470, or CivEn 2050, or equiv; and Grad standing in the Civil Engineering or Environmental Science Graduate programs.

6999 Environmental Engineering Research Thesis  G 1 - 15
Research for thesis purposes only. 
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is progress graded (S/U).

7217 Applied Mathematical Ecology  G 4
Description and application of basic methods to model population, communities and the interactions between ecosystems and the earth system. 
Prereq: 2060 (406) or Math 568, and EnGraph 167, CSE 1221, or 1222. Not open to students with credit for CivEn 817.

7218 Measurement and Modeling of Boundary Layer Meteorology and Surface Fluxes  G 4
A study of the atmospheric boundary layer, its interaction with the land surface and vegetation in particular, and hand-on experience with micrometeorological and eddy-covariance instrumentation and data analysis. 
Prereq: CivEn 2060 (406) or Math 568 or equiv; and EnGraph 167 or CSE 1221 or 1222 or equiv.

7220 Colloidal and Interfacial Processes in Aquatic Systems  G 3
Fundamental concepts of the chemistry of the solid-water interface, adsorption/desorption, coagulation, and deposition in natural and engineered systems. 
Prereq: 2100 (610), or Grad standing, or permission of instructor. Not open to students with credit for both CivEn 819 and 822.

8193 Individual Studies in Environmental Engineering  G 1 - 5
Individual conferences, assigned readings, and reports on minor investigations. 
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

8194 Group Studies in Environmental Engineering  G 1 - 5
Provides groups of students opportunities to pursue special studies not otherwise offered. 
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.
216 Evolution, Ecology and Organismal Biology

2520 Human Physiology U 3
A survey of the human nervous system, sense organs, muscle function, circulation, respiration, digestion, metabolism, kidney function, and reproduction. Prereq: 3 sem cr hrs in Biological Sciences. Not open to students with credit for 232. GE nat sci bio course. NS Admis Cond course.

3189 Undergraduate Field Experience or Work U 1 - 3
Field work or experience. Prereq: 8 cr hrs in Biological Sciences. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is progress graded (S/U).

3191 Undergraduate Internship U 1 - 3
Internship held as undergraduate for credit. Prereq: 8 cr hrs in Biological Sciences, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is graded S/U.

3193 Undergraduate Individual Studies U 1 - 3
Individual work in the field of the chosen problem. Prereq: 8 cr hrs in Biological Sciences. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is graded S/U.

3194 Undergraduate Group Studies U 1 - 3
Study of selected topics in evolution, ecology and organismal biology. Prereq: 8 cr hrs in Biological Sciences. Repeatable to a maximum of 12 cr hrs or 3 completions.

3310 Evolution U 4
Basic conceptual issues and processes in evolution with an emphasis on the ecological basis of adaptation and consequences of natural selection. Also available summer term at Stone Lab. Prereq: Biology 1114 or 1114H, or permission of instructor. Not open to students with credit for 400.

3310H Honors Evolution U 4
Basic conceptual issues and processes in evolution with an emphasis on the ecological basis of adaptation and consequences of natural selection. Also available summer term at Stone Lab. Prereq: Honors standing, and Biology 1114 (114) or 1114H (114H), and MolGen 4500 (500), 4500H (500H), or 501; or permission of instructor. Not open to students with credit for 400H.

3320 Organismal Diversity U 3
A survey of organismal diversity and the evolutionary relationships between and within major groups of organisms. Class is laboratory based. Prereq: 3310. Not open to students with credit for 405.01 and 405.02.

3410 Ecology U 4
Distribution and abundance of species, population dynamics, community ecology, ecosystem dynamics, and applied perspectives. Also available summer term at Stone Lab. Prereq: Biology 1114 or 1114H, or permission of instructor. Not open to students with credit for 503.01, 503.02, and 503.03.

3410H Honors Ecology U 4
Distribution and abundance of species, population dynamics, community ecology, ecosystem dynamics, and applied perspectives. Also available at Stone lab. Prereq: Honors standing, and 8 sem cr hrs in Biological Sciences, or permission of instructor. Not open to students with credit for 503.01, 503.02, and 503.03.

3420 Behavioral Ecology U 3 - 4
Comparative study of animal behaviors, and analysis of their adaptive value, physiological mechanisms, development, and evolution, within their ecological and social context. Also available summer session at Stone Lab. Prereq: Biology 1114 or 1114H, or permission of instructor. Not open to students with credit for 440, 620, 730, or 740.

3494 Entering Independent Research U 3
Designed to equip students in the Natural and Mathematical Sciences with necessary skills to become independent researchers. The main emphasis is given to experimental methods, experimental and quasi-experimental design, hypothesis testing, sampling, research ethics, basic statistics, and presentation of data. Prereq: Not open to students with Sr standing.

3498 Undergraduate Research in Behavioral Ecology U 4
Supervised independent research opportunities in behavioral ecology for undergraduates considering careers in basic scientific research, secondary education, or graduate research programs in biological and behavioral sciences. Formal instruction on experimental research design, literature review, research ethics, and elementary statistical analyses. Prereq: Biology 1113, 1113H, 1114, 1114H, or Soph standing or above; or permission of instructor.

3510 Cellular and Developmental Biology U 3
Introduction to the structure and function of animal cells, and to patterns of early development in vertebrates and invertebrates. Prereq: 3310, and Biology 1113 or 1113H. Not open to students with credit for 415 and MolGen 5602.

3520 Microscopic Anatomy U 3
Examination and analysis of the functional morphology of cells and tissues of vertebrate animals, with emphasis on mammalian histology. Prereq: Biology 1113 (113), 1114 (114), 1113H (113H), or 1114H (116H). Not open to students with credit for 630.

3797 Undergraduate Study at a Foreign Institution U 1 - 12
Undergraduate study at a foreign research institution. Prereq: 8 cr hrs of Biological Sciences, and permission of department.

3798 Undergraduate Study Tour U 1 - 12
Undergraduate study tour. Prereq: 8 sem cr hrs in Biological Sciences, and permission of instructor. Not open to students with credit for 698. This course is graded S/U.

4210 Focused Study of Ecology and Evolution - Vertebrates U 2
Analysis of the anatomical, physiological, behavioral, and ecological characteristics of the major vertebrate groups. Prereq: 3410. Not open to students with credit for 470.

4220 Focused Study of Ecology and Evolution - Mammals U 2
Mammals of the world, their natural history, distribution, taxonomy, and major anatomical and physiological adaptations; study of local species emphasized in lab. Prereq: 3310. Not open to students with credit for 625.

4230 Focused Study of Ecology and Evolution - Invertebrates U 2
Analysis of the anatomical, physiological, behavioral and ecological characteristics of the major invertebrate groups. Prereq: 3310.

4240 Focused Study of Ecology and Evolution - Plants and People U 3
Overview of the importance of plants to humans. Students will gain an understanding of the interrelations between humans and plants, including plant domestication, history and uses of spices and flavorings derived from plants, as well as non-food uses of plants. Prereq: 2210 and 3310, and 1 course in Biological Sciences (Plant Biology preferred). Not open to students with credit for 502.

4410 Conservation Biology U 3
Application of ecology, population genetics, and biogeography to the study and conservation of biodiversity, threatened communities, and endangered species. Prereq: 3310 and 3410, or permission of instructor. Not open to students with credit for 661.

4420H Tropical Field Studies U 3
Study abroad course in Costa Rica focusing on the diversity, biotic interactions, and effects of the environment in tropical communities, and humans in the tropics. Includes opportunities for research in tropical systems. Prereq: Honors standing, and 3310 or 3410; or permission of instructor. Not open to students with credit for 557H.

4430 Ecological Methods I U 1 - 2
Hands-on course for learning basic field and quantitative methods for ecological studies. Prereq: 3410. Repeatable to a maximum of 8 hrs or 4 completions.

4510 Comparative Vertebrate Anatomy U 3
Evolutionary trends within vertebrates will be revealed through a study of anatomical homology across representative taxa. Concepts will be expanded upon as students explore the hands-on methods of comparative anatomical study, including dissection and skeletal staining. Course includes one Saturday field trip to the Columbus Zoo and Aquarium. Prereq: 2 courses in Biological Sciences. Not open to students with credit for 512.

4520 Comparative Physiology U 3
Functional systems in invertebrates and vertebrates: respiration, circulation, water, ion, and energy balance, communication, locomotion, and reproduction. Prereq: Biology 1114 or 1114H, and 1 additional course in Biological Sciences. Not open to students with credit for 410.

4520H Honors Comparative Physiology U 3
Functional systems in invertebrates and vertebrates: respiration, circulation, water, ion, and energy balance; communication; locomotion; and reproduction. Prereq: Honors standing, and Chem 1220, Math 1150, and Biology 1114 or 1114H. Not open to students with credit for 410H.

4550 Neurobiology of Behavior U 3
Integration of studies of sensory, integrative and motor systems with evolution and ecology. Prereq: 2 courses in Biological Sciences. Not open to students with credit for 632.

4560 Comparative Endocrinology U 2
Introduction to hormones and hormone action; comparison between vertebrates and invertebrates with emphasis on special situations such as metamorphosis. Prereq: 4520 and Biochem 4531, or equiv.; or permission of instructor. Not open to students with credit for 550 or Entomol 550. Cross-listed with Entomol 550.

4797 Undergraduate Study at a Foreign Institution U 1 - 12
Undergraduate studies at a foreign institution. Prereq: Permission of department chair. Repeatable to a maximum of 36 cr hrs or 5 completions. This course is graded S/U.
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6194 Graduate Group Studies
Group work in the field of the chosen problem.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.

6210 Ecotoxicology
Technical examination of the environmental fate and toxicity of organic xenobiotics, inorganics, and metals; emphasis on chemistry of interactions with physical environment, fugacity models, risk assessment, and predictive toxicology.
Prereq: 3410, or Chem 2510 and 2520 or equiv, or Grad standing, or permission of instructor. Not open to students with credit for Entomol 762.

6310 Molecular Evolution
The genetic basis of evolution and the molecular mechanisms of evolution.
Prereq: 3310, 5310, MolGen 4500, 5606, or equiv. Not open to students with credit for 640 or MolGen 840.

6320 Principles of Systematics
A study of the principles and techniques used in the identification, classification, and nomenclature of organisms.
Prereq: 12 sem cr hrs in EEOB at the 3000-level or above, or permission of instructor. Not open to students with credit for 861.

6330 Phylogenetic Methods
Methods for phylogenetic analysis: cladistics, maximum likelihood, Bayesian approaches; character coding and data management.
Prereq: Permission of instructor. Not open to students with credit for 626.

6340 Biodiversity Informatics
Methods for managing large data sets and applications in modeling, conservation biology, and global change.
Prereq: Permission of instructor.

6797 Graduate Study at a Foreign Institution
Graduate study at a foreign institution.
Prereq: Permission of department chair. Repeatable to a maximum of 36 cr hrs or 3 completions. This course is graded S/U.

6999 Research for Thesis
Research for masters thesis.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

7210 Molecular Methods in Evolution and Ecology
Hands-on course for learning the use of molecular markers in evolutionary and ecological studies.
Prereq: 3310 or 3410, and 8 additional sem cr hrs of coursework in EEOB; or Grad standing. Not open to students with credit for 713.

7220 Modeling in Evolutionary Ecology
Optimization models in evolutionary ecology, including dynamic optimization, evolutionary game theory, and adaptive dynamic models.
Prereq: Permission of instructor. Not open to students with credit for 714.01 and 714.02.

7310 Taxonomy of Vascular Plants
Focus on vascular plant taxonomy. Survey groups of seedless vascular plants, gymnosperms, and angiosperms in a phylogenetic context, learning their characters and understanding the character transformations in this part of the tree of life. We will also examine the types of character evidence that plant systematists use to build phylogenetic trees.
Prereq: Permission of instructor. Not open to students with credit for 672.

7410 Ecological Methods II
Hands-on course for learning methods for ecological studies.
Prereq: 3410, and an additional 6 sem cr hrs of coursework in EEOB; or Grad standing. Not open to students with credit for 513, 622, 651, 657, and 671.

7890 Agricultural Acarology
An intensive review of mites associated with crops, ornamental plants, and stored food products with emphasis on taxonomy and ecology of these animals.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs.

7891 Medical-Veterinary Acarology
The mites associated with humans, domestic animals, and wildlife, stressing their ecology and behavior in relation to transmission of viral, rickettsial, bacterial, and protozoan diseases.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs.

7892 Soil Acarology
Taxonomy, ecology, and life-history of mites associated with soil and litter.
Prereq: 5890 (Entomol 670), and Biology 1114 (116) or 1114H (116H); or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8194 Graduate Group Studies
Group work in the field of a chosen problem.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.

8594 EEOB Graduate Student Seminar
Required of all graduate students in evolution, ecology, and organismal biology during first Autumn semester of registration. Repeatable to a maximum of 4 cr hrs or 2 completions. This course is graded S/U.

8894.01 EEOB Graduate Seminar: Anatomy and Physiology
Current topics in anatomy and physiology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.02 EEOB Graduate Seminar: Behavior
Current topics in behavior as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.03 EEOB Graduate Seminar: Cell Biology
Current topics in cell biology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.04 EEOB Graduate Seminar: Ecology
Current topics in general ecology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.05 EEOB Graduate Seminar: Evolution
Current topics in evolution as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

8894.06 EEOB Graduate Seminar: Marine Biology
Current topics in marine biology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.07 EEOB Graduate Seminar: Wildlife Biology
Current topics in wildlife biology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.08 EEOB Graduate Seminar: Fisheries Biology
Current topics in fisheries biology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.09 EEOB Graduate Seminar: Ecotoxicology
Current topics in ecotoxicology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.10 EEOB Graduate Seminar: Systematics
Current topics in systematics as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.11 EEOB Graduate Seminar: Population Ecology
Current topics in population ecology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.12 EEOB Graduate Seminar: Molecular Ecology
Current topics in molecular ecology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.13 EEOB Graduate Seminar: Physiological ecology
Current topics in physiological ecology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.14 EEOB Graduate Seminar: Aquatic Ecology
Current topics in aquatic ecology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.15 EEOB Graduate Seminar: Population Genetics
Current topics in population genetics as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8894.16 EEOB Graduate Seminar: Developmental Biology
Current topics in developmental biology as related to evolution, ecology, and organismal biology.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.
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8896.17 EEOB Graduate Seminar: Invertebrate Zoology  G 1 - 2
Current topics in invertebrate zoology as related to evolution, ecology, and organismal biology that vary with the interests of the students and instructor. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8896.18 EEOB Grad Seminar: Behavioral Ecology  G 1 - 2
Current topics in behavioral ecology as related to evolution, ecology, and organismal biology. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8896.19 EEOB Grad Seminar: Current Topics in Quantitative Methods  G 1 - 2
Current topics in quantitative methods as related to evolution, ecology, and organismal biology. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. This course is graded S/U.

8896.20 Women in Science  G 1
In this seminar course, participants will read key papers concerning the status of women in the STEM disciplines (Science, technology, engineering, and mathematics). Prereq: Grad standing, or permission of instructor. This course is graded S/U. Cross-listed in WGSB.

8998 Graduate Research  G 1 - 12
Graduate research. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 65 cr hrs or 18 completions. This course is graded S/U.

8999 Research for Dissertation  G 1 - 12
Research for dissertation. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 27 cr hrs or 12 completions. This course is graded S/U.

1100.01 University Exploration Survey  U 1
Introduction to the process of decision making and exploring majors at Ohio State; introduction to university community; strategies for successful transition to and participation in that community; university resources and procedures. Prereq: Fresh standing in Exp, or permission of instructor. Not open to students with credit for 100.01, 100.01H, 100.02, or 100.03.

1100.01E University Exploration Honors Survey  U 1
Introduction to the process of decision making and exploring majors at Ohio State; introduction to university community; strategies for successful transition to and participation in that community; university resources and procedures. Prereq: Fresh standing in Exp, or permission of instructor. Not open to students with credit for 100.01, 100.01H, 100.02, or 100.03.

1100.02 University Exploration Survey  U 1
Introduction to the processes of decision making and exploring majors at Ohio State; introduction to the university community; strategies for success transition to and participation in that community; university resources and procedures. Prereq: Transfer student in EXP, or permission of instructor. Not open to students with credit for a university survey course from another college or with credit for: 1100.01 (100.01), 1100.01H (100.01H), 100.02, 100.03, USAS 100, 100.11, or 100.21.

2000 Major Exploration for Continuing Students  U 1
The How to Re-decide course is a seven week, one credit hour course which meets once a week with one additional hour of online material per week. The course guides students through the re-deciding process and formulating a new academic plan at OSU by exploring potential majors through assessments, exposure to OSU degrees and various ways to explore and determine the best fit. Prereq: Not open to students with credit for 1100.01 or 1100.02.

**Family and Consumer Science Education**

2189 Field Experience in FCS I: Observing Family and Consumer Sciences Teaching  U 3
Directed observation and participation in a Family and Consumer Sciences middle school classroom with focus on effective teaching practice. Prereq: GPA 2.75 or above, and Rank 2 or above. Not open to students with credit for 289.

5189 Field Experience in FCS II: Teaching in an Urban Family and Consumer Sciences Classroom  U 3
Knowledge and skills to work effectively with diverse learners; teach using various teaching methods, develop reflective practice. Prereq: 2189 (289) or EduPAES 2189.40, FCSEd 5741 (742) or EduPAES 5741, FCSEd 5746 (746.03) or EduPAES 5746, and EduTL 5442 (642), and GPA 2.75 or above. Concur: 5747. Not open to students with credit for 689.01.

5691 Toward Just, Healthy, Secure Choices  U 2
Applying ethical and value principles to consider nutrition, safe and ecological food knowledge to healthy, environmentally sustainable food practice. Prereq: HumNtr 2210 (210) or 2310 (310).

5741 Culturally Responsive Teaching in Family and Consumer Sciences  U 3
Understanding family and community culture in an education context; principles and strategies for working with culturally diverse student populations; cultural self-reflections. Prereq: 2189 or EduPAES 2189.40, EduPL 2308 (309), and GPA 2.75 or above. Not open to students with credit for 746.03.

5746 Problem-Based Instruction in Family and Consumer Sciences  U 4
Planning course curriculum and assessment; cognitive learning and critical social theories directing problem-based instructional plans. Prereq: 2189 (289) or EduPAES 2189.40, FCSEd 5691 or EduPAES 5691, and EduTL 5442 (642), and GPA 2.75 or above. Not open to students with credit for 746.03.

5747 Planning for Teaching and Learning in Family and Consumer Sciences  U 5
Teaching and learning theory and research applied to planning and implementing instruction and classroom management in Family and Consumer Sciences. Prereq: 5189 or EduPAES 5189.05, FCSEd 5741 or EduPAES 5741, FCSEd 5746 or EduPAES 5746, and EduPL 2309, and GPA 2.75 or above. Not open to students with credit for 746.01.

5790 Analyzing Student Work Samples in Family and Consumer Sciences  U 1
Analyzing student work to see how different students learn and respond to instructional methods; exhibit effective teacher responses to student learning needs. Concur: 5791.01, 5791.02, and 5791.03. Not open to students with credit for 589.03.

5791.01 Designing Family and Consumer Sciences Instruction  U 4
Unit and lesson planning around Family and Consumer Science state standards; organizing content and research-based instruction; planning. Prereq: 5189 (689.01 and 689.03) or EduPAES 5189.05, FCSEd 5746 (746.03) or EduPAES 5746, and FCSEd 5747 (746.01). Not open to students with credit for 689.01.

5791.02 Facilitating Learning in Family and Consumer Sciences  U 4
Creating a classroom climate and teaching and learning practice to assure student learning; implementing instructional plans; use research-based teaching methods. Prereq: 5189 or EduPAES 5189.05, FCSEd 5746 or EduPAES 5746, and FCSEd 5747 or EduPAES 5747, and GPA 2.75 or above. Concur: 5790, 5791.02, and 5791.03. Not open to students with credit for 791.02.

5791.03 Professional Development of Teachers in Family and Consumer Sciences  U 4
Reflective practice in a professional community to improve teaching and student learning, analyze student learning to inform instruction; interact with students, families and communities. Prereq: 5189 or EduPAES 5189.05, FCSEd 5746 or EduPAES 5746, and FCSEd 5747 or EduPAES 5747, and GPA 2.75 or above. Concur: 5790, 5791.01, and 5791.02. Not open to students with credit for 791.03.

**Film Studies**

2270.01 Introduction to Film Studies  U 3
An introduction to the field of Film Studies based on a survey of the major theories of film analysis. Prereq: Not open to students with credit for 2270.02 or 2271 (270). GE VPA course.

2270.02 Introduction to Film Studies Online  U 3
An introduction to the field of Film Studies based on a survey of the major theories of film analysis. Prereq: Not open to students with credit for 2270.01 or 2271 (270). GE VPA course.

2271 Introduction to Film Studies for Majors  U 3
An introduction to the field of Film Studies based on a survey of the major theories of film analysis, specifically geared for incoming majors. Prereq: English 2263 (263), or HistArt 2901 (260). Not open to students with credit for 2270 (270). GE VPA course.

2367.01 The American Film Auteur  U 3
An intermediate course centering around the work of one important US filmmaker that extends and refines expository writing and analytic reading / viewing skills. Prereq: English 1110 (110) and Soph standing, or enrollment in Film Studies major. Repeatable to a maximum of 6 cr hrs. GE writing and comm course: level 2.

2367.02 The American Film Genre  U 3
An intermediate course centering around the works of one important US film genre that extends and refines expository writing and analytic reading / viewing skills. Prereq: English 1110 (110) and Soph standing, or enrollment in Film Studies major. Repeatable to a maximum of 6 cr hrs. GE writing and comm course: level 2.
Film Studies

3660  Documentary Film Studies  U  3
An upper-level course in documentary film geared toward film studies majors. Prereq: 2270 or 2271, or permission of instructor. Repeatable to a maximum of 9 cr hrs.

4191  Film Studies Internship / Field Practicum  U  1 - 2
An opportunity for work experience and on-the-job learning in film studies or film production related employment. Prereq: Permission of program director, and enrollment in Film Studies major. Repeatable to a maximum of 6 cr hrs or 5 completions. This course is graded S/U.

4194  Group Studies  U  1 - 3
Group studies for work in various fields of film studies not normally offered in courses. Repeatable to a maximum of 6 cr hrs or 3 completions.

4580  Studies in a Major Director  U  3
A course in the films, style, themes, and career of a single director. Prereq: 2271 or 2367.01, and Jr standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4640  Studies in Cinema History  U  3
An upper-level course on aspects of film history geared toward film studies majors. Prereq: 2270 or 2271, or permission of instructor. Repeatable to a maximum of 9 cr hrs.

4650  Studies in Regional Cinema  U  3
An upper-level course on topics in a (sub-)national, geographic, or cultural region's cinema conducted in English and geared toward film studies majors. Prereq: 2270 or 2271; or permission of instructor. Repeatable to a maximum of 9 cr hrs.

4670H  Cinema and the Historical Avant Garde  U  3
Historicizes cinema's political and artistic roots, concentrating on the perceived and real possibilities of the medium. Fortifies critical awareness of "film culture" historically and currently. Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 670H, or German 4670H (670H). Cross-listed in German.

4850  Screenwriting and the Business of Cinema  U  3
This course examines screenwriting as both a literary art form and a challenging profession. Prereq: Theatre 5531 (536), or permission of instructor. Not open to students with credit for 680.

4890  Advanced Screenwriting  U  3
An intensive writing course in which each student completes a feature-length screenplay based on work previously completed in Film Studies 680 or Film Studies 4880. Prereq: 4880 (680), and permission of director. Not open to students with credit for 690.

4895  Advanced Seminar: Topics in Film Studies  U  3
Selected problems (themes, movements, theories, genres, styles, etc.) in film studies; topics vary per semester. Prereq: Enrollment in FilmSt major, and Sr standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

4998  Undergraduate Research  U  1 - 9
Undergraduate research or creative activities in variable topics. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4999  Distinction Project  U  2 - 12
Completion of a distinction project developed in consultation with advisor. Prereq: Sr Standing, and permission of instructor. This course is graded S/U.

4999H  Honors Thesis  U  2 - 12
Completion of an honors thesis. Should be scheduled in consultation with advisor. Topics vary. Prereq: Honors, Sr standing, and permission of instructor. This course is graded S/U.

5193  Individual Studies  U  G  1 - 3
Students may register for individual directed study under this number for work in various fields of film studies not normally offered in courses. Prereq: Permission of program director. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5600  Pathways in Film Practice and Theory  U  G  3
Explorations of the rich interconnections between the understanding and the production of moving-image works. Students will be introduced to alternative modes of the moving image in the context of other modes of artistic expression and critical thought, with the aim of increasing intellectual breadth and production skills. Prereq: 2271, or Grad standing; or permission of program.

7000  Graduate Studies in Film History  G  3
Study of the social, industrial, technological, and intellectual history of cinema, including cinema’s relationships to modernity and its transnational developments. Prereq: Grad standing, or permission of instructor.

7001  Advanced Theory Seminar: Methods and Applications  G  3
A theory and methods seminar which focuses on one scholarly approach to cinema (auteurism, formalism, historicism, feminism, etc.). Repeatable to a maximum of 9 cr hrs.

Food Science and Technology

1100  Exploring Food Science and Technology  U  ½
Basic understanding of the global trends within food science and technology, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.

1110  Chocolate Science  U  1
Introduction to science and business of chocolate. Students develop and market a chocolate product as part of a virtual company. Students taste commercial products. Prereq: Not open to students with credit for 101.

1120  Wine and Beer in Western Culture  U  2
The role of wine and beer in western culture with emphasis on the geographic origins, production techniques, and stylistic considerations. Prereq: Not open to students with credit for 170.

1130  Culinary Science  U  2
Function of food constituents. Processing conditions that affect flavor and texture. Flavor profiles of regional cuisine. Prereq: Not open to students with credit for 102.

1140  Kitchen Science  U  2
Students will be introduced to sanitation rules, basic culinary/baking methods, fundamentals of cooking & the science behind its methodology. Students will also gain an understanding of common foods & their function in cooking. Class will provide demonstration & explanation of a number of cooking techniques & methodology of each formulation will be explained on a scientific basis. Prereq: Chem 1110 or Biology 1101, or equiv.

2193  Individual Studies  U  1 - 3
Individual study course to permit undergraduate students to explore in-depth selected areas of food science and nutrition. Prereq: GPA 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is progress graded (S/U).

2200  The Science of Food  U  3
Food and nutrition in modern health; principles involved in digestion, metabolism and contribution of food to diseases processes, including food poisoning and the role of science, biotechnology and processing in meeting health and food needs. Prereq: Biology 1101 (101) or 1113 (113). Not open to students with credit for 201. GE nat sci bio course.

2400  Introduction to Food Science  U  3
Introductory class applying chemistry, biology, and engineering to hands-on experience on the production and evaluation of foods. Includes basic food regulations, sanitation and formulation. Prereq: Biology 1101 (101) or 1113 (113), and Chem 1110 (101) or 1210 (121). Not open to students with credit for 411.

2410  Brewing Science  U  2
Science and practices of beer production including hop and barley cultivation, the science of malting and fermentation, flavor development and beer processing. Prereq: Biology 1101 (101) or 1113 (113), and Chem 1110 (101) or 1210 (121). Not open to students with credit for 411.

4191  Internship  U  1
Twelve weeks of structured in-depth industrial experience in selected food related subjects. Experience must be obtained with an organization approved by the department. Prereq: 12 cr hrs at the 5000-level or above in major field, and enrollment in FdScTe, and permission of instructor. Not open to students with credit for 589. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

4193  Individual Studies  U  1 - 3
Individual study course to permit undergraduate students to explore in-depth selected areas of food science and nutrition. Prereq: Permission of instructor. Not open to students with credit for 493. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is progress graded (S/U).

4194  Group Studies  U  1 - 3
Group studies on selected topics in food science and nutrition. Prereq: Permission of instructor. Not open to students with credit for 494.

4410  HACCP (Hazard Analysis and Critical Control Points)  U  2
Teaches the basics of HACCP. Upon completion of the course, students will understand the relationship of GMPs (Good Manufacturing Practices), SSOPs (Sanitation Standard Operating Procedures), pre-HACCP steps and the Seven Principles of HACCP. The students will select a food processing operation and develop a HACCP plan. Prereq: 2400. Not open for students with credit for 410.

4510  Sustainability in the Food Industry  U  3
Critical topics and solutions for sustainability in the food processing industry including environmental, economic and technical issues throughout the food processing supply chain. Sustainability will be considered at the local, national and global level. The course will use a systems-thinking approach to food sustainability.
Principles and practice of food safety; transmission, inactivation and control of foodborne pathogens, hazards, toxins and allergens; risk assessment, nutrition, and pest control in foods.
Prereq: MicrBio 4000 (MicrBio 509). Not open to students with credit for 536 or PubHEHS 4530 (530). Cross-listed in PubHEHS 4530.

4957.01 Alcohol and Society
The historical, nutritional, medical, social, technical, and economic aspects of the use of beverage and industrial alcohol.
Prereq: Jr standing. Not open to students with credit for 597.01. GE cross-disciplinary seminar course.

4957.02 Food and Health Controversies in the 21st Century
Examines current controversies surrounding food. Topics include biotech foods, dietary supplements, childhood obesity and public policies domestically and abroad that fuel the controversies.
Prereq: Jr standing. Not open to students with credit for 597.02. GE cross-disciplinary seminar course.

4999 Research with Distinction
Conducting and reporting research with Distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.
Prereq: CPRH 3.0 or above, and GPA 3.0 or above in FdScTe, and permission of project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 8 cr hrs or 6 completions. This course is progress graded (S/U).

4999H Honors Research with Distinction
Conducting and reporting research with Distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum.
Prereq: Honors standing, and FAES 4950.01H (509H), and CPRH 3.4 or above, and GPA 3.4 or above in FdScTe, and permission of honors project supervisor. Not open to students with credit for 683H. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5310 Food Quality Assurance
Provides students with a knowledge of quality assurance concepts and procedures and tools for establishing quality control programs to produce high quality safe foods.
Prereq: 2400 (401) or Stat 1450 (145), or Grad standing. Not open to students with credit for 632.

5320 Food Laws and Regulations
Major food laws/regulations, food regulatory agencies, good manufacturing practices, HACCP, ingredients, labeling regulations, adulteration and misbranding, compliance/investigations/enforcements, crisis management, recall, Ohio State food laws.
Prereq: 2400 (401), or Grad standing, or permission of instructor. Not open to students with credit for 540.

5330 Food Plant Management
Covers the essentials of food plant operations from a business and management, rather than a scientific or technical, perspective.
Prereq: 2400 and GE Stat course, or Grad standing. Not open to students with credit for 648.

5400 Unit Operations in Food Processing
Study of unit operations in preserving foods by thermal and alternative food processing methods through problem solving and experimentation.
Prereq: 5600, FABEng 3481 (481), and MicrBio 4000 (MicrBio 509), or permission of instructor. Not open to students with credit for 630 or FABEng 4410 (584). Cross-listed in FABEng 4410.

5410 Fruit and Vegetable Processing
Composition of fruits and vegetables, how this affects quality during processing, principles, equipment and quality changes during common processing methods, including juicing, drying, freezing, canning, and jelly manufacture.
Prereq: 2400, or Grad standing. Not open to students with credit for 613.

5420 Dairy Processing
Principles involved in the production, processing and safety of high quality milk and milk products.
Prereq: 2400 (401) and MicrBio 4000 (509). Not open to students with credit for 610.

5430 Food Fermentations
Making fermented foods (dairy, alcoholic, meat, vegetable products, etc.) and understanding the microbiological and biochemical changes involved.
Prereq: MicrBio 4000. Not open to students with credit for 611.

5450 Food Packaging
A discussion of terminology and literature of commercial packaging, principal methods of packaging, and principles of selecting packaging materials.
Prereq: 2400 (401), or Grad standing. Not open to students with credit for 649.

5500 Measurement of Food Perception and Liking
Examines the principles and procedures for accurately assessing the sensory and hedonic properties of foods and consumer products. Appropriate test design, statistical analyses and data interpretation will be discussed and the physiological and psychological principles impacting sensory judgments will be explored. A proficiency in basic statistics and Excel is required.

5536 Food Microbiology Lecture
Microbiology as applied to food. Students learn about microorganisms that spoil food or cause food-borne diseases, as well as beneficial microorganisms. Control of harmful microorganisms in food is discussed.
Prereq: MicrBio 4000 (MicrBio 509) or 4100 (520), or Grad standing. Not open to students with credit for 636.01 or MicrBio 5536 (MicrBio 636.01). Cross-listed in MicrBio.

5546 Food Microbiology Laboratory
Microbiological analyses as applied to food. Students learn how to detect and quantify microorganisms that spoil food or cause food-transmitted diseases, as well as beneficial microorganisms.
Prereq: 5536 (636.01) or MicrBio 5536, or Grad standing. Not open to students with credit for 636.02 or MicrBio 5546 (636.02). Cross-listed in MicrBio.

5600 Food Chemistry
Chemical, physical, and functional properties of foods and effects of processing on those constituents using an array of chemical, biochemical and instrumental technologies in accordance with current food industry and regulatory agency practices.
Prereq or concor: 2400 (401) and Chem 2510, or Grad standing. Not open to students with credit for 605.

5610 Food Analysis
Chemical, physical and functional properties of foods and effects of processing on those constituents using an array of chemical, biochemical and instrumental technologies in accordance with current food industry and regulatory agency practices.
Prereq: 5600 (605), or Grad standing. Not open to students with credit for 605.

5710 Food Additives
Chemical and physical nature of food additives; functions and effects on chemical, rheological, microbiological, and nutritional properties of foods.
Prereq: 10 cr hrs in FdScTe, or Grad standing. Not open to students with credit for 621.

5720 Food Product Development
Development of a new food product including generation of concepts, consumer panel testing, development of prototypes, process optimization and consumer testing.
Prereq: 2400, and Sr standing, or Grad standing. Not open to students with credit for 650.

5721 Applied Food Product Development
A problem-based interdisciplinary capstone learning experience designed to enhance career skills (critical thinking, decision making, team work, communication, etc.) in the context of industry’s approach to developing new and improved food products.
Prereq: 5720. Not open to students with credit for 650.

5730 Technical Problem Solving
Analysis of technical problems in food science; fostering creative thinking to the approach and solution of problems; preparation and oral presentation of paper.
Prereq: 5600 or 5710, and 5536 or 4536, and 5400, 5410, 5420, 5430, or AnimSci 4500, and Sr standing; or Grad standing. Not open to students with credit for 696.

6320 Global Health and Environmental Microbiology
Fundamentals and emerging issues of health significant microorganisms (bacteria, viruses, protozoa) from water, air, soil and food, and their sources, transmission routes, treatments, detection methods and study tools.
Prereq: Not open to students with credit for PubHEHS 730. Cross-listed in PubHEHS.

7193 Individual Study
Individual study course to permit graduate students to explore in-depth selected areas of food science.
Prereq: Permission of instructor. Not open to students with credit for 693. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

7194 Group Studies
Selected topics in food science.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

7360 Water Contamination: Sources and Health Impact
Understanding the sources, the transport mechanisms and the fate of microbial and chemical contaminants, their exposure risks, tracking methods, linking to other environmental matrices and their public health impacts.
Cross-listed in PubHlth 7360.

7430 Advanced Food Process Design
An integration of quantitative parameters describing changes in the quality attributes of foods with quantification of the physical changes occurring between the time of raw material harvest or assembly and the point of food consumption. Models to predict changes in quality attributes as a function of process parameters will be developed and demonstrated.
Prereq: 5400, 5536, 5600, or FABEng 3481, or permission of instructor. Cross-listed in FABEng.
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<thead>
<tr>
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<tbody>
<tr>
<td>7536</td>
<td>Advanced Food Microbiology I</td>
<td>G 2</td>
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<tr>
<td>7546</td>
<td>Advanced Food Microbiology II</td>
<td>G 2</td>
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<tr>
<td>7610</td>
<td>Instrumental Analysis I: Spectroscopic and Chromatographic Techniques in Food Analysis</td>
<td>G 3</td>
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<td>7620</td>
<td>Food and Nutritional Toxicology</td>
<td>G 2</td>
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<td>Food Carbohydrates and Proteins</td>
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<td>Food Lipids</td>
<td>G 2</td>
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<td>7660</td>
<td>Principles of Crystallization Processes in Food Systems</td>
<td>G 2</td>
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<td>Phytochemicals in Fruits and Vegetables to Improve Human Health</td>
<td>G 2</td>
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<td>7830</td>
<td>Phytochemicals in Human Health: Crops to the Clinic</td>
<td>G 3</td>
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<td>Thesis Research</td>
<td>G 1 - 18</td>
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<tr>
<td>8193</td>
<td>Individual Studies</td>
<td>G 1 - 3</td>
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<tr>
<td>8891</td>
<td>Graduate Seminar</td>
<td>G 1</td>
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<td>8999</td>
<td>Dissertation Research</td>
<td>G 1 - 16</td>
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**Food, Agricultural, and Biological Engineering**

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<tbody>
<tr>
<td>2100</td>
<td>Energy In Biological Systems</td>
<td>U 1</td>
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<tr>
<td>2110</td>
<td>Fluid Mechanics in Food, Agricultural and Biological Systems</td>
<td>U 3</td>
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<tr>
<td>2193</td>
<td>Individual Studies</td>
<td>U 1 - 3</td>
<td>Individualized study of topics and problems not included in regular courses of this department. Pre: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 4 completions. This course is graded S/U.</td>
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<tr>
<td>2194</td>
<td>Group Studies</td>
<td>U 1 - 5</td>
<td>Basic group studies in Food, Agricultural and Biological Engineering. Pre: Will be specified with course proposal. Repeatable to a maximum of 10 cr hrs or 4 completions.</td>
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<tr>
<td>2720</td>
<td>Principles of Soil and Water Engineering</td>
<td>U 2</td>
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<tr>
<td>3120</td>
<td>Thermodynamics in Food, Agricultural and Biological Engineering</td>
<td>U 4</td>
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<td>3130</td>
<td>Heat and Mass Transfer in Food, Agricultural and Biological Engineering</td>
<td>U 4</td>
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<td>3140</td>
<td>Professional Development in Food, Agricultural, and Biological Engineering</td>
<td>U 1</td>
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<td>3150</td>
<td>System Dynamics and Electricity</td>
<td>U 4</td>
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<tr>
<td>3481</td>
<td>Introduction to Food Engineering</td>
<td>U 3</td>
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<tr>
<td>3510</td>
<td>Introduction to Biological Engineering</td>
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<tr>
<td>3610</td>
<td>Utilization of Energy in Agriculture</td>
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**Food Science and Technology**

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<tr>
<td>222</td>
<td>Food Science and Technology</td>
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<tr>
<td>100</td>
<td>Basic Food Microbiology</td>
<td>G 2</td>
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<tr>
<td>110</td>
<td>Advanced Food Microbiology</td>
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<td>120</td>
<td>Instrumental Analysis</td>
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<td>Food and Nutritional Toxicology</td>
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<td>Food Carbohydrates and Proteins</td>
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<td>Food Lipids</td>
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<td>Principles of Crystallization Processes in Food Systems</td>
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<tr>
<td>170</td>
<td>Phytochemicals in Fruits and Vegetables to Improve Human Health</td>
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<td>180</td>
<td>Phytochemicals in Human Health: Crops to the Clinic</td>
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<td>Thesis Research</td>
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<td>200</td>
<td>Individual Studies</td>
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<td>210</td>
<td>Graduate Seminar</td>
<td>G 1</td>
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<tr>
<td>220</td>
<td>Dissertation Research</td>
<td>G 1 - 16</td>
<td>Repeatable. This course is graded S/U.</td>
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</table>
3810 Agricultural Structures U 3
Analysis and design of frames and members for agricultural structures. Prereq: MechEng 2020 or 2040. Not open to students with credit for 545.

4193 Individual Studies U 1 - 3
Advanced individual study of problems not included in regular courses of this department. Prereq: 6 or hrs taken at the 3000 level or higher in Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

4410 Unit Operations in Food Engineering U 3
Study of unit operations in preserving foods by thermal and alternative food processing methods through problem solving and experimentation. Interdependence of food engineering, chemistry, and microbiology principles in food preservation. Prereq: 2120 and Microbiol 4000 (Mirobiol 509) or equiv, or permission of instructor. Not open to students with credit for 564 or FdSciT 5400 (630). Cross-listed in FdSciT 5400.

4567 Assessing Sustainability: Project Experience U 3
Students gain experience in sustainability assessment by applying concepts and quantitative methods to evaluate environmental, economic, social, and technical sustainability of specific projects. EEDS major capstone. Prereq: AEDcom 4330 or ISSE 2040, or permission of instructor. Not open to students with credit for ENR 4697 or AEDcom 4567. Cross-listed in AEDcom and ENR.

4900 Capstone Design I U 3
Engineering design approach in a team environment; practice in the design and communication of a specific system within the student's area of specialization. Must be taken during last full academic year in FABEng. Prereq: 3150. Not open to students with credit for 725.

4910 Capstone Design II U 3
Methodology of design in a team environment; practice in the design and communication of a specific system within the student's area of specialization. Continuation of Capstone Design I. Prereq: 4900. Not open to students with credit for 725.

4998 Undergraduate Research U 1 - 5
Individually supervised research and work project. Prereq: 6 cr hrs taken at 3000 level or above in Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

4998H Honors Undergraduate Research U 1 - 5
Honors individually supervised research and project work. Prereq: Honors standing, and 6 sem cr hrs taken at the 3000-level or above in Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

4999 Undergraduate Thesis U 1 - 5
Research leading to an undergraduate thesis. Prereq: 6 cr hrs taken at 3000 level or above in Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

4999H Honors Undergraduate Thesis U 1 - 5
Honors research leading to an undergraduate thesis. Prereq: Honors standing, and 6 sem cr hrs taken at the 3000-level or above in Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

5160 Electronics, Measurement and Instrumentation U G 4
Analysis of analog and digital electronic components and circuits. Analysis and design of measurement systems; data acquisition, signal conditioning, error and noise control, sensors and transducers used in food, agricultural and biological systems. Prereq: 3150 or equiv, or Grad standing in Engineering. Not open to students with credit for 605.

5161 Measurement and Instrumentation U G 3
Analysis and design of measurement systems; data acquisition, signal conditioning, error and noise control, sensors and transducers used in food, agricultural and biological systems. Prereq: 525 or equiv. Not open to students with credit for 605.

5191 Professional Practice in Industry U G 2
Preparation and submission of a comprehensive report based on a pre-assigned outline of actual co-op or internship employment in industry. Prereq: Admission to co-op or intern program in FABEng. Repeatable to a maximum of 4 cr hrs.

5194 Group Studies U G 1 - 5
Advanced group studies in Food, Agricultural, Biological, and Ecological Engineering with principal emphasis on design. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

5310 Ecological Engineering and Science U G 4
Definition, classification, and practice of ecological engineering. Course explores ecological ecosystems, ecosystem restoration, and the utilization of natural processes to provide societal services and benefits to nature. Prereq: At least one course in Biology, Ecology, Engineering, or Geology, and Jr standing. Not open to students with credit for 618, EnvEng 5310 (618), or ENR 618. Cross-listed in EnvEng.

5520 Agroecosystems U G 3
Holistic analysis of agricultural systems. Application of energy analysis to evaluate and design sustainable agroecosystems. Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 732.

5540 Advanced Food Engineering U G 3
Application of heat and mass transfer, fluid flow, food properties, and food processing constraints in the design and selection of food processing equipment. Prereq: 3130 or 4410, or Grad standing. Not open to students with credit for 784.

5540 Biomass Conversion to Bioenergy U G 3
An exploration of the science and technologies used for energy production from bio-based materials, including agricultural biomass and solid waste sources. Prereq: 3130 or equiv.

5550 Sustainable Waste Management U G 3
A comprehensive examination of waste generation, treatment and reuse including the impacts of pollution on the environment and human health. The focus will be on agricultural residues, manure, domestic wastewater, and municipal solid waste streams. Prereq: Sr or Grad standing in Engineering. Not open to students with credit for 650 or 652.

5730 Design of Agricultural Water Management Systems U G 3
Use of soil physics, porous media flow theory, soil-plant interactions, hydrology, and hydraulics to design and manage irrigation and drainage systems. Prereq: 2110 or CivEng 3130 (415), and 2720 (375) or equiv; or Grad standing. Not open to students with credit for 873.

5750 Stream Geomorphology and Watershed Hydrology U G 3
Fundamental and advanced topics in stream geomorphology and hydrologic processes. Solving multi-objective engineering problems in a team setting involving protection, enhancement, and restoration of streams, rivers, and watersheds. Prereq: 2110 or CivEng 3130 (413), and 2720 (373), or equiv; or Grad standing. Not open to students with credit for 773.

5797 Study at a Foreign Institution U 1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of department chairperson. Repeatable to a maximum of 25 cr hrs or 3 completions. This course is progress graded.

5820 Environmental Controls and Air Quality U G 3
Heating, ventilating, and air conditioning (HVAC) engineering applied to agricultural, residential, and commercial structures; analysis of factors affecting energy utilization and air quality; green and sustainable HVAC technologies. Prereq: 3130, MechEng 510, or CHBE 521. Not open to students with credit for 645.

6193 Individual Studies G 1 - 5
Individual study of topics not included in regular courses; practice in development, organization, solution, and reporting on problems of student's choosing with faculty supervision. Prereq: Grad standing in Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

6194 Group Studies G 1 - 5
Advanced group studies in Food, Agricultural and Biological Engineering with principal emphasis on design. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions.

6999 Graduate Research in Food, Agricultural and Biological Engineering for Thesis G 1 - 18
Research for thesis. Prereq: Permission of department chairperson. Not open to students with credit for 810. This course is graded S/U.

7210 Research Methods in Food, Agricultural, and Biological Engineering G 3
Historical development of the research process. Problem selection and proposal development. Processes for acquiring funding and conducting quality research. Prereq: Grad standing in Engineering. Not open to students with credit for 801.

7220 College Teaching in Engineering G 2
Initial preparation for providing instruction in professional engineering programs at the college level including skills, strategies and issues common to university teaching in general and engineering instruction more specifically. Prereq: Not open to students with credit for 810. This course is graded S/U.

7230 Probabilistic Methods in Engineering Design G 3
Application of concepts of probability, random variables, statistical inference, multiple regression, multi-variate analysis, correlation analysis and concepts of Bayesian methodology to make reliable engineering design decisions. Prereq: Stat 3460 (427) or 3470 (427), or permission of instructor. Not open to students with credit for 735.
Food, Agricultural, and Environmental Sciences

1100 Introduction to Ohio State University and Food, Agricultural and Environmental Sciences
Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of academic areas of study.
Prereq: Not open to students with credit for 100, equiv.

1100H Introduction to Ohio State University and Food, Agricultural, and Environmental Sciences - Honors
Academic requirements; University procedures, grading system, resources; student rights and responsibilities; overview of academic areas of study.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 100H, 101, ArtsCol 100, ArtsSci 100, Engineer 100, HomeEc 100, NatRes 100, or UVCSurv 100.

2193 Individual Studies
Planning, conducting, and reporting a special study appropriate to the needs of the student.
Prereq: Cumulative GPA 2.5 or above, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 6 completions. This course is graded S/U.

2194 Group Studies
Group study classes or projects in selected interdisciplinary topics in Agriculture.

2351 Planning a Career in Food, Agricultural, and Environmental Sciences
Discussion of personal career objectives in agriculture and conducting an effective employment campaign through resumes, cover letters, interviewing and job offer evaluation.
Prereq: Not open to students with credit for 351.

3797 Study at a Foreign Institution
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition as well as all travel and subsistence costs.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions.

4590H Honors Research Colloquium
Preparation of honors programs, design of honors research projects, and writing research proposals.
Prereq: Honors standing, and Jr standing; or permission of instructor. Not open to students with credit for 590.01H.

5194 Group Studies
Study in interdisciplinary topics in Agriculture. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5797 Study at a Foreign Institution
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition as well as all travel and subsistence costs.
Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 3 completions. This course is progress graded.

French

1101.01 Beginning French I Classroom
Introduction to French; development of listening, reading, speaking, and writing skills. Taught in French. Course is not open to native speakers of this language, students with EM credit, or to students with two or more years of study in this language in high school.
Prereq: Not open to students with credit for 1101.01, 101.01, 4 sem cr hrs of 1101.51, or 5 qr cr hrs of 101.51. This course is available for EM credit. GE for large course. FL Admis Cond course.

1101.51 Beginning French I Individualized
Introduction to French; development of listening, reading, speaking, and writing skills. Taught in French. Course not open to native speakers, students with EM credit, or to students with two or more years of study in this language in high school.
Prereq: Not open to students with credit for 1101.01, 101.01, 4 sem cr hrs of 1101.51, or 5 qr cr hrs of 101.51. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for large course. FL Admis Cond course.

1102.01 Beginning French II Classroom
Continued study of French; development of listening, reading, speaking, and writing skills; readings based on contemporary French Culture and literature. Taught in French. Not open to native speakers of this language or with credit through regular course enrollment, or students with EM credit.
Prereq: 1101.01, 102.01, or 102.66, or completion of 4 sem cr hrs in 1101.51 or 5 qr cr hrs of 102.51. Not open to students with credit for 1102.01, 1102.30, 103.01, 103.51, or 103.66. This course is available for EM credit. GE for large course. FL Admis Cond course.

1102.30 Beginning French I Classroom/Bridge
For students who have taken only French 101.01 in the quarter system. Not open to native speakers of this language through regular course enrollment or students with EM credit.
Prereq: 101.01, or completion of 5 cr hrs or 3 completions. Not open to students with credit for 1101.01, 1102.01, 1102.30, 102.51, 103.01, 103.66, or 103.51. Not open to students with EM credit. GE for large course. FL Admis Cond course.

1102.51 Beginning French II Individualized
Continued study of French; development of listening, reading, speaking, and writing skills; readings based on contemporary French Culture and literature. Taught in French. Closed to native speakers.
Prereq: Not open to students with credit for 1101.01, or completion of 4 cr hrs of 1101.51. Not open to students with EM credit. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for large course. FL Admis Cond course.

1103.01 Beginning French III Conversation and Composition
Continued development of listening, speaking, reading and writing with an emphasis on oral and written skills; focus on functional topics and thematic vocabulary. Taught in French. Not open to native speakers of this language through regular course enrollment or EM credit.
Prereq: Not open to native speakers of this language through regular course enrollment or EM credit. 1102.01 or 1102.66, or completion of 4 sem cr hrs or 1102.51 or 5 qr cr hrs of 102.51. Not open to students with credit for 1102.01, 1102.30, 103.01, 103.51, or 103.66. Not open to students with EM credit.
Prereq: For students who have taken only French 101.01 in the quarter system. Not open to native speakers of this language through regular course enrollment or students with EM credit.
Prereq: Not open to students with credit for 1101.01, 1102.01, 1102.30, 103.01, 103.66, or 103.51. Not open to students with EM credit. GE for large course. FL Admis Cond course.

1103.01H Honors Beginning French III
Not open to native speakers of this language through regular course enrollment or EM credit.
Prereq: Honors standing; or - completion of 4 sem cr hrs or 1102.51; or 102.01 and 2 sem cr hrs of 1102.51; or 102.66 and 2 sem cr hrs of 1102.51; or 103.01, 103.66, or 5 qr cr hrs of 103.51. Not open to students with credit for 1103.xx (104.xx). Only one decimal subdivision may be taken for credit.
Prereq: Not open to students with credit for 1103.xx (104.xx). Only one decimal subdivision may be taken for credit. This course is available for EM credit. GE for large course. FL Admis Cond course.

1103.02 Beginning French III Conversation
Continued development of listening, speaking, reading and writing with an emphasis on oral and written skills; focus on functional topics and thematic vocabulary. Taught in French. Not open to native speakers of this language through regular course enrollment or EM credit.
Prereq: Not open to native speakers of this language through regular course enrollment or EM credit. 1102.01 or 1102.66, or completion of 4 sem cr hrs or 1102.51 or 102.01 and 2 sem cr hrs of 1102.51; or 102.66 and 2 sem cr hrs of 1102.51; or 103.01, 103.66, or 5 qr cr hrs of 103.51. Not open to students with credit for 1103.xx (104.xx). Only one decimal subdivision may be taken for credit.
Prereq: For students who have taken only French 101.01 in the quarter system. Not open to native speakers of this language through regular course enrollment or students with EM credit.
Prereq: Not open to students with credit for 1101.01, 1102.01, 1102.30, 103.01, 103.66, or 103.51. Not open to students with EM credit. GE for large course. FL Admis Cond course.

1103.03 Beginning French III Contemporary Culture
Emphasis on various aspects of contemporary French cultures; readings and discussion in French. Taught in French. Not open to native speakers of this language through regular course enrollment or EM credit.
Prereq: Not open to native speakers of this language through regular course enrollment or EM credit. 1102.01 or 1102.66, or completion of 4 sem cr hrs or 1102.51 or 102.01 and 2 sem cr hrs of 1102.51; or 102.66 and 2 sem cr hrs of 1102.51; or 103.01, 103.66, or 5 qr cr hrs of 103.51. Not open to students with credit for 1103.xx (104.xx). Only one decimal subdivision may be taken for credit. This course is available for EM credit. GE for large course. FL Admis Cond course.

1103.04 Beginning French III Civilization
Aspects of French civilization; geography, history, social developments, and the arts; readings and discussion in French. Taught in French. Not open to native speakers of this language through regular course enrollment or EM credit.
Prereq: Not open to native speakers of this language through regular course enrollment or EM credit. 1102.01 or 1102.66, or completion of 4 sem cr hrs or 1102.51 or 102.01 and 2 sem cr hrs of 1102.51; or 102.66 and 2 sem cr hrs of 1102.51; or 103.01, 103.66, or 5 qr cr hrs of 103.51. Not open to students with credit for 1103.xx (104.xx). Only one decimal subdivision may be taken for credit. This course is available for EM credit. GE for large course. FL Admis Cond course.
1103.51 Beginning French III Individualized U 1 - 4
Continued development of listening, speaking, reading and writing with an emphasis on oral and written skills; focus on functional topics and thematic vocabulary. Taught in French. Prereq: 1101.01 & 1102.01; or completion of 4 cr hrs of both 1101.51 & 1102.51. Not open to students with credit for 1103 or 104; not open to native speakers of this language through regular course enrollment or EM credit. Only one decimal subdivision may be taken for credit. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1155.01 Beginning French Review Classroom U 1 - 4
Intensive beginning French. Review of basic structures, vocabulary and skills. Taught in French. Not open to native speakers of this language. Prereq: 2 or more years of high school French, and placement in 1110.01 by EM credit only. Not open to students with credit for 1110.01 (101.01), 1101.51 (101.51), 1102.01 (102.01), 1102.51 (102.51), 102.66, 103.01, 103.51, or 103.66. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1155.51 Beginning French Review Individualized U 1 - 4
Intensive beginning French. Review of basic structures, vocabulary and skills. Individualized course work. Closed to native speakers of this language. Prereq: 2 or more years of high school French and placement in 1101 by EM credit only. Not open to students with credit for 1101.01, or 4 cr hrs of 1101.51. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1801 Masterpieces of the French-Speaking World U 3
Classic works of literature in translation by French and francophone authors from the 17th century to the present, such as Moliere, Madame de Lafayette, Voltaire, Flaubert, Duras, Cesaire, and Senghor. GE lit and diversity global studies course.

1802 Cultures of the French-Speaking World U 3
Introduction to one or more of the world's French-speaking cultures, such as those of France, Quebec, the Caribbean, North Africa, and sub-Saharan Africa, through a variety of media. Develops students' cultural awareness and critical thinking skills. Taught in English. Prereq: Not open to students with credit for 153. GE cultures and ideas course.

1803 Paris U 3
Exploration of the city of Paris through the study of its history, geography, population, and cultural production, including but not limited to art, architecture, cinema, literature, fashion, and cuisine. GE cultures and ideas course.

2101.01 Introduction to French and Francophone Studies U 3
Techniques for reading and interpreting different types of texts from the French-speaking world: stories, poetry, plays, films, music, and ads while building vocabulary, comprehension, speaking and writing skills. Prereq: 4 cr hrs of 1103 or 5 cr hrs of 104; or permission of instructor. Not open to students with credit for 201.01, 201.51, or 206. This course is available for EM credit. FL Admis Cond course.

2101.01H Honors Introduction to French and Francophone Studies U 3
Techniques for reading and interpreting different types of texts from the French-speaking world: stories, poetry, plays, films, music, and ads while building vocabulary, comprehension, speaking and writing skills. Prereq: Honors standing, and 4 cr hrs of 1103.01 or 5 cr hrs of 104; or permission of instructor. Not open to students with credit for 201.01, 201.51, or 206. This course is available for EM credit. FL Admis Cond course.

2101.51 Introduction to French and Francophone Studies U 1 - 3
Individualized Techniques for reading and interpreting different types of texts from the French-speaking world: stories, poetry, plays, films, music, and ads while building vocabulary, comprehension, speaking and writing skills. Prereq: 4 cr hrs of 1103 or 5 cr hrs of 104, or permission of instructor. Not open to students with credit for 201.01, 201.51, or 206. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is available for EM credit. FL Admis Cond course.

2193 Individual Studies U 1 - 15
Individual studies. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 15 completions.

2194 Group Studies U 1 - 15
Group studies. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 15 completions.

2501 Topics in French Literature and Culture in Translation U 3
Variable topics in French and Francophone literatures and cultures; taught in English. Prereq: Not open to students with credit for 250. Repeatable to a maximum of 6 cr hrs. GE lit courses.

2801 Classics of French Cinema U 3
Introduction to the study of the cinema and to French film classics. Students will explore cinema as an art form, the social and cultural history of France as it relates to the cinema, and the qualities that make individual films cinematic masterpieces. Taught in English. GE VPA course.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisite</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3079</td>
<td>Intermediate Study at a French Institution</td>
<td>U</td>
<td></td>
<td>Group studies at a French institution. Prereq: Permission of department chairperson or study abroad office. Repeatable. This course is progress graded.</td>
</tr>
<tr>
<td>3801</td>
<td>French-American Cultural Wars</td>
<td>U</td>
<td></td>
<td>French-American cultural relations since World War I; an exploration of French reaction to and adoption or rejection of a number of American cultural &quot;exports;&quot; from jazz and the GI to Coke and consumerism. Taught in English. Prereq: Not open to students with credit for 153. GE cultures and ideas course.</td>
</tr>
<tr>
<td>4053</td>
<td>French and Italian Cinema to 1952</td>
<td>U</td>
<td></td>
<td>Examines French and Italian cinema from 1895 to 1952 in a comparative context. Looks at key directors, genres and movement and introduces students to pertinent film theory. Taught in English.</td>
</tr>
<tr>
<td>4101.01</td>
<td>Advanced French for the Professions: STEM</td>
<td>U</td>
<td></td>
<td>Provides students in STEM disciplines with background about their majors in French-speaking countries; teaches culturally and linguistically appropriate presentational skills. Special project required. Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.</td>
</tr>
<tr>
<td>4101.51</td>
<td>Advanced French for the Professions: STEM</td>
<td>U</td>
<td></td>
<td>Provides students in STEM disciplines with background about their majors in French-speaking countries; teaches culturally and linguistically appropriate presentational skills. Special project required. Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs or 9 completions. FL Admis Cond course.</td>
</tr>
<tr>
<td>4102.01</td>
<td>Advanced French for the Professions: Arts and Humanities</td>
<td>U</td>
<td></td>
<td>Provides students in Arts and Humanities disciplines with background about their majors in French-speaking countries; teaches culturally and linguistically appropriate presentational skills. Special project required. Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.</td>
</tr>
<tr>
<td>4102.51</td>
<td>Advanced French for the Professions: Arts and Humanities</td>
<td>U</td>
<td></td>
<td>Provides students in Arts and Humanities disciplines with background about their majors in French-speaking countries; teaches culturally and linguistically appropriate presentational skills. Special project required. Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs or 9 completions. FL Admis Cond course.</td>
</tr>
<tr>
<td>4103.01</td>
<td>Advanced French for the Professions: Business</td>
<td>U</td>
<td></td>
<td>Provides students in Business with background about their majors in French-speaking countries; develops professional vocabulary in discipline; teaches culturally and linguistically appropriate presentational skills. Special project required. Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs or 9 completions. FL Admis Cond course.</td>
</tr>
<tr>
<td>4103.51</td>
<td>Advanced French for the Professions: Business</td>
<td>U</td>
<td></td>
<td>Provides students in Business with background about their majors in French-speaking countries; develops professional vocabulary in discipline; teaches culturally and linguistically appropriate presentational skills. Special project required. Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs or 30 completions. FL Admis Cond course.</td>
</tr>
<tr>
<td>4193</td>
<td>Individual Studies</td>
<td>U</td>
<td></td>
<td>Individual studies. Prereq: Written permission of department. Not open to students with 30 cr hrs for 693. Repeatable to a maximum of 30 cr hrs or 30 completions.</td>
</tr>
<tr>
<td>4194</td>
<td>Group Studies</td>
<td>U</td>
<td></td>
<td>Group studies. Prereq: Written permission of department. Not open to students with 30 cr hrs for 694. Repeatable to a maximum of 30 cr hrs or 30 completions.</td>
</tr>
<tr>
<td>4501</td>
<td>Advanced French for the Professions</td>
<td>U</td>
<td></td>
<td>A study of the French geographic, economic and social environment as it relates to business; parallel emphasis on advanced language skills. Prereq: 3501 or permission of instructor.</td>
</tr>
<tr>
<td>4690</td>
<td>French for the Professions Internship</td>
<td>U</td>
<td></td>
<td>Supervised training in international (French-speaking) business. Prereq: 3501 (406) or permission of instructor. Notify Department chair no later than six months or one semester prior to start of internship. Not open to students with 6 cr hrs for 690. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U. FL Admis Cond course.</td>
</tr>
<tr>
<td>4797</td>
<td>Advanced Study at a Foreign Institution</td>
<td>U</td>
<td></td>
<td>An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Written permission of department chairperson. Not open to students with 45 cr hrs for 697. Repeatable. This course is progress graded. FL Admis Cond course.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research Projects</td>
<td>U</td>
<td></td>
<td>Undergraduate research or creative activities. Topics vary. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>4999</td>
<td>Undergraduate Thesis</td>
<td>U</td>
<td></td>
<td>Undergraduate thesis. Topics vary. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>5101</td>
<td>Advanced French Grammar</td>
<td>U</td>
<td></td>
<td>Systematic review of French grammar with composition and other exercises based on contemporary writers; modern tendencies in syntactic analysis. Prereq: 3101 (401), and at least two other courses taught in French at the 3000- (400-) level or above; or Grad standing. Not open to students with credit for 601. This course is available for EM credit. FL Admis Cond course.</td>
</tr>
<tr>
<td>5102</td>
<td>Advanced Pronunciation and Accents of the Francophone World</td>
<td>U</td>
<td></td>
<td>Training in auditory and oral aspects of advanced French pronunciation; analysis of different styles of spoken French and different francophone accents. Prereq: Undergrad students must have credit for 3102 (404) or permission of instructor. Not open to students with credit for 604.</td>
</tr>
<tr>
<td>5103</td>
<td>French Translation and Interpretation</td>
<td>U</td>
<td></td>
<td>An introduction to the theory and practice of translation (French to English and English to French) based on texts reflecting different types of written communication. Prereq: Undergrad students must have credit for 5101 (601). Not open to students with credit for 602.</td>
</tr>
<tr>
<td>5194</td>
<td>Combined UG and Grad Group Studies</td>
<td>U</td>
<td></td>
<td>Group studies. Prereq: Permission of instructor, or permission of Graduate Studies Chair (graduate students only). Not open to students with 30 cr hrs for 694. Repeatable. FL Admis Cond course.</td>
</tr>
<tr>
<td>5201</td>
<td>Gothic to Renaissance: Texts and Contexts</td>
<td>U</td>
<td></td>
<td>Survey of French literature of the Middle Ages from its inception to Villon, with emphasis on different literary genres (epics, narrative fiction, poetry; theatre). Prereq: 3101 (401) and either 3201 (425, 426), or 3202 (427); graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor. Not open to students with credit for 650 or 721. FL Admis Cond course.</td>
</tr>
<tr>
<td>5202</td>
<td>Versailles to the Enlightenment: Texts and Contexts</td>
<td>U</td>
<td></td>
<td>Major early modern French literary movements and authors to major ideas and authors of the 18th century in France; emphasis on such writers as Montesquieu, Voltaire, Diderot, and Rousseau. Prereq: 3101 (401) and either 3201 (425, 426), or 3202 (427); graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor. Not open to students with credit for 652 and 653. FL Admis Cond course.</td>
</tr>
<tr>
<td>5203</td>
<td>Romanticism to Surrealism: Texts and Contexts</td>
<td>U</td>
<td></td>
<td>French literary movements and individual works situated in their historical contexts from the turn of the 19th century to World War I. Prereq: 3101 (401), and either 3201 (425 and 426) or 3202 (427); or Grad standing (graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor). Not open to students with credit for 655. FL Admis Cond course.</td>
</tr>
<tr>
<td>5204</td>
<td>World Wars and Beyond: Texts and Contexts</td>
<td>U</td>
<td></td>
<td>Major intellectual and literary currents in France from the early 20th century to the present. Prereq: 3101 (401), and either 3201 (425 and 426) or 3202 (427); or Grad standing (graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor). Not open to students with credit for 656. FL Admis Cond course.</td>
</tr>
<tr>
<td>5205</td>
<td>Black Africa and Diaspora: Texts and Contexts</td>
<td>U</td>
<td></td>
<td>Major intellectual and literary currents in black Africa and the Caribbean. Prereq: 3101 (401), and either 3201 (425 and 426) or 3202 (427); or Grad standing (graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor). Not open to students with credit for 657.01. FL Admis Cond course.</td>
</tr>
<tr>
<td>5206</td>
<td>North Africa: Texts and Contexts</td>
<td>U</td>
<td></td>
<td>Major intellectual and literary currents in Francophone North Africa. Prereq: 3101 (401), and either 3201 (425 and 426) or 3202 (427); or Grad standing (graduate students require written permission of the Graduate Studies Chair in consultation with student's advisor). Not open to students with credit for 657.02. FL Admis Cond course.</td>
</tr>
</tbody>
</table>
5207 Quebec: Texts and Contexts  U G 3
Major intellectual and literary currents in Quebec.
Prereq: 3101 (401), and 3201 (425 and 426) or 3202 (427); or Grad standing, and permission
of the Graduate Studies Chair in consultation with student's advisor. Not open to students with credit
for 6573. FL Admins Cond course.

5301 Technology Tools for Teachers of French  U G 3
Theoretical and practical applications of technology and social media tools. Exploring effects
of technology on student learning; applications of technology for classroom use; creation of
classroom materials and evaluation of technology tools. Not open for credit toward the French
major/minor programs.
Prereq: Permission of Instructor. Not open to students with credit for 5301. FL Admins Cond
course. Cross-listed in Spanish.

5401 Louis XIV to World War I  U G 3
Political and cultural history of France from Absolute Monarchy to World War I.
Prereq: 3101 (401) and 3401 (440), or permission of instructor; or Grad standing and
permission of Graduate Chair and student advisor. Not open to students with credit for 643.
FL Admins Cond course.

5402 The Roaring 20's to the 21st Century  U G 3
The transformation of French society since WWII as a result of changing social and political
structures.
Prereq: 3101 (401) and 3401 (440) or permission of instructor; or Grad standing and
permission of Graduate Studies Chair. Not open to students with credit for 644. FL Admins
Cond course.

5403 Topics in French-Speaking Cultures and Literatures  U G 1 - 3
Intense exploration of an aspect of French or Francophone culture or literature.
Prereq: 3101 (401), and either 3201 (425 and 426), 3202 (427), or 440; or Grad standing
(graduate students require written permission of the Graduate Studies Chair in consultation
with student's advisor). Not open to students with credit for 15 cr hrs or 16 crhrs. Repeatable
to a maximum of 9 cr hrs or 9 completions. FL Admins Cond course.

5701 Topics in French and Francophone Cinema  U G 3
Study of the history and aesthetics of French cinema. Topics vary.
Prereq: For undergraduates - 3101 (401) plus one additional 3000- or 4000-level (400-level)
course taught in French. For graduate students - Permission of the Graduate Advisor. Not
open to students with credit for 670. FL Admins Cond course.

5702 Studies in French Cinema  U G 3
Study of the history and aesthetics of French cinema. Taught in English.
Prereq: 10 qtr hrs or 6 sem hrs in Literature and/or Cinema taken at the 2000 (200) level,
or permission of instructor; or Grad standing, and permission of the Graduate Studies Chair in
consultation with student's advisor. Not open to students with credit for 672. Repeatable to a
maximum of 6 cr hrs.

6193 Graduate Independent Study  G 1 - 15
Graduate independent study. Repeatable to a maximum of 30 cr hrs or 30 completions.

6194 Graduate Group Studies  G 1 - 15
Graduate group studies. Repeatable to a maximum of 30 cr hrs or 30 completions.

6571 French Reading for Research I  G 3
Designed primarily for students who have no formal preparation in French; covers basic
grammar and vocabulary and develops students' reading skills. Credit does not apply to the
minimum number of hours required for the master's or doctoral degrees.
Prereq: Grad standing.

6572 French Reading for Research II  G 3
Designed primarily for students who have no formal preparation in French; covers basic
grammar and vocabulary as well as developing reading skills. Credit does not apply to the
minimum number of hours required for the master's or doctoral degrees.
Prereq: 6571 (571) and (Grad Standing, or permission of instructor).

6999 Master's Thesis  G 1 - 15
Master's thesis. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/J.

7101 Medieval French  G 3
Introduction to medieval French grammar and vocabulary, using a medieval text as vehicle.
Prereq: Permission of Instructor. Not open to students with credit for 716.01.

7102 Medieval Occitan  G 3
Introduction to the language and literature of medieval Occitan, especially to that of the
troubadours.
Prereq: 7101 (716.01) or permission of instructor. Not open to students with credit for 716.02.

7301 Teaching French and Italian at the College Level  G 3
Methods and techniques for teaching French and Italian languages at the college level.
Prereq: Graduate teaching associate in the Department of French and Italian, or permission of
instructor. Not open to students with credit for 801, EduTL 801.01, EduTP 801.01 or Italian
801. Cross-listed in Italian.
Dissertation Workshop 8999  G  1  Faculty-led workshop in which Ph.D. candidates meet weekly to discuss and critique their current dissertation research. Required each semester for Ph.D. candidates, including the semester in which they defend the dissertation. Prereq: Ph.D. candidate in French or Italian. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

Pre-Candidacy Research 8998  G  1 - 9  Pre-candidacy research and examination preparation for advanced graduate students. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.

Dissertation Research 8999  G  1 - 9  Research for dissertation. Prereq: Candidacy exams completed. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U. FL Admins Cond course.

General Studies: Biology

General Biology 1200T  U  4  A basic course intended to provide a biological foundation, supporting chemistry concepts, emphasizing principles and applications of biology. Prereq: Not open to students with credit for 120T or Biology 1113 (113). This course is available for EM credit.

General Botany with Applications 1250T  U  4  Introduction to the fundamental structures and processes of plants, including plant anatomy, physiology, morphology, reproduction, and genetics. Prereq: Not open to students with credit for 125T or HCS 300 or PlantBio 300. This course is available for EM credit.

Individual Studies 2193T  U  1 - 3  Designed to give an individual student an opportunity to pursue special studies not offered in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

Group Studies 2194T  U  1 - 3  Designed to give groups of students an opportunity to pursue special studies not offered in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

General Studies: Chemistry

Introduction to General Chemistry 1100T  U  3  Develops the basic concepts of atomic structure, bonding theory, molecular structure, chemical reactions, solutions, equilibrium, and acid-base chemistry. Prereq: GenMath 1040T or Math 1050 or Math placement level R or higher. Not open to students with credit for Chem 1110 or 1210. This course is available for EM credit.

Introduction to Organic Chemistry 1105T  U  3  Emphasizes the structure, nomenclature, and physical and chemical properties of organic and biological molecules. Prereq: 1100T (131T) or Chem 1110 (101). Not open to students with credit for 132T or Chem 102. This course is available for EM credit.

Individual Studies 2193T  U  1 - 3  Designed to give an individual student an opportunity to pursue special studies not offered in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

Group Studies 2194T  U  1 - 3  Designed to give groups of students an opportunity to pursue special studies not offered in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

General Studies: Communications Skills

Learning Strategies for Success 1000T  U  3  Focus on aiding students to develop self-awareness, positive attitudes, and learning strategies to improve their academic performance. Does not count for credit towards graduation. Prereq: Not open to students with credit for 100T.

College Orientation 1201T  U  3  Promotes student success in college and preparation for a career; explores personal and career interests, needs, goals, and the support services available for student success. Prereq: Not open to students with credit for 201T or FAES 100.

General Studies: Humanities

Humanities as a Window on Cultural Pluralism: The Arts in Ghana 1190.01T  U  3  An introduction to specific arts and cultural contexts of Ghana, West Africa, leading to a four-week study abroad, IntStds 5797. Prereq: Permission of instructor. Concur: IntStds 5797. Not open to students with credit for 190T.

Humanities as a Window on Cultural Pluralism: Global Arts 1190.02T  U  3  An introduction to specific visual arts and cultural contexts of four societies: Japan, Ghana, France, USA. This course is available for EM credit.

Humanities as a Window on Cultural Pluralism: US City Arts 1190.03T  U  3  An introduction to visual arts and cultural contexts in American cities. Prereq: Permission of instructor. This course is available for EM credit.

Individual Studies 2193T  U  1 - 3  Designed to give an individual student an opportunity to pursue special studies not offered in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

Group Studies 2194T  U  1 - 3  Designed to give groups of students an opportunity to pursue special studies not offered in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

General Studies: Mathematics

Basic Mathematics I 1030T  U  3  A foundation course in arithmetic and beginning algebra skills. Emphasis is on obtaining competencies necessary to be successful in the Basic Mathematics II course. Prereq: Not open to students with credit for 1040T or 1140T.

Basic Mathematics II 1040T  U  3  A review of algebra and geometry fundamentals with emphasis on measurement, percent application, two and three-dimensional geometry application, and direct and inverse proportion. Prereq: 1030T with a grade of C- or better, or Math Placement Level S. Not open to students with credit for 1140T. This course is available for EM credit.

Business Mathematics 1141T  U  3  The mathematics of business and finance: including proportion, the income statement, simple interest, compound interest, annuities, amortization and sinking funds. Prereq: 1040T or 1140T, or Math Placement Level R or higher. This course is available for EM credit.

Technical Mathematics 1145T  U  3  A study of technical applications and computational methods involving variation, systems of equations, quadratic equations, graphical solutions to equations, logarithmic and exponential equations, and trigonometry. Prereq: 1040T or 1140T with a grade of C- or better, or Math Placement Level R or higher. This course is available for EM credit.

Individual Studies 2193T  U  1 - 3  Designed to give an individual student an opportunity to pursue special studies not offered in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.
2194T  Group Studies  U  1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions.

1171T  Human Relationships in the 21st Century  U  3
An introduction to psychological theories of relationships, including theories of personality, personal development, career development, work relationships, intimate relationships, marriage and family, and parenting in a diverse and changing society.
Prereq: Not open to students with credit for 171T or 172T. This course is available for EM credit.

1181T  Hispanic Culture and Language in the Workplace  U  3
Develop an understanding of how various Latino cultures influence workplace issues in order to improve the working environment and learn a basic workplace Spanish vocabulary.
Prereq: Not open to students with credit for 184T. This course is available for EM credit.

1182T  Deaf Culture and American Sign Language  U  3
Survey norms, values, attitudes, traditions, history, media, socialization, and changing technology of deaf culture. Basic American Sign Language vocabulary, syntax and finger-spelling.
This course is available for EM credit.

2193T  Individual Studies  U  1 - 3
Designed to give an individual student an opportunity to pursue special studies not offered in other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions. This course is graded S/U.

2194T  Group Studies  U  1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions.

Geodetic Sciences

5194  Group Studies  G  1 - 6
Group studies of a specified topic in geodetic sciences, geodesy, or geodynamics.
Prereq: Permission of instructor. Repeatable to a maximum of 40 or 20 completions for any combination of 5194 or 694.

5612  Introduction to Geodesy  U  3
The figure of the Earth; global geodetic observing system; reference frames and datums; satellite missions for Earth measurements; Earth's gravity field.
Prereq: Math 1152 (153) or above, or permission of instructor. Not open to students with credit for 5660 (660), 6776 (776), or 6777 (777).

5636  Geovisualization Geometry: Map Projections and More  U  4
Principal map projections of the sphere, their distortions, properties, and usage. Evolution of geospatial visualization methods using computer graphics.
Prereq: 2153 (254) or equiv. Not open to students with credit for GeodSciM 636.

5637  Topics in Mapping  U  3
A survey of developments in mapping and geographic information science of importance to geodetic scientists specializing in geodesy, geodynamics, spatial data acquisition technology, and mathematical and statistical methods.
Prereq: 5636 (636), or permission of instructor. Not open to students with credit for GeodSciM 637.

5652  Adjustment Computations  U  5
Classification of errors; measures of dispersion; variance and covariance; propagation of errors; weights, observations, and normal equations; algorithms and examples, weighted and fixed constraints; statistical tests; error ellipsoids.
Prereq: Math 1172, 2153, 2173 or 254 or equiv; and 2568, 4568, or 572 or equiv. Not open to students with credit for GeodSciM 652 or 651.

5660  Geodetic Reference Systems  U  4
Geodetic and astronomical coordinates, ellipsoidal geometry; geodetic datums; terrestrial and celestial reference systems; reduction of celestial coordinates; polar motion; time systems.
Prereq: Math 1172, 2153, 2173, or 254 or equiv; and Math 2568, 4568, or 572 or equiv. Not open to students with credit for 660.

5781  Geodesy and Geodynamics  U  3
Crustal motion geodesy, reference frame realization and station trajectory analysis, plate motion and Euler's theorem, earthquake deformation cycle, elastic and viscoelastic responses to surface loading, numerical methods.
Prereq: Math 1152 (153), 2174, 2568, or 5601, or Physics 1251; or permission of instructor. Not open to students with credit for GeodSciM 781.
230 Geodetic Sciences

8998 Research in Geodetic Science G 1 - 12

Graduate-level research. Prereq: Grad standing in Geodetic or Earth Sciences. Repeatable. This course is graded S/U.

8999 Dissertation Research in Geodetic Science G 1 - 12

Research for dissertation. Prereq: Grad standing in Geodetic or Earth Sciences. Repeatable. This course is graded S/U.

2800 Our Global Environment U 3

Introduction to global environmental issues, including the interaction of physical and social factors in the causes of and strategies for ameliorating environmental problems. Prereq: Not open to students with credit for 1900 (120), 1900H (120H), 2960 (220), 2960H (220H), or 210. GE nat sci phys course.

2960 Introduction to Physical Geography U 4

The elements and processes of the natural environment, their characteristics, distribution, and implications in the human habitat. Prereq: Not open to students with credit for 1900 (120), 1900H (120H), 2800 (210), 2960H (220H), or 210. GE nat sci phys course. NS Admin Cond course.

2960H Introduction to Physical Geography U 4

The elements and processes of the natural environment, their characteristics, distribution, and implications in the human habitat. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 220H, 1900 (120), 1900H (120H), 2960 (220), or 2800 (210). GE nat sci phys course. NS Admin Cond course.

3300 Transportation Security U 3

Geographic aspects of transportation security. Spatial analysis of transportation linkages. Relationships between transportation and spatial organization; selected analytical models dealing with threats to transportation security. Prereq: Not open to students with credit for 445.

3597.01 World Urbanization U 3

An examination of geographic aspects of the urbanization process in the world's major regions; interrelationships between urbanization and economic development. Prereq: Not open to students with credit for 3701 (450) or 597.01. GE cross-disciplinary seminar course.

3597.02 Integrated Earth Systems: Confronting Global Change U 3

Introduction to numerous global change issues through the exploration of the integrated Earth system; problem-solving strategies within an interdisciplinary team environment. Prereq: Not open to students with credit for 597.02. GE cross-disciplinary seminar course.

3597.03 Environmental Citizenship U 3

Provides tools for environmental citizenship by teaching interdisciplinary perspectives on biophysical and sociocultural forces that shape environments. Addresses general processes through local case studies. Prereq: Not open to students with credit for 597.03 or English 3597.03 (597.03). GE cross-disciplinary seminar course. Cross-listed in English.

3600 Space, Power and Political Geography U 3

Political geographic thought; territory and territoriality; borders and scale; space, power and uneven development; states and statecraft; and the politics of nations, regions and localities. Prereq: Not open to students with credit for 460 or 460H. GE soc sci orgs and polities course.

3600H Space, Power and Political Geography U 3

Political geographic thought; territory and territoriality; borders and scale; space, power and uneven development; states and statecraft; and the politics of nations, regions and localities. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 460 or 460H. GE soc sci orgs and polities course.

3601 Global Politics and the Modern Geopolitical Imagination U 3

Explores the neglected, rich, and contested tradition of geopolitics, defined as geographical assumptions that structure knowledge and practice of world politics; covers the 19th-21st centuries. Prereq: Not open to students with credit for 465. GE soc sci orgs and polities and diversity global studies course.

3701 The Making of the Modern World U 3

The geographies of modernity and their formation: the world market, the global polity, diasporas and constructing difference, colonialism, the transformation of nature, Eurocentricity, post-modernity. Prereq: Not open to students with credit for 450. GE soc sci orgs and polities and diversity global studies course.

3702 Life and Death Geographies: Global Population Dynamics U 3

Theories of population change; global and national contexts of fertility policy and reproductive health, morbidity and mortality trends; migration; environmental effects of population growth; urbanization. Prereq: Not open to students with credit for 470.

3750 Geography of North America U 3

Geographical analysis of North America; spatial patterns and processes associated with culture, politics, economy and social difference at international, national, regional and urban scales. Prereq: Not open to students with credit for 400. GE diversity soc div in the US course.

3751 Geography of Ohio U 3

An appraisal of geographic factors in the settlement and development of Ohio; an overview of the evolution of the Ohio economy. Prereq: Not open to students with credit for 401.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>3752</td>
<td>Geography of Latin America</td>
<td>U 3</td>
<td>A thematic introduction to the lands and peoples of the region, with emphasis on interconnections between biophysical systems, landscape change, and population dynamics (urbanization, migration). Prereq: Not open to students with credit for 505.</td>
</tr>
<tr>
<td>3753</td>
<td>Geography of the European Union</td>
<td>U 3</td>
<td>Geographic factors in the economic, social, and political progress of European integration; major problems of the area in the light of their geographic background. Prereq: Not open to students with credit for 510.</td>
</tr>
<tr>
<td>3754</td>
<td>Geography of the Former Soviet Union</td>
<td>U 3</td>
<td>A survey of the human geography of the area defined by the successor states to the Soviet Union with an emphasis on ongoing transformations. Prereq: Not open to students with credit for 512.</td>
</tr>
<tr>
<td>3800</td>
<td>Geographical Perspectives on Environment and Society</td>
<td>U 3</td>
<td>Geographical understanding of interactions between society and environment; how historical and contemporary views of the environment influence people’s actions toward the environment and other people. Prereq: Not open to students with credit for 430. GE soc sci human, nat, and econ resources course.</td>
</tr>
<tr>
<td>3900</td>
<td>Global Climate Change: Causes and Consequences</td>
<td>U 3</td>
<td>Examines the natural and human factors that force changes in our climate and environment and explores strategies for a sustainable environment in the future. Prereq: Not open to students with credit for 3901H (410H) or 420. GE nat sci physical course.</td>
</tr>
<tr>
<td>3900H</td>
<td>Global Climate and Environmental Change</td>
<td>U 3</td>
<td>Examines both natural and social factors that force changes in our climate and environment and explores strategies for a sustainable environment in the future. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 3900 (420) or 410H. GE nat sci phys and soc sci human, nat, and econ resources course.</td>
</tr>
<tr>
<td>3980</td>
<td>Biogeography: An Introduction to Life on Earth</td>
<td>U 3</td>
<td>The patterns and processes responsible for the global distribution of Earth's flora and fauna; the inter-relationship between biota and soils; climate and topography will be emphasized. Prereq: Not open to students with credit for 480.</td>
</tr>
<tr>
<td>4100</td>
<td>Geographic Inquiry</td>
<td>U 3</td>
<td>History of geographic thought; covers major advances and debates in theory and method, and outlines major contributions of geographic research. This is a capstone course for Geography majors in Environment &amp; Society and Urban, Regional, and Global Studies specializations.</td>
</tr>
<tr>
<td>4101</td>
<td>Undergraduate Research and Professionalization Seminar</td>
<td>U 3</td>
<td>Introduction to conducting research in geography; practical experience in generating, analyzing, and presenting geographic information; explores fieldwork methods and develops professional skills, including proposal writing. Prereq: 12 semester hours in Geog. Not open to students with credit for 695.</td>
</tr>
<tr>
<td>4193</td>
<td>Individual Studies in Geography</td>
<td>U 1 - 9</td>
<td>Independent studies on selected Geography related topics. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4194</td>
<td>Group Studies in Geography</td>
<td>U 1 - 3</td>
<td>Special studies on topics directly related to Geography. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research in Geography</td>
<td>U 1 - 9</td>
<td>Undergraduate research on topics in Geography. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4998H</td>
<td>Undergraduate Research in Geography</td>
<td>U 1 - 9</td>
<td>Undergraduate research on topics in geography. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999</td>
<td>Thesis Research</td>
<td>U 1 - 9</td>
<td>A program of research which includes individual conferences and which culminates in a thesis. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999H</td>
<td>Honors Thesis Research</td>
<td>U 1 - 9</td>
<td>A program of research which includes individual conferences and which culminates in an honors thesis and an oral defense. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5100</td>
<td>Spatial Data Analysis</td>
<td>U G 3</td>
<td>An introduction to spatial data analysis in geography; the fundamental statistical and spatial analysis methods used in quantitative geographic research.</td>
</tr>
</tbody>
</table>
Sustainable Transportation U G 3

Sustainable transportation generates accessibility while minimizing harm to people and the natural environment. This course examines the problems associated with transportation, including climate change, air quality, non-renewable resources, safety, congestion and social equity. We will also examine solutions to these problems, including pricing, planning, policy and technology.

Economies, Space, and Society U G 3

A theoretical and substantive examination of economic geography; the interface of the economy with society, politics, and culture; and multiple expressions of capitalism. Prereq: Not open to students with credit for 640.

Land Use Geography U G 3

Causes and consequences of recent regional and national land-use changes; urban decentralization, suburbanization of jobs and people; changing relationships between economic activity and the environment. Prereq: Not open to students with credit for 655.

Urban Spaces in the Global Economy U G 3

An examination of social, economic, cultural and political processes that produce urban space in local, national and global terms. Prereq: Not open to students with credit for 650.

The Neoliberal City U G 3

Neoliberal governance of cities affecting cultural, civic, and environmental politics; urban geographies of difference; politics and social economy of global cities; the uneven landscape of access and opportunity; shadow governance; and the built form. Prereq: Not open to students with credit for 652.

Urban China: Space, Place and Urban Transportation U G 3

Examines geography of China's urban transformations since 1911. Topics include: politics of urban design, political economy of land development, place-making projects, suburbanization, and consumption and spectacle.

Foucault, Power, Governance U G 3

Goverance and society from a geographic perspective using Foucault's governmentality framework. Prereq: Not open to students with credit for 643. GE soc sci orgs and polities course.

Conflict, Power & Politics in the City U G 3

The changing politics of space in cities: class, neighborhood, and workplace in the industrial and the post-industrial city. Prereq: Not open to students with credit for 660.

Geography of Development U G 3

Political economy of development; development theory; the historical geography of capitalist development; and contemporary development practices and strategies. Prereq: Not open to students with credit for 642.

New Worlds of Latin America U G 3

Exploration of ongoing debates about achieving socially equitable and environmentally sustainable change in Latin America; emphasizes case studies and personal narratives from the lowland tropics. Prereq: Not open to students with credit for 605.

South Africa: Society and Space U G 3

South Africa's racialized geographies, patterns of urbanization and uneven development, and the role of social struggle in their production. Prereq: Not open to students with credit for 608.

Study at a Foreign Institution U G 1 - 9

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

Environmental Conservation U G 3

Conservation of nature; nature-society theory; conflicts around environmental change and contemporary conservation programs and strategies. Prereq: Not open to students with credit for 630.

Globalization and Environment U G 3

Transnational dimensions of changes to the natural environment; ways that global economic activity, international institutions, and global environmentalism contribute to environmental problems and solutions. Prereq: Not open to students with credit for 635.

Weather, Climate, and Global Warming U G 3

An introduction to the fundamental physical and mathematical principles governing weather, climate and global warming. Prereq: Not open to students with credit for 520 or AtmosSc 2940 (230).
<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8271</td>
<td>Seminar in Location Analysis: Location Theory</td>
<td>3</td>
<td>The development of theory in location analysis and its application to selected problems. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8272</td>
<td>Seminar in Location Analysis: Problems</td>
<td>3</td>
<td>The development of theory in location analysis and its application to selected problems. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8300</td>
<td>Theory of Transportation Geography</td>
<td>3</td>
<td>The development of theory in transportation geography. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8400</td>
<td>Issues in Critical Human Geography</td>
<td>3</td>
<td>Course engages a variety of theoretical and epistemological issues in critical human geography. Specific topics vary. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8401</td>
<td>Seminar: Theory of Population and Social Geography</td>
<td>3</td>
<td>The development of theory in population and social geography and its application to selected problems. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8402</td>
<td>Seminar: Problems in Population and Social Geography</td>
<td>3</td>
<td>The development of theory in population and social geography and its application to selected problems. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8501</td>
<td>Seminar in Urban Geography: Spatial Organization of the City</td>
<td>3</td>
<td>The development of theory in urban geography and its application to selected problems of spatial organization of the city. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8502</td>
<td>Seminar in Urban Geography: Urban Systems Analysis</td>
<td>3</td>
<td>The development of theory in urban geography and its application to selected problems in urban systems analysis. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8503</td>
<td>Seminar in Urban Geography: Third World Urbanization</td>
<td>3</td>
<td>The development of theory in urban geography and its application to selected problems in third world urbanization. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8601</td>
<td>Seminar: Theory of Political Geography</td>
<td>3</td>
<td>The development of theory in political geography and its application to selected problems. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8602</td>
<td>Seminar: Problems in Political Geography</td>
<td>3</td>
<td>The development of theory in political geography and its application to selected problems. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8800</td>
<td>Seminar in Environment and Society</td>
<td>3</td>
<td>The development of theory in environment and society and its application to selected problems. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8880</td>
<td>Interdepartmental Seminar</td>
<td>3</td>
<td>Two or more departments may collaborate in presenting seminars on subjects of mutual interests. Prereq: Not open to students with credit for 899. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8896</td>
<td>Interdepartmental Seminar in Polar and Alpine Studies</td>
<td>2</td>
<td>A seminar on selected topics involving anthropology, biology, climatology, exploration, geology, glaciology, microbiology, and soils. Prereq: Permission of instructor. Not open to students with credit for 896 or EarthSci:8889 (EarthSci 8896). Repeatable to a maximum of 6 cr hrs or 3 completions. Cross-listed in EarthSci: 8889.</td>
</tr>
<tr>
<td>8901</td>
<td>Seminar: Problems in Climatology</td>
<td>3</td>
<td>Problems in climatology. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>8902</td>
<td>Applied Climatology</td>
<td>3</td>
<td>Analysis of climatic and environmental change on various time scales; human impact on climate; theory and application of long-range and climate forecasting. Prereq: 5941 (623.01) or permission of instructor. Not open to students with credit for 823.</td>
</tr>
<tr>
<td>8920</td>
<td>Microclimatology</td>
<td>3</td>
<td>Radiation and turbulence processes, conduction; variation in wind, temperature, humidity, soil moisture, evaporation, soil temperature; influence of vegetation and artificial structures. Prereq: 5940 (622.01) or 5921 (620). Not open to students with credit for 822.</td>
</tr>
<tr>
<td>8950</td>
<td>Dynamic Climatology</td>
<td>3</td>
<td>Dynamics, thermodynamics, energy conservation, flows, conversion processes; large scale circulation patterns with particular emphasis upon turbulence at the synoptic scale; weather processes; regional climates. Prereq: 5921 (622.01); or permission of instructor. Not open to students with credit for 821.</td>
</tr>
<tr>
<td>8960</td>
<td>Seminar: Special Problems in Physical Geography</td>
<td>3</td>
<td>Special problems in physical geography. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8999</td>
<td>Research in Geography: Dissertation</td>
<td>1 - 9</td>
<td>Research for dissertation purposes only. Repeatable to a maximum of 75 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
</tbody>
</table>

### Georgian

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<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1101</td>
<td>Elementary Georgian I</td>
<td>U</td>
<td>Introduction to Georgian; development of speaking, listening, and writing skills in cultural context. Not open to native speaker of this language. Prereq: Not open to students with credit for Georgian 101, or 2 or more years of study in this language in high school, except by permission of department. This course is available for EM credit. GE for lang course. FL Admis Cond course.</td>
</tr>
<tr>
<td>1102</td>
<td>Elementary Georgian II</td>
<td>U</td>
<td>Continued development of speaking, listening, and writing skills in cultural context. Not open to native speakers of this language. Prereq: 1101 (Georgian 101.01). Not open to students with credit for 102.01. This course is available for EM credit. GE for lang course. FL Admis Cond course.</td>
</tr>
<tr>
<td>1103</td>
<td>Intermediate Georgian I</td>
<td>U</td>
<td>Continued development of speaking, listening, and writing skills in cultural context. Not open to native speakers of this language. Prereq: 1102 (Georgian 102.01). Not open to students with credit for Georgian 104.01. This course is available for EM credit. GE for lang course. FL Admis Cond course.</td>
</tr>
<tr>
<td>1204</td>
<td>Intermediate Georgian II</td>
<td>U</td>
<td>Increasing functional ability in speaking, listening, reading, and writing practice; vocabulary-building; new grammar structures; start developing higher-level language skills in Georgian. Prereq: 1103 (104). Not open to students with credit for 407, or native speakers of this language through regular course enrollment or EM credit.</td>
</tr>
</tbody>
</table>

### German

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1015</td>
<td>Individualized German I</td>
<td>U</td>
<td>For students who enrolled in German 101.51 under the quarter system and still have credits to complete at the level. No new enrollments. The course will be offered through spring 2013. Upon completion of 1015 students should enroll in 1102. Closed to native speakers of this language. Prereq: Not open to students with credit for 101.01, 102.66, 1101.01, 1101.51; or 2 or more years of study in this language in high school, except by permission of department. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is available for EM credit. GE for lang course.</td>
</tr>
<tr>
<td>1025</td>
<td>Individualized German II</td>
<td>U</td>
<td>For students who enrolled in German 101.51 under the quarter system and still have credits to complete within the level. No new enrollments. The course will be offered through spring 2013. Upon completion of 1025 students should enroll in 1103.51. Closed to native speaker's of this language. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is available for EM credit. GE for lang course.</td>
</tr>
<tr>
<td>1100.01</td>
<td>German I</td>
<td>U</td>
<td>Introduction to language and culture of the German-speaking world, with emphasis placed on the acquisition of basic communication skills in cultural context. CEFR Levels A1/A2. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 2 or more years of study in this language in high school, except by permission of instructor. Prereq: Not open to students with credit for 1101.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.</td>
</tr>
<tr>
<td>1101.51</td>
<td>German I - Self-Paced</td>
<td>U</td>
<td>Content of German 1101.01 in self-paced format for independent learners of German. CEFR Levels A1/A2. Progress is sequential from 1 cr hr to the next, with proficiency at the level of 80% required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with 2 or more years of study in high school, except by permission of instructor. Prereq: Not open to students with credit for 1101.01. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course.</td>
</tr>
<tr>
<td>Code</td>
<td>Title</td>
<td>Description</td>
<td>Hours</td>
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</tr>
<tr>
<td>1102.01</td>
<td>German II</td>
<td>Continued development of German-language skills and cultural knowledge for effective communication. Emphasis on more advanced language structures, sustained interactions, reading and writing. CEFR Level A2/B1. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1101.01, or 4 sem or hrs of 1101.51, or concurrent 1101.51, or permission of instructor. Not open to students with credit for 1102.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.</td>
<td>U 4</td>
</tr>
<tr>
<td>1102.03</td>
<td>German II</td>
<td>Bridge course for students who completed German 101.01, 101.51, 102.01, or 102.51 in the quarter system. Prereq: 101.01, 101.51, 102.01, or 102.51. Not open to students with credit for 103.01 or 103.51. GE for lang course. FL Admis Cond course.</td>
<td>U 3</td>
</tr>
<tr>
<td>1102.05</td>
<td>German II</td>
<td>Bridge course for students who completed German 101.01 or 101.51 in the quarter system. Prereq: 101.01 or 101.51. Not open for students with credit for 102.01 or 102.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.</td>
<td>U 5</td>
</tr>
<tr>
<td>1102.51</td>
<td>German II - Self-Paced</td>
<td>Content of German 1102.01 in self-paced format for independent learners of German. CEFR Levels A2/B1. Progress is sequential from one or hr to the next, with proficiency at the level of 80% required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1101.01, or 4 hrs of 1101.51; or concurrent 1101.51, or permission of instructor. Not open to students with credit for 1102.01. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.</td>
<td>U 1 - 4</td>
</tr>
<tr>
<td>1103.01</td>
<td>German III</td>
<td>Development of skills for independent use of German. Discussions, presentations, writing &amp; listening/viewing activities that address topics of the contemporary German-speaking world. CEFR Level B1. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1102.01, or 4 sem or hrs of 1102.51, or 1266, or concurrent 1102.01, or 1102.51, or permission of instructor. Not open to students with credit for 1103.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.</td>
<td>U 4</td>
</tr>
<tr>
<td>1103.51</td>
<td>German III - Self-Paced</td>
<td>Content of German 1103.01 in self-paced format for independent learners of German. CEFR Level B2. Progress is sequential from one hr to the next, with proficiency at the level of 80% required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1102.01 or 1266, or 4 hrs of 1102.51; or concurrent 1102.01, 1102.51, or 1266; or permission of instructor. Not open to students with credit for 1103.01. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.</td>
<td>U 1 - 4</td>
</tr>
<tr>
<td>1104.01</td>
<td>German IV</td>
<td>Development of aural comprehension, speaking, reading, and writing skills in German in cultural context. CEFR Level B1. For students who have completed 103.01, 103.51 or 103.66 in quarter system. Closed to native speakers of this language Prereq: 103 or 112, or equiv. This course is available for EM credit. GE for lang course. FL Admis Cond course.</td>
<td>U 3</td>
</tr>
<tr>
<td>1135</td>
<td>Individualized German III</td>
<td>For students who enrolled in German 103.51 under the quarter system and still have credits to complete within the level. No new enrollments. The course will be offered through spring 2013. Upon completion of 1135 students enroll in 1104.01. Closed to native speakers of this language. Prereq: 1102.01 or 102.51. Not open to students with credit for 103.66 or 103.01. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course.</td>
<td>U - 3</td>
</tr>
<tr>
<td>1145</td>
<td>Individualized German IV</td>
<td>For students who enrolled in German 104.51 under the quarter system and still have credits to complete within the level. No new enrollments. The course will be offered through spring 2013. Closed to native speakers of this language. Prereq: 103.01, 103.66, or 103.51. Not open to students with credit for 104.01. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is available for EM credit. GE for lang course.</td>
<td>U - 3</td>
</tr>
<tr>
<td>1266</td>
<td>German Review</td>
<td>Review and practice of important skills and concepts from German 1101 and 1102 needed for entry into German 1103.01 or German 1103.51. Prereq: Two or more years of study in German in high school, and the placement test; or permission of instructor. Not open to students with credit for 1101.51, 1101.01, 1102.51, or 1102.01; or to native speakers of German through regular course enrollment or EM credit. GE for lang course. FL Admis Cond course.</td>
<td>U 4</td>
</tr>
<tr>
<td>2101</td>
<td>Texts and Contexts I: Contemporary German Language, Culture and Society</td>
<td>Development of communication skills and knowledge about recent social, cultural, and political developments in German speaking countries through texts, media and film; CEFR level A2/B1. Closed to native speakers of this language. Prereq: 1103 or 1103.51, or equiv, or permission of instructor. No audit. FL Admis Cond course.</td>
<td>U 3</td>
</tr>
<tr>
<td>2102</td>
<td>Texts and Contexts II: 20th-Century German Language, History and Culture</td>
<td>Continued development of communication skills; gain an understanding of major social and cultural developments in 20th century German history through texts, media, film. CEFR level B1/B2. Closed to native speakers of this language. Prereq: 2101 or equiv, or permission of instructor. FL Admis Cond course.</td>
<td>U 3</td>
</tr>
<tr>
<td>2193</td>
<td>Individual Studies</td>
<td>Individual investigation of minor problems in German language and literature. Prereq: Permission of Chairperson. Repeatable to a maximum of 16 cr hrs or 4 completions. This course is progress graded (S/U).</td>
<td>U 1 - 4</td>
</tr>
<tr>
<td>2194</td>
<td>Group Studies</td>
<td>Investigation of minor problems in German literature and language. Prereq: Permission of Chairperson. Repeatable to a maximum of 16 cr hrs or 4 completions.</td>
<td>U 1 - 15</td>
</tr>
<tr>
<td>2250</td>
<td>Berlin: Stories, Languages, and Ideas</td>
<td>The roles Berlin played in Europe's and the world's major upheavals, from the Thirty Years' War to the Fall of the Wall in 1990, and insight into the increasing internationalization of Berlin from three perspectives: stories told by and about Berlin's citizens; philosophical &amp; scientific ideas generated in Berlin; and multilingual dialects and variations. GE lit and diversity global studies course.</td>
<td>U 3</td>
</tr>
<tr>
<td>2251</td>
<td>German Literature and Popular Culture</td>
<td>Study of popular culture forms in relation to the artistic, intellectual, historic, and literary traditions of the German-speaking world. Taught in English. Repeatable to a maximum of 9 cr hrs. GE lit course.</td>
<td>U 3</td>
</tr>
<tr>
<td>2252H</td>
<td>The Faust Theme</td>
<td>Major versions of the Faust story, their socio-cultural context, and their symbolic expression of recurring human concerns. Taught in English. Prereq: Honors standing, and English 1110.01 (110) or equiv; or permission of instructor. Not open to students with credit for 262H. GE lit and diversity global studies course. EN Admis Cond course.</td>
<td>U 3</td>
</tr>
<tr>
<td>2253</td>
<td>Magic, Murder and Mayhem</td>
<td>Origins and highlights of German culture and life to 1648 as reflected in literary and poetic works, Germanic mythology, religion, and the arts. Prereq: Not open to students with credit for 291. GE lit and diversity global studies course.</td>
<td>U 3</td>
</tr>
<tr>
<td>2254</td>
<td>Grimm's Fairy Tales and their Afterlives</td>
<td>Working to understand the meaning and the enduring appeal of one of Germany's greatest successes in the realm of cultural exportation - the Grimm's fairy tales, a book whose circulation figures are exceeded in Western culture only by those of the Bible. To explore their reach, we will also compare them to their adaptations in literature and film, from dark to Disney. GE lit course.</td>
<td>U 3</td>
</tr>
<tr>
<td>2350</td>
<td>Introduction to German Studies</td>
<td>Overview of the development of German cultures, history, and ideas from the Middle Ages to the present in a transnational context. Taught in English.</td>
<td>U 3</td>
</tr>
<tr>
<td>2352</td>
<td>Development of Contemporary Germany: Dresden Yesterday and Today</td>
<td>Introduction to German life and culture, past and present, including the new federal states; taught within summer study abroad program with students experiencing German culture first hand. Prereq: 1102 or 1102.51. Not open to students with credit for 275. GE cultures and ideas and diversity global studies course. FL Admis Cond course.</td>
<td>U 3</td>
</tr>
<tr>
<td>2367</td>
<td>German Literature and American Culture</td>
<td>German perspectives on and in 20th-century American culture. Influence of German thought and writings on American culture; German views of American culture. Taught in English. Prereq: English 1110.01, 1110.02, and 1110.03 or equiv. Not open to students with credit for 367. GE writing and comm course: level 2. EN Admis Cond course.</td>
<td>U 3</td>
</tr>
<tr>
<td>2451</td>
<td>Hollywood: Exiles &amp; Emigres</td>
<td>German cinema has played an influential role in the development of international film genres. In this class we look at examples of films made in Hollywood that bear the stamp of German influence. We also look at films made in Germany that show that influence flows in both directions. This course assumes no prior knowledge of German, German films, or film theory in general. Taught in English. Prereq: Not open to students with credit for 671. GE VPA course.</td>
<td>U 3</td>
</tr>
<tr>
<td>2798.01</td>
<td>Study Tour</td>
<td>Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions for different titled study tours only. Admis Cond course.</td>
<td>U 1 - 15</td>
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</tbody>
</table>
Students will explore and experience the cosmopolitan and increasingly diverse Berlin by learning about some of the most influential or memorable persons who live or have lived in the city—from its establishment as a capital of the Prussian Kingdom in the 18th century to its present role as capital of a reunified, democratic Germany and a center of European and global politics and culture.

GE diversity studies and education abroad course.

3101 Texts and Contexts III: Historical Perspectives U 3
Development of intermediate/advanced communication skills; broadening of cultural and historical knowledge through interaction with literary and non-literary materials informed by historical perspective. CERP level B2. Closed to native speakers of this language.
Prereq: 2102 or equiv, or permission of instructor. FL Admis Cond course.

3200 Topics in German Literature, Art, and Film U 3
Focused exploration of topics in German literature, art, and film as expressions of culture in a transnational context, aimed at improving students' critical comprehension and communication skills.
Prereq: 2102 or equiv, or permission of instructor. Repeatable to a maximum of 6 cr hrs. Admis Cond course.

3252 The Holocaust in German Literature and Film U 3
Reading, analyzing, and discussion of representative works pertaining to the Holocaust from the perspective of German literature and film. Taught in English.
Prereq: Not open to students with credit for 380 or Yiddish 399. GE lit and diversity global studies course.

3253 The German Experience in North America U 3
Introduction to literature, culture, and history of German immigrants to North America, especially to the Midwest and Ohio, from the seventeenth century into the twenty-first. Prereq: Not open to students with credit for 380. GE cultures and ideas course.

3254H Representations and Memory of the Holocaust in Film U 3
Students will view, discuss, and examine major filmic representations of the Holocaust from several countries from the 1940s through the 1990s. Students will learn how these films have contributed to our understanding of a complex phenomenon of WWIII and how the directors have coped with the thorny issues of representing something that many people consider to be unrepresentable. Taught in English.
Prereq: Honors, and Soph, Jr, or Sr standing, or permission of instructor. GE VPA and diversity global studies course.

3256 Coming to Terms with the Holocaust and War in Germany: Vergangenheitsbewältigung U 3
Dedicated to examining how postwar Germans came to terms with war and the Holocaust by looking at various responses in several genres, from philosophy and public debates to poems and films. Students will be confronted with difficult historical, aesthetic, and ethical issues in the various German responses to the Holocaust. Taught in English. GE cultures and ideas course.

3300 Topics in German Culture Studies, Social and Intellectual History U 3
Focused exploration of topics in the development of German-language culture and intellectual history. Content geared toward improving students' critical comprehension and communication skills in German.
Prereq: 2102 or equiv, or permission of instructor. Repeatable to a maximum of 6 cr hrs. Admis Cond course.

3351 Democracy, Fascism and German Culture U 3
Culture of the Weimar Republic and Nazi Germany in literature, film, the other arts; the roots of fascism and its echoes in postwar Germany. Taught in English.
Prereq: Not open to students with credit for 299. GE cultures and ideas and diversity global studies course.

3353 German Intellectual History: Marx, Nietzsche, and Freud U 3
Marx, Nietzsche, and Freud are essential for understanding intellectual thought in the late nineteenth and twentieth century. They have retained their importance into the twenty-first century. The focus of the course will be the way in which Marx, Nietzsche, and Freud reconceived the notion of history, historical progress, and historiography. GE cultures and ideas course.

3451H Religion in Modern German Literature and Philosophy U 3
Interdisciplinary perspectives on the relationship between religion and society from the Enlightenment to the present. Taught in English.
Prereq: Honors, and Soph, Jr, or Sr standing. Not open to students with credit for 590H. GE cultures and ideas and diversity global studies course.

3600 Topics in German Linguistics/Language U 3
Understanding the German language in its historical development, standardization and its contemporary manifestations. Systematic overview of German phonetics, phonology, morphology, syntax, and varieties of modern German.
Prereq: 2102 or equiv, or permission of instructor. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.

3602 German for the Professions I U 3
Development of cultural knowledge and communication skills for the professions; introduction to the world of German business through audio, video, print materials. CERP level B1-B2. Prereq: 2102 or equiv, or permission of instructor. Not open to students with credit for 202. No audit. Admis Cond course.

3603 Translation I U 3
German-English/English-German translation; focus on everyday language; emphasis on improvement of grammar and development of vocabulary; discussion of common translation techniques, introduction to theories of translation.
Prereq: 2102 or equiv, or permission of instructor. Not open to students with credit for 303. Admis Cond course.

4191 Internship in German U 3 - 6
Supervised internship arranged and approved in advance with the faculty advisor. Prereq: Business German courses, or permission of instructor. Notify the chair no later than 6 months before the start of the internship. Not open to students with credit for HumCol 489. This course is graded S/U. Admis Cond course.

4194 Undergraduate Group Studies U 1 - 4
Investigation of minor problems in the various fields of German literature and philology. Prereq: Permission of chairperson. Repeatable to a maximum of 16 cr hrs or 4 completions.

4200 Senior Seminar in German: Literature, Art and Film (German) U 3
Focused exploration of topics in German literature, art, and film as cultural expressions within transnational contexts, to improve students' historical knowledge, skills for exploring cultural and critical-intellectual traditions. Taught in German. Counts toward fulfillment of advanced requirement for the major. Prereq: 3101, and one course at the 3000 level, and Sr standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4250 Senior Seminar in German Studies: Literature, Art and Film (English) U 3
Exploration of topics in German literature, art, and film as cultural expressions within transnational contexts, aimed at improving students' historical knowledge, skills for exploring cultural and critical-intellectual traditions. Counts toward fulfillment of advanced requirement for the major. Taught in English.
Prereq: Jr or Sr standing. FL Admis Cond course.

4252 Masterpieces of German Literature U 3
Social and intellectual forces in Central Europe as reflected in German literature from the Enlightenment to the present. Taught in English. GE lit course.

4300 Senior Seminar in German: Culture Studies, Social and Intellectual History (German) U 3
Exploration of topics in German intellectual history and the history and theory of German culture. Taught in German. Counts toward fulfillment of advanced requirement for the major. Prereq: 3101, and one course at the 3000 level, and Sr standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.

4350 Senior Seminar in German Studies: Culture Studies, Social and Intellectual History (English) U 3
Exploration of topics in German intellectual history and the history and theory of German culture. Counts toward fulfillment of advanced requirement for the major. Taught in English.
Prereq: Jr or Sr standing. FL Admis Cond course.

4600 Senior Seminar in German: Linguistics/Language (German) U 3
Seminar on aspects of the German language. Variable topics may include: structure, history, and variation of the German language; studies of German language acquisition; methods of the field of Germanic Linguistics and Philology. Taught in German.
Prereq: 3101, 3600, or equiv, and Sr standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.

4602 German for the Professions II U 3
Continued development of cultural knowledge and communication skills in German; study of business trends, traditions, and structures through audio, video, print materials; CERP level B1-B2. Prereq: 3602 or equiv, or permission of instructor. Not open to students with credit for 302. FL Admis Cond course.

4603 Translation II U 3
German-English/English-German translation; focus on literary language; emphasis on improvement of style; discussion of major theories of translation.
Prereq: 2102 and 3603, or equiv, or permission of instructor. FL Admis Cond course.

4650 Senior Seminar in German Studies: Seminar in German Linguistics (English) U 3
Seminar on aspects of the German language. Variable topics may include: structure, history, and variation of the German language; studies of German language acquisition; methods of the field of Germanic Linguistics and Philology. Counts toward fulfillment of advanced requirement for the major. Taught in English.
Prereq: Jr or Sr standing. FL Admis Cond course.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4670H</td>
<td>Cinema and the Historical Avant Garde</td>
<td>U 3</td>
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<td></td>
<td>Historicizes cinema’s political and artistic roots, concentrating on the perceived and real possibilities of the medium. Fosters critical awareness of “film culture” historically and currently. Prereq: Honors status. Not open to students with credit for FilmStd 670. Cross-listed in FilmStd.</td>
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<tr>
<td>4998</td>
<td>Undergraduate Research Projects</td>
<td>U 1 - 3</td>
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<td></td>
<td>Investigation of problems in various fields of Germanic studies. Prereq: Permission of advisor or Graduate Studies Committee chair as applicable. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is progress graded (S/U).</td>
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<tr>
<td>4998H</td>
<td>Honors Undergraduate Research Projects</td>
<td>U 1 - 9</td>
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<tr>
<td></td>
<td>Investigation of problems in various fields of Germanic studies. Prereq: Honors standing and signature of honors advisor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is progress graded (S/U).</td>
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<tr>
<td>4999</td>
<td>Undergraduate Research Thesis</td>
<td>U 1 - 4</td>
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<td></td>
<td>Research for undergraduate thesis. Prereq: Permission of undergraduate thesis advisor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
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<tr>
<td>4999H</td>
<td>Undergraduate Research Thesis</td>
<td>U 1 - 4</td>
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<tr>
<td></td>
<td>Research for Honors Undergraduate research thesis. Prereq: Honors standing, permission of instructor, and required signature of undergraduate Honors Thesis advisor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
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<tr>
<td>5193</td>
<td>Individual Studies</td>
<td>U G 1 - 3</td>
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<tr>
<td></td>
<td>Investigation of problems in various fields of Germanic studies. Prereq: Permission of undergraduate advisor or Graduate Studies Committee chair as applicable. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
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<tr>
<td>5194</td>
<td>Group Studies</td>
<td>U G 1 - 3</td>
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<tr>
<td></td>
<td>Investigation of minor problems in the various fields of Germanic literature and philology. Prereq: Permission of chairperson. Repeatable to a maximum of 9 cr hrs or 3 completions.</td>
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<tr>
<td>5797</td>
<td>Study at a Foreign Institute</td>
<td>U G 1 - 9</td>
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<td>An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of chairperson. Repeatable to a maximum of 27 cr hrs or 9 completions. This course is progress graded (S/U).</td>
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<tr>
<td>5798</td>
<td>Study Tour</td>
<td>U G 3 - 9</td>
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<tr>
<td></td>
<td>Travel to a specific site for intensive study related to that site in conjunction with an Ohio State course. Prereq: Permission of undergraduate or graduate advisor. Repeatable to a maximum of 27 cr hrs or 9 completions.</td>
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<tr>
<td>6101</td>
<td>Basic German for Graduate Students</td>
<td>G 3</td>
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<td>The fundamentals of German grammar, as required for the reading of German texts in the sciences, social sciences, and humanities. No audit. Credit does not apply to the minimum hours required for the master’s or doctoral degrees. Prereq: Grad standing. Not open to students with credit for 571.</td>
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<tr>
<td>6102</td>
<td>German for Research</td>
<td>G 3</td>
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<td>Reading of difficult material at a reasonable rate of speed and with only infrequent use of dictionaries. No audit. Credit does not apply to the minimum hours required for the master’s or doctoral degrees. Prereq: A grade of C or above in 6101, or Grad standing, or equiv preparation demonstrated by placement test. Repeatable to a maximum of 6 cr hrs. Admis Cond course.</td>
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<tr>
<td>6200</td>
<td>Introduction to German Literary History and Analysis</td>
<td>G 3</td>
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<td>Lecture-based introduction to the methodology and tools of literary scholarship and to major contemporary theoretical approaches to literary studies; contextualization of these methodologies and approaches within literary history. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 702.</td>
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<tr>
<td>6300</td>
<td>Introduction to Intellectual History and Cultural Studies</td>
<td>G 3</td>
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<td>Graduate introduction to important figures, topics, and periods within German intellectual history. Interactions with the larger European context of intellectual history and with other cultural spheres in Germany. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 703.</td>
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<tr>
<td>6400</td>
<td>Introduction to German Film</td>
<td>G 3</td>
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<td>Graduate introduction to German arts concentrating on moving images and non-text-based forms. Overview of visual-aesthetic movements and film history since 1900 in context. Fundamentals of analysis for film and visual media. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 672.</td>
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<tr>
<td>6500</td>
<td>Introduction to Teaching and Learning German at the College Level</td>
<td>G 4</td>
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<td>Developing an understanding of communicative language teaching and second language acquisition as it applies to German. Overview of instructional strategies and techniques for various modalities. Prereq: Open to Graduate Teaching Associates enrolled in the Department of Germanic Languages and Literatures, all others by permission of instructor. Not open to students with credit for 840.</td>
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<tr>
<td>6700</td>
<td>Introduction to the Language Sciences</td>
<td>G 3</td>
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<td>Provides students with a general overview of linguistics and surveys the areas covered by the specialization: Language and Cognition, Language and Brain Function, Language and Society, Language and Technology, and Language Description and Fieldwork. Guest faculty will present in their areas of expertise and students will read and prepare assignments in multiple areas. Prereq: Not open to students with credit for Psych 6700. Cross-listed in Psych.</td>
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<tr>
<td>6999</td>
<td>Master’s Thesis</td>
<td>G 1 - 9</td>
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<td>Research for master’s thesis. Prereq: Signature of Graduate Studies Committee chair and thesis advisor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded (S/U). Admis Cond course.</td>
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<tr>
<td>7193</td>
<td>Individual Studies</td>
<td>G 1 - 3</td>
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<td>Investigation of specific issues in German literature, culture, linguistics, and philosophy. Prereq: Permission of chair of Graduate Studies Committee. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded (S/U). Admis Cond course.</td>
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<tr>
<td>7888</td>
<td>Interdepartmental Seminar</td>
<td>G 3</td>
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<td>Two or more departments present seminars on subjects of mutual interest; topics to be announced. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. Admis Cond course.</td>
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<tr>
<td>8189</td>
<td>Field Experience and Field Work</td>
<td>G 3</td>
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<td>Opportunity for advanced graduate students to plan and teach in conjunction with faculty member a course at 2000 or higher level. Prereq: Signature of Graduate Studies Committee chair and instructor. Repeatable to a maximum of 6 cr hrs. This course is progress graded (S/U). Admis Cond course.</td>
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<tr>
<td>8193</td>
<td>Individual Studies</td>
<td>G 1 - 3</td>
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<td></td>
<td>With the approval of the Graduate Studies Committee chair, doctoral students preparing for the candidacy exam may register for independent study. Prereq: Signature of Graduate Studies Committee chair. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded (S/U). Admis Cond course.</td>
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<tr>
<td>8200</td>
<td>Seminar in Literature and Literary Culture</td>
<td>G 3</td>
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<td>Topics vary in focus and methodology; emphasis may range from individual authors, periods, or themes to theoretical and interdisciplinary issues; research paper. 3-hr cl. Prereq: 8200, or Grad standing, or permission of instructor. Repeatable to a maximum of 30 cr hrs. Admis Cond course.</td>
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<tr>
<td>8300</td>
<td>Seminar in Intellectual History and Cultural Studies</td>
<td>G 3</td>
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<tr>
<td></td>
<td>Concepts, representations, and institutions of German culture in an international context; German intellectual history; theories of literature, arts, and culture. Prereq: 8200, or Grad standing, or permission of instructor. Repeatable to a maximum of 30 cr hrs. Admis Cond course.</td>
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<tr>
<td>8400</td>
<td>Seminar in Film, Visual Culture and the Performing Arts</td>
<td>G 3</td>
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<tr>
<td></td>
<td>Advanced graduate seminar allowing students to broaden their engagement with non-literary culture based in German-speaking texts and to conduct research into targeted areas of interest. Prereq: 8200, or Grad standing, or permission of instructor. Repeatable to a maximum of 30 cr hrs. Admis Cond course.</td>
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<tr>
<td>8500</td>
<td>Doctoral Colloquium</td>
<td>G 1</td>
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<tr>
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<td>Regular student-driven discussions of ongoing dissertations, current topics in the professional field, and new research approaches to Germanic Studies. Prereq: Successful completion of Ph.D. candidacy exams, or permission from Director of Graduate Studies and instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U. Admis Cond course.</td>
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<tr>
<td>8501</td>
<td>Graduate Student Teaching Apprenticeship</td>
<td>G 3</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Opportunity for advanced graduate students to plan and teach in conjunction with faculty member a course at 2000 or higher level. Prereq: Grad standing, and a minimum of one year experience as GTA. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
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<tr>
<td>8600</td>
<td>Seminar in Linguistics and Applied Linguistics</td>
<td>G 3</td>
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<tr>
<td></td>
<td>Explore the structure, historical development, use of German and its social and dialectal variations. Practical application of the knowledge gained to the teaching of German. Prereq: 8600. Repeatable to a maximum of 30 cr hrs. Admis Cond course.</td>
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<tr>
<td>8999</td>
<td>Dissertation Research</td>
<td>G 1 - 9</td>
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<tr>
<td></td>
<td>Research for dissertation purposes only. Prereq: Signature of Graduate Studies Committee chair and dissertation advisor. Repeatable. This course is progress graded (S/U). Admis Cond course.</td>
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</tbody>
</table>
### Graduate School

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4501</td>
<td>Graduate Study and Academic Careers</td>
<td>U 1-4</td>
<td></td>
</tr>
<tr>
<td>6701</td>
<td>Preparing Future Faculty</td>
<td>G 1-3</td>
<td></td>
</tr>
<tr>
<td>0500</td>
<td>Mentorship and professional development in conjunction with partner institutions. Students must successfully complete application process and be admitted. Prereq: Permission of instructor. Repeatable to a maximum of 5 cr hrs or 3 completions. This course is graded S/U.</td>
<td>G 1-5</td>
<td></td>
</tr>
<tr>
<td>7188</td>
<td>Graduate Research Field Study</td>
<td>G 0</td>
<td></td>
</tr>
<tr>
<td>8999</td>
<td>Research: Interdisciplinary</td>
<td>G 1-12</td>
<td></td>
</tr>
</tbody>
</table>

Interdisciplinary doctoral dissertation research approved by the Graduate School for One-of-a-Kind programs. Repeatable. This course is progress graded (S/U).

### Greek

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1101</td>
<td>Elementary Ancient Greek</td>
<td>U 5</td>
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<tr>
<td>1102</td>
<td>Intermediate Ancient Greek I</td>
<td>U 5</td>
<td></td>
</tr>
<tr>
<td>1103</td>
<td>Intermediate Ancient Greek II</td>
<td>U 3</td>
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</tr>
<tr>
<td>2011</td>
<td>Attic Prose</td>
<td>U 3</td>
<td></td>
</tr>
<tr>
<td>2102</td>
<td>Homer</td>
<td>U 3</td>
<td></td>
</tr>
<tr>
<td>2103</td>
<td>The Greek Historians</td>
<td>U 3</td>
<td></td>
</tr>
<tr>
<td>2104</td>
<td>Greek Tragedy</td>
<td>U 3</td>
<td></td>
</tr>
<tr>
<td>2110</td>
<td>The Greek New Testament</td>
<td>U 3</td>
<td></td>
</tr>
<tr>
<td>2193</td>
<td>Individual Studies</td>
<td>U 1-9</td>
<td></td>
</tr>
<tr>
<td>4998</td>
<td>Research</td>
<td>U 1-3</td>
<td></td>
</tr>
<tr>
<td>4998H</td>
<td>Honors Research</td>
<td>U 1-3</td>
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</tr>
<tr>
<td>4999</td>
<td>Thesis Research</td>
<td>U 1-6</td>
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</tbody>
</table>

### Graduate School     237

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>4999H</td>
<td>Honors Thesis Research</td>
<td>U 1-6</td>
<td></td>
</tr>
</tbody>
</table>

A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in Greek. Prereq: Honors standing; Jr standing or above; and Enrollment in Classics Major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>5011</td>
<td>Greek Epic</td>
<td>U G 3</td>
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<tr>
<td>5012</td>
<td>Greek Lyric, Iambos, Elegy</td>
<td>U G 3</td>
<td></td>
</tr>
<tr>
<td>5013</td>
<td>Greek Historians</td>
<td>U G 3</td>
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<tr>
<td>5014</td>
<td>Greek Drama</td>
<td>U G 3</td>
<td></td>
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<tr>
<td>5015</td>
<td>Greek Oratory and Rhetorical Theory</td>
<td>U G 3</td>
<td></td>
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<tr>
<td>5016</td>
<td>Readings in Greek Philosophy</td>
<td>U G 3</td>
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<tr>
<td>5017</td>
<td>Later Greek Prose</td>
<td>U G 3</td>
<td></td>
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<tr>
<td>5193</td>
<td>Individual Studies</td>
<td>U G 1-9</td>
<td></td>
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<tr>
<td>5900</td>
<td>Intensive Greek Workshop</td>
<td>U G 12</td>
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</tr>
<tr>
<td>5891</td>
<td>Greek Survey: Prose</td>
<td>G 5</td>
<td></td>
</tr>
<tr>
<td>6891</td>
<td>Survey of Greek prose literature</td>
<td>G 5</td>
<td></td>
</tr>
<tr>
<td>6892</td>
<td>Greek Survey: Poetry</td>
<td>G 5</td>
<td></td>
</tr>
<tr>
<td>6893</td>
<td>Greek Prose Composition</td>
<td>G 3</td>
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</tbody>
</table>

A course on writing Greek prose. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 802.
Assigned reading of Greek authors or topics of Greek culture to help with language requirements or to prepare for exams. 

8790 Graduate Seminar on Greek Literature and Culture G 1 - 3
Graduate research seminar on topics in the study of Greek literature, culture or religion. 
PreReq: Grad standing. Repeatability to a maximum of 30 cr hrs or 15 completions.

7891 Graduate Seminar on Greek Linguistics G 1 - 3
Graduate research seminar on Greek linguistics. 
PreReq: Grad standing. Repeatability to a maximum of 30 cr hrs or 15 completions.

8999 Dissertation Research G 1 - 9
Readings and discussions connected with the writing of a dissertation on a topic of Greek literature and culture. 
PreReq: Permission of instructor. Repeatability to a maximum of 36 cr hrs or 12 completions. 
This course is graded S/U.

Hausa

1101 Elementary Hausa I U 4
Development of basic language skills of speaking, listening, reading, and writing using competency-based curriculum. Not open to native speakers of the language through regular course enrollment. 
PreReq: Not open to students with credit for 101. This course is available for EM credit. GE for lang course.

1102 Elementary Hausa II U 4
Development of basic language skills of speaking, listening, reading, and writing using competency-based curriculum. Not open to native speakers of the language through regular course enrollment. 
PreReq: 1101 (101). Not open to students with credit for 102. This course is available for EM credit. GE for lang course.

Health and Rehabilitation Sciences

1100 Health and Rehabilitation Sciences Survey U 1
Introduction to the University, the School of Health and Rehabilitation Sciences and its academic programs. Emphasis on strategies for success, resources and procedures. 
PreReq: Must be enrolled in Pre-HthrSc. Not open to students with credit for AlliMed 100. This course is graded S/U.

1100.02 Health and Rehabilitation Sciences Survey - Transfer U 1
Introduction to the University, the School of Health and Rehabilitation Sciences, and its academic programs. Emphasis on strategies for success, resources, and procedures. Special attention given to transition issues facing Transfer Students. 
PreReq: Enrollment in Pre-HthrSc. Not open to students with credit for AlliMed 100. This course is graded S/U.

1100H Health and Rehabilitation Sciences Honors Survey U 1
Introduction to the University, the School of Health and Rehabilitation Sciences and its academic programs. Emphasis on strategies for success, resources and procedures. Additional emphasis on requirements for Honors participation. 
PreReq: Honors standing, and enrollment in Pre-HthrSc. Not open to students with credit for AlliMed 100. This course is graded S/U.

2200 CPR for Healthcare Professionals U 1
Knowledge, competencies, issues and concerns of health care providers regarding basic life support. Completion of course leads to American Heart Association certification Basic Life Support-Health Care Provider card. 
PreReq: Not open to students with credit for AlliMed 200.

2500 Medical Terminology for the Health Professions U 3
Terminology and abbreviations pertaining to anatomy, physiology, pathology, diagnostic processes/procedures and medical/surgical interventions by body system. 
PreReq: Not open to students with credit for AlliMed 500 and HIMS 500. This course is available for EM credit.

2530 The Evolving Art and Science of Medicine U 3
An analysis of the concepts of health and healing, coupled with an examination of historical developments that have impacted the art and science of the practice of medicine. 
PreReq: Not open to students with credit for AlliMed 307. GE cultures and ideas course.

3000 Introduction to the Health Sciences Major and Career Opportunities U 1
An introduction to the Health Sciences major, tools for success, and careers in healthcare and health-related services. 
PreReq: Enrollment in Health Sciences Program. Not open to students with credit for AlliMed 102.

3400 Health Promotion and Disease Prevention U 3
Introduction to the concepts and theories involved in health promotion and disease prevention. 
PreReq: Acceptance into Health Sciences program, or permission of instructor. Not open to students with credit for AlliMed 640.

3500 Critical Phases in Life U 3
An examination of human’s development from conception to death and factors critical to continuing health. 
PreReq: Biology 1101 (101), and one class in Psych. Not open to students with credit for AlliMed 425.

4000 Application of Ethical Decision Making in Health Care U 3
Examination of ethical theories, bioethical principles, personal ethics, and ethical decision making, using a six-step model for application in the allied health professions. 
PreReq: Not open to students with credit for AlliMed 672.

4189 Health Sciences Internship U 1 - 3
Field experience in a health care system highlighting health management, health & wellness, or other health science. 
PreReq: Not open to students with credit for AlliMed 600. This course is graded S/U.

4193 Undergraduate Independent Study U 1 - 3
Guided study of selected topics. Repeatability to a maximum of 15 cr hrs or 10 completions. This course is progress graded (S/U).

4193H Undergraduate Independent Study U 1 - 3
Guided study of selected topics. 
PreReq: Honors standing, and enrollment in HthrRhSc; or permission of instructor. Repeatability to a maximum of 15 cr hrs or 10 completions. This course is progress graded (S/U).

4300 Contemporary Topics in Health and Society U 3
Offers the opportunity to delve into the current issues and factors that are influencing and shaping both society and health systems. 
PreReq: 3400 (AlliMed 640), and Sr standing, or permission of instructor. Not open to students with credit for AlliMed 675.

4320 Clinical Interviewing & Risk Assessment in Healthcare U 3
Identification and prevalence of health risk behaviors and application of interviewing and counseling techniques designed to affect behavior change incorporating wellness and prevention strategies. 
PreReq: HthrRhSc 3400 (AlliMed 640) and Psych 1100 (100), and admission to School of Allied Medical Professions. Not open to students with credit for AlliMed 635 or 645.

4350 Introduction to Legal Concepts in Health Care U 2
Overview of legal concepts affecting practice of healthcare professionals including legal system, professional liability, and laws governing appropriate access and disclosure of patient information. 
PreReq: HthrRhSc 5370, or Jr or Sr standing in AMP, or permission of instructor. Not open to students with credit for HIMS 544.

4370 Community and Policy Influence in Health Care U 3
Review of the principles of community policy in relation to the health professions and professionals. 
PreReq: AlliMed 640, or permission of instructor. Not open to students with credit for AlliMed 644.

4400 Individual Differences in Patient/Client Populations U 3
Examination of individual differences in patient/client populations from multiple perspectives of disability, chronic disease, healthcare disparity, culture, and the impact on health and wellness. 
PreReq: HthrRhSc 3400 (AlliMed 640). Not open to students with credit for AlliMed 655.

4450 Health Promotion in Practice U 3
Integration of theory and emergent perspectives and applications in health promotion. Students will demonstrate their understanding and application through development of a grant proposal. 
PreReq: HthrRhSc 3400 (AlliMed 640) and 4900 (642), or permission of instructor. Not open to students with credit for AlliMed 643.

4470S Teamwork and Leadership in Health Sciences U 3
Gain understanding of leadership and team-building through experience in planned health related activities. 
PreReq: 4450 (AlliMed 643) and 4950 (696), or permission of instructor. Not open to students with credit for AlliMed 670.

4530 Nutrition for Fitness U 3
Introduction to the basic principles of nutrition as they relate to exercise performance and body composition of athletes and the physically active. 
PreReq: Chem 1100, 1110, 1210, Biology 1101, 1102, 1113, 1114, Physio 3101, or EEOB 2520. Not open to students with credit for AlliMed 430.
4570  The Role of Integrative Medicine  U  3  
A research-based analysis of the intersection between evidence-based medicine and complementary and alternative approaches to wellness, as defined by the National Institutes of Health. Sp Sem. Prereq: Not open to students with credit for AlliMed 667.

4600S  Health after Mid-Life  U  3  
Study of physical, psychological, and social components of normal aging and chronic disease for optimal aging; open to students interested in career in aging. Prereq: Not open to students with credit for AlliMed 665.

4600H  Primary Care Across Countries  U  3  
This participatory interdisciplinary seminar course will provide a broad perspective to those interested in various aspects of the delivery of primary care services. Specifically, the course will explore why access to high quality, consistent, and comprehensive primary care is central to achieving Health for All. Prereq: Honors standing, or permission of instructor. Cross-listed in PubHHPM.

4900  Evidence-Based Research in Health Sciences  U  3  
Overview of evidence-based practice as it applies to health care, including formulating relevant clinical questions, finding and evaluating evidence using effective search techniques, and translating research into practice. Prereq: AlliMed 640. Not open to students with credit for AlliMed 642.

4914  Group Education Process in Healthcare  U  3  
Health care process: Principles of group education and health counseling as applied to responsibilities of the health care practitioner. Prereq: A grade of B or higher in HthRhSc 3400, or in MedDiet 4910, 4911, or 4912; and enrollment in MedDiet program. Concur: MedDiet 4913 or 4915. Not open to students with credit for MedDiet 4914.

4950  Program Development and Evaluation for Health Sciences  U  3  
Exposes the student to practical methods that can be used to develop, and evaluate health services programs in a variety of settings. Prereq: HthRhSc 3400 (AlliMed 640), or permission of instructor. Not open to students with credit for AlliMed 696.

4998  Undergraduate Research in Health Science  U  1 - 5  
Guided research by undergraduate students. Prereq: Permission of instructor. Repeatable to a maximum of 15 or 16 completions. This course is graded S/U.

4998H  Honors Undergraduate Research in Health Science  U  1 - 5  
Guided research by undergraduate honors students. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 or 16 completions. This course is graded S/U.

5000  Interdisciplinary Case Management for Working with Underserved Populations  U  2  
Provides students the opportunity to collaborate with students from other health care professions including pharmacy, health and rehabilitation sciences, nursing, medicine and social work. The students will use a problem-based learning approach to patient care in community health, focusing on populations, living in poverty, with complex healthcare needs. Prereq: Enrollment in Medical Dietetics, Medical Laboratory Science, or Respiratory Therapy major, or Grad standing in Physical Therapy, Occupational Therapy, AlliMed, or HthRhSc; or permission of instructor. This course is graded S/U. Cross-listed in Nursing, MedColl, Pfr, and SotWork.

5300  Management Principles and Human Resources for Health Care Professionals  U  3  
An analysis of the management and human resources processes and its application to the health care setting. Prereq: Admission to AMP, or permission of instructor. Not open to students with credit for AlliMed 630.

5350  Case Studies in Health Sciences  U  3  
Experience in evaluating and analyzing case studies in health care and health services emphasizing applied critical thinking, problem solving and decision-making approaches in leadership. Prereq: Enrollment in HthRhSc, or permission of instructor. Not open to students with credit for AlliMed 604.

5370U  U.S. Healthcare Policy and Delivery System  U  3  
An examination of healthcare delivery and current issues including history, policy, government regulations, legislation, politics, financing, accessibility, workforce and ethics. Prereq: Soph or Jr standing, and admission to AMP; or permission of instructor. Not open to students with credit for AlliMed 591 and HIMS 525.

5370E  U.S. Healthcare Policy and Delivery System  U  3  
An examination of healthcare delivery and current issues including history, policy, government regulations, legislation, politics, financing, accessibility, workforce and ethics. Prereq: Honors standing, and Soph or Jr standing, and admission to AMP; or permission of instructor. Not open to students with credit for AlliMed 591 and HIMS 525.

5500  Introduction to Pathophysiology  U  4  
Fundamental concepts of pathophysiology including etiology, signs, symptoms, diagnosis, treatment, and complications of major body system disorders. Prereq: EEOB 2520 (232) or Physio 3102 (PhysioCB 312); or permission of instructor. Not open to students with credit for AlliMed 505 and 506.

5500E  Introduction to Pathophysiology  U  4  
Fundamental concepts of pathophysiology including etiology, signs, symptoms, diagnosis, treatment, and complications of major body system disorders. Prereq: Honors standing, and EEOB 2520 (232) or Physio 3102 (PhysioCB 312); or permission of instructor. Not open to students with credit for AlliMed 505 or 506.

5510  Pharmacological Aspects of Practice in Health and Rehabilitation Sciences  U  2  
Fundamentals of pharmacokinetics, pharmacodynamics, drug law, selected medications and treatment methods utilized by allied health professionals. Prior completion of HthRhSc 5500 is recommended. Prereq: Chem 1210 (121), and EEOB 2520 (232) or Physio 3101 (PhysioCB 311); or Grad standing; or permission of instructor. Not open to students with credit for AthTrng 620.

5550  Survey of Sports Medicine  U  3  
Survey of sports medicine for non-professionals. Topics include the sports medicine team; risk management; and common athletic injuries, their causes, prevention, and immediate care. Prereq: Not open to Athletic Training majors. Not open to students with credit for AthTrng 661, or to students in Athletic Training major.

5560  Diabetes Care and Management  U  3  
Study of health and well-being of older adults in developed and developing countries and immigrant communities in the United States. Prereq: Sr or Grad standing, or permission of instructor.

5610  Death, Loss, and Grief in Multiple Perspectives  U  2  
Exploration of death, loss and grief from multiple perspectives: patient, family, institutional, community and health care provider. Prereq: Jr standing, or permission of instructor. Not open to students with credit for AlliMed 501.

5620  Aging, Accessibility, and Design  U  3  
Analysis and development of product and residential environment design for an aging population using environmental adjustment theories. Students apply Universal Design principles to home modifications. Prereq: Sr standing, or permission of instructor. Not open to students with credit for AlliMed 720 or 721.

5650  Aging and Public Policy Issues  U  3  
Examines major public and social policy issues of aging society, citizen participation in policy process, and analysis of policy decisions for the aging population in the United States. Prereq: Not open to students with credit for AlliMed 694 and 696.

5660  Long Term Care Services Across the Continuum  U  4  
Introduction to long term care continuum, types of services, regulatory requirements, financing, alternatives, and issues of access, housing, challenges to providing quality care. Prereq: HthRhSc 5370 or 6650, or Grad standing in AMP, or permission of instructor. Not open to students with credit for AlliMed 663 or 684.

5880.01  Interprofessional Education Seminar on Interprofessional Care  U  2  
Develop and practice skills necessary for interprofessional collaboration in solving complex human problems. Case based. Limited to students enrolled in Health and Rehabilitation Sciences, Edu, Law, Med, Nursing, Social Work and Theology. Repeatable to a maximum of 4 cr hrs. Cross-listed in EduPAES 5880.01, MedColl 6880.01, and Nursing 5880.01.

5880.03  Interprofessional Education Seminar on Ethical Issues  U  2  
Common to Helping Professions  
Ethical issues common to the professions, e.g., advancing technology, death and dying, privacy and confidentiality, professional boundaries. Case based. Prereq: Enrollment in Health and Rehabilitation Science, Education, Nursing, or Medicine. Repeatable to a maximum of 4 cr hrs. Cross-listed in EduPAES 5880.03, Nursing 5880.03, and MedColl 6990.03.

5880.04  Interprofessional Practicum: Collaboration in Urban Communities  U  3  
Students, faculty, community residents and professionals offer research based solutions to community identified challenges. Community asset mapping and best practices inform solutions. Repeatable to a maximum of 6 cr hrs. Cross-listed in EduPAES 5880.04S and Nursing 5880.04.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5900</td>
<td>Health Sciences Research: Interpretation and Applications</td>
<td>U</td>
<td>G</td>
<td>Overview of research in the Health Sciences. This course is intended to prepare students to be educated consumers of research and to enable them to find, understand, interpret, and apply research findings in their professional practice. Prereq: Not open to students with credit for AlliMed 680.01.</td>
</tr>
<tr>
<td>5900E</td>
<td>Health Sciences Research: Interpretation and Applications</td>
<td>U</td>
<td>G</td>
<td>Overview of research in the Health Sciences. This course is intended to prepare students to be educated consumers of research and to enable them to find, understand, interpret, and apply research findings in their professional practice. Prereq: Honors standing. Not open to students with credit for AlliMed 680.01.</td>
</tr>
<tr>
<td>6193</td>
<td>Independent Studies</td>
<td>G</td>
<td></td>
<td>Guided study of select topics. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>6795</td>
<td>Introduction to Graduate Studies</td>
<td>G</td>
<td></td>
<td>Introduce new graduate students to the SAMP graduate school and program through various means. Prereq: Admission into SAMP's Grad program. Not open to students with credit for AlliMed 795.</td>
</tr>
<tr>
<td>7010</td>
<td>Health Literacy</td>
<td>G</td>
<td></td>
<td>Examine and analyze issues of health literacy, including populations at risk, measurement tools, writing in plain language; health communication techniques; and organizational approaches. Prereq: Not open to students with Grad standing in Health Sciences or with specialties in Literacy or Geriatrics. Cross-listed in Nursing 6110, Pfr 7090, ArtsSci 6110, and MedColl 7710.</td>
</tr>
<tr>
<td>7100</td>
<td>Introduction to Health &amp; Rehabilitation Science I</td>
<td>G</td>
<td></td>
<td>Provide students with knowledge concerning rehabilitation concepts relative to integrated healthcare models, physiological concepts of injury and rehabilitation, and neuroscience for health and rehabilitation. Prereq: Admission to Health and Rehabilitation Science PhD program, or permission of instructor.</td>
</tr>
<tr>
<td>7150</td>
<td>Introduction to Health &amp; Rehabilitation Science II</td>
<td>G</td>
<td></td>
<td>Provide students with knowledge of motor control and motor learning, behavioral and cognitive models for health and rehabilitation, explore the interaction of physical, neuroscience, cognitive and behavioral concepts in health and rehabilitation. Prereq: Admission to the Health and Rehabilitation Science Ph.D. program, or permission of instructor.</td>
</tr>
<tr>
<td>7193</td>
<td>PhD Individual Studies</td>
<td>G</td>
<td></td>
<td>Guided study of select topics. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 15 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7200</td>
<td>Teaching in the Health Sciences</td>
<td>G</td>
<td></td>
<td>Principles and practices of teaching in the allied health professions; focuses on the application of teaching theory and systematic course construction within the context of allied health teaching and training. Prereq: Grad standing in Health and Rehabilitation Science. Not open to students with credit for AlliMed 753.</td>
</tr>
<tr>
<td>7250</td>
<td>Teaching and Curriculum in Health and Rehabilitation Sciences</td>
<td>G</td>
<td></td>
<td>Provide students with theoretical background and practical training for curriculum planning and teaching in health and rehabilitation sciences; exposure to teaching and curricular policies and procedures will occur. Prereq: Admission to Health and Rehabilitation Science PhD program, or permission of instructor. Not open to students with credit for AlliMed 795 or 870.</td>
</tr>
<tr>
<td>7289</td>
<td>Practicum: Educational</td>
<td>G</td>
<td></td>
<td>Practical experience in an educational setting with the allied health fields. Prereq: 2-4 cr hrs in Education, or permission of instructor. Not open to students with credit for AlliMed 899.01. This course is graded S/U.</td>
</tr>
<tr>
<td>7300</td>
<td>Management and Leadership in Health Sciences</td>
<td>G</td>
<td></td>
<td>Application of management and leadership principles for the development of administration of allied health departments in the health care system. Prereq: Grad standing. Not open to students with credit for AlliMed 730.</td>
</tr>
<tr>
<td>7350</td>
<td>Issues and Policy in Health Sciences</td>
<td>G</td>
<td></td>
<td>Allied health professionals must increasingly face many complex issues that affect healthcare. It is crucial that graduate students be able to critically examine a broad range of issues and understand various positions and their implications. Prereq: Admission to Health and Rehabilitation Science Grad program. Not open to students with credit for AlliMed 830.</td>
</tr>
<tr>
<td>7389</td>
<td>Practicum: Administrative</td>
<td>G</td>
<td></td>
<td>Practical experience in an administrative setting with the allied health fields. Prereq: 2-4 cr hrs in Management, or permission of instructor. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7600</td>
<td>Introduction to Aging</td>
<td>G</td>
<td></td>
<td>Introduction to gerontology including the physiological, psychological, socio-economic, and health care conditions associated with aging. Prereq: Grad standing, or permission of instructor. Not open to students with credit for AlliMed 795.</td>
</tr>
<tr>
<td>7650S</td>
<td>Interdisciplinary Case Studies in Clinical Gerontology</td>
<td>G</td>
<td></td>
<td>Interdisciplinary seminar for graduate and professional students using a team approach and case studies to understand aging and work with older adults. Prereq: HthRhSc 760.01, or Grad standing, or permission of instructor. Not open to students with credit for AlliMed 795.</td>
</tr>
<tr>
<td>7700S</td>
<td>Global Health in the Health Professions</td>
<td>G</td>
<td></td>
<td>Supervised on-site active learning in international health and educational settings focusing on enhancing skills in collaboration, communication, and clinical reasoning. Prereq: Successful completion of all discipline coursework, and submission of an application, and permission of instructor. Not open to students with credit for AlliMed 760.</td>
</tr>
<tr>
<td>7717</td>
<td>Interdisciplinary Perspective on Developmental Disabilities</td>
<td>G</td>
<td></td>
<td>Provides an introduction to the psychosocial, medical, and educational implications of developmental disabilities. Prereq: Permission of instructor. Not open to students with credit for 717.01 or 717.03, Cross-listed in EduSci, Social Work, Nursing, Psych, and SphHmg.</td>
</tr>
<tr>
<td>7718</td>
<td>Interdisciplinary Perspective on Autism Spectrum Disorder</td>
<td>G</td>
<td></td>
<td>Teaches the analytical skills necessary to comprehend and formulate an interdisciplinary framework relating to major scientific and theoretical perspectives in autism spectrum disorders. Prereq: Permission of instructor. Not open to students with credit for 717.01 and 717.02, Cross-listed in EduSci, Social Work, Nursing, Psych, and SphHmg.</td>
</tr>
<tr>
<td>7795</td>
<td>Graduate Seminar</td>
<td>G</td>
<td></td>
<td>Investigation of current topics of significance to allied health practitioners. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.</td>
</tr>
<tr>
<td>7881</td>
<td>Grant Writing Seminar</td>
<td>G</td>
<td></td>
<td>Seminar encompassing a variety of professional skills in Health and Rehabilitation Sciences Research including ethics, writing, publishing, grantmanship, tenure. Prereq: Admission to Health and Rehabilitation Sciences PhD program, or permission of instructor. Not open to students with credit for AlliMed 895.01. This course is graded S/U.</td>
</tr>
<tr>
<td>7883</td>
<td>Responsible Conduct of Research</td>
<td>G</td>
<td></td>
<td>Seminar encompassing a variety of professional skills in Health and Rehabilitation Sciences Research including the process of writing, publishing, and reviewing journal manuscripts; human &amp; animal subjects in research &amp; responsible conduct. Prereq: Admission to Health and Rehabilitation Sciences PhD program, or permission of instructor. Not open to students with credit for AlliMed 895.01. This course is graded S/U.</td>
</tr>
<tr>
<td>7888</td>
<td>Health and Rehabilitation Sciences Grand Rounds Intro</td>
<td>G</td>
<td></td>
<td>Students develop skills in analyzing, discussing and synthesizing health and rehabilitation research. Students present their own research and critically appraise faculty research. Discussion and demonstration of leadership will occur. Prereq: Admission to Health and Rehabilitation Sciences PhD program, or permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>7900</td>
<td>Evidence Based Practice I: Critical Analysis of Measurement and Diagnostic Tests</td>
<td>G</td>
<td></td>
<td>Prepares students for evidence-based practice, emphasizing best practices in clinical measurements and interpretation of diagnostic reliability, validity, prediction and measures of clinically meaningful change. Prereq: Research Methods, Basic Statistics, or permission of instructor. Not open to students with credit for AlliMed 892, PhysTher 785.01, 785.02, or OccTher 751.</td>
</tr>
<tr>
<td>7910</td>
<td>Evidence Based Practice II: Critical Analysis of Intervention Research and Systematic Review</td>
<td>G</td>
<td></td>
<td>Prepares students for evidence-based practice, emphasizing the processes of critical inquiry and analysis in a multidisciplinary forum. Scientific literature related to intervention research and systematic reviews will be emphasized. Prereq: Research Methods, Basic Statistics, or permission of instructor. Not open to students with credit for AlliMed 892, PhysTher 785.01, 785.02, or OccTher 751.</td>
</tr>
<tr>
<td>7990</td>
<td>Non Thesis Research</td>
<td>G</td>
<td></td>
<td>Research for Non-Thesis. Repeatable to a maximum of 30 cr hrs or 15 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7998</td>
<td>Practicum: Research</td>
<td>G</td>
<td></td>
<td>Practical experience in a research setting with the allied health fields. Prereq: 2-4 cr hrs in Research Design, or permission of instructor. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
</tbody>
</table>
Health and Rehabilitation Sciences  241

7999 Thesis Research  G  1 - 5
Research for thesis. Repeatable to a maximum of 30 or hrs or 15 completions. This course is graded S/U.

8289 Ph.D Teaching Practicum  G  1
Students gain practical, advanced skills in allied health teaching through structured mentoring experiences. Prereq: Admission to Health and Rehabilitation Sciences Ph.D program, or permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

8888 Health and Rehabilitation Science Grand Rounds  G  1
Advanced
Students develop skills in analyzing, discussing and synthesizing health and rehabilitation research. Students present their own research and critically appraise faculty research. Prereq: Admission to Health and Rehabilitation Sciences Ph.D program, or permission of instructor. Repeatable to a maximum of 20 or hrs. This course is graded S/U.

8998 Ph.D Research Practicum  G  1 - 3
Students gain practical, advanced skills in allied health research through structured research experiences. Prereq: Admission to Health and Rehabilitation Sciences Ph.D program, or permission of instructor. Repeatable to a maximum of 30 cr hrs or 15 completions. This course is graded S/U.

8999 Ph.D Research  G  1 - 15
Research for Dissertation. Repeatable to a maximum of 30 completions. This course is graded S/U.

Health Information Management And Systems

2100 Careers in Health Information Management and Informatics  U  1
Introduction to roles and responsibilities of health information management and informatics professionals; educational preparation, and professional and career opportunities. Emerging professional trends are discussed.

3520 Fundamentals of Health Information Management  U  4
Content, format, value and use of clinical information and standards of documentation. Accreditation and regulatory requirements. Practical applications in the management of health information and electronic health record functionalities. Prereq: Enrollment in HIM, or permission of instructor. Not open to students with credit for 520.

3520E Fundamentals of Health Information Management  U  4
Content, format, value and use of clinical information and standards of documentation. Accreditation and regulatory requirements. Practical applications in the management of health information and electronic health record functionalities. Prereq: Honors standing, enrollment in HIM, or written permission of instructor. Not open to students with credit for 520.

3599 HIM Professional Practice Experience  U  1 - 3
Practical applications in health information management and informatics. Prereq: Enrollment in HIM. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4645 Management of Health Information Services and Technology  U  3
Principles of operation management including work measurement, productivity and quality standards, strategic planning, leadership, budgeting, training and teamwork in HIM and informatics. Prereq: Sr standing in HIM, or permission of instructor. Not open to students with credit for 640 or 645.

4689 HIM Professional Practice Internship  U  6
Practice experience in health information management and informatics in healthcare or related business environment work settings. Prereq: Sr standing in HIM, and completion of all coursework required during Jr year of HIM professional curriculum. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

5193 Individual Studies  U  1 - 5
Study of individual designed topics or problems in health information management not covered in regular course offerings. Prereq: Enrollment in HIM, grad standing in AMP or permission of instructor. Not open to students with credit for 693. This course is graded S/U.

5521 Information Management in Alternate Care Settings  U  2
Study of documentation, information systems, and service requirements for long term care, behavioral health, ambulatory care, provider practices and other health-related care settings. Prereq: Enrollment in HIM, or permission of instructor. Not open to students with credit for 687.

5521E Information Management in Alternate Care Settings  U  2
Study of documentation, information systems, and service requirements for long term care, behavioral health, ambulatory care, provider practices and other health-related care settings. Prereq: Honors standing, and enrollment in HIM, or permission of instructor. Not open to students with credit for 687.

5535 Clinical Classification Systems  U  4
In-depth study of clinical classification systems, including International Classification of Disease Systems 9 and 10, and terminologies and vocabularies. Prereq: 3520, HNRHSc 2500 or equiv, Anatomy 2300 or equiv, and EEOB 2520 or equiv, or permission of instructor. Not open to students with credit for 535.

5535E Clinical Classification Systems  U  4
In-depth study of clinical classification systems, including International Classification of Disease Systems 9 and 10, and terminologies and vocabularies. Prereq: Honors standing, and HNRHSc 2500 or equiv, HIMS 3520, Anatomy 2300 or equiv, and EEOB 2520 or equiv, or permission of instructor. Not open to students with credit for 535.

5536 Clinical Procedural Coding System for Provider Practices  U  2
Prereq: Enrollment in clinical classification systems, with a focus on CPT/HCPCS coding for facility outpatient and physician services, for optimal reimbursement and audit liability purposes.

5536E Clinical Procedural Coding System for Provider Practices  U  2
Prereq: Enrollment in clinical classification systems, with a focus on CPT/HCPCS coding for facility outpatient and physician services, for optimal reimbursement and audit liability purposes.

5537 Revenue Cycle Management and Analysis in Healthcare  U  3
Study the various components of the healthcare revenue cycle. Use analytic techniques to understand opportunities for improved performance. Prereq: 5535 or 5536, and Grad standing in AMP, or permission of Instructor. Not open to students with credit for 537, 589, or 535.

5537E Revenue Cycle Management and Analysis in Healthcare  U  3
Study the various components of the healthcare revenue cycle. Use analytic techniques to understand opportunities for improved performance. Prereq: Honors standing, 5535, 5536, grad standing in AMP, or permission of instructor. Not open to students with credit for 537, 589, or 535.

5540 Healthcare Data Management and Analysis  U  3
Data management and statistical methods for the collection of healthcare data with emphasis on epidemiology, data collection, study design and data analysis. Prereq: 5520, Math 1148, or Stat 1145, or permission of instructor. Not open to students with credit for 540 or 654.

5540E Healthcare Data Management and Analysis  U  3
Data management and statistical methods for the collection of healthcare data with emphasis on epidemiology, data collection, study design and data analysis. Prereq: Honors standing, 5520, Math 1148, Stat 1145, or permission of instructor. Not open to students with credit for 540 or 654.

5545 Fundamentals of Healthcare Law and Ethics in Health Information Management and Informatics  U  3
Fundamentals of healthcare law and ethics including liability theories, evidence, patient consent, risk management, quality improvement, compliance, and requirements affecting the privacy, security, control, and disclosure of health information. Prereq: AlliMed 5370, and enrollment in HIM program, or permission of instructor. Not open to students with credit for 544.

5545E Fundamentals of Healthcare Law and Ethics in Health Information Management and Informatics  U  3
Fundamentals of healthcare law and ethics including liability theories, evidence, patient consent, risk management, quality improvement, compliance, and requirements affecting the privacy, security, control, and disclosure of health information. Prereq: Honors standing, and AlliMed 5370, and enrollment in HIM, or permission of instructor. Not open to students with credit for 544.

5620 Healthcare Reimbursement Systems  U  3
In-depth analysis of U.S. healthcare payment systems and methodologies including public funded programs, managed care contracting, utilization review and impact on providers, payers, consumers, policy and information systems. Prereq: 5620 or AlliMed 5370, or Grad standing in AMP, or permission of instructor. Not open to students with credit for 569, 620, or 660.

5620E Healthcare Reimbursement Systems  U  3
In-depth analysis of U.S. healthcare payment systems and methodologies including public funded programs, managed care contracting, utilization review and impact on providers, payers, consumers, policy and information systems. Prereq: Honors standing, 5620, AlliMed 5370, or grad standing in AMP or written permission of instructor. Not open to students with credit for 620, 660, or 589.
242 Health Information Management And Systems

5635 Quality Management and Performance Improvement in Healthcare
Continuous quality management measures and tools including patient safety and satisfaction, regulatory requirements, benchmarking, causal analysis, outcomes, clinical guidelines and pathways, risk management and utilization review. Prereq: 3520 or 5540, or Grad standing, or permission of instructor. Not open to students with credit for 635 or 695.

5635E Quality Management and Performance Improvement in Healthcare
Continuous quality management measures and tools including patient safety and satisfaction, regulatory requirements, benchmarking, causal analysis, outcomes, clinical guidelines and pathways, risk management and utilization review. Prereq: Honors standing, 3520, 5540, or Grad standing, or written permission of instructor. Not open to students with credit for 635 or 695.

5648 Microcomputer Applications in the Health Sciences
Overview of microcomputer applications in health sciences with practical applications related to discipline specific needs. Prereq: Enrollment in AMP, or permission of instructor. Not open to students with credit for 648.

5650 Healthcare Information Systems and Technology
In depth analysis of patient, administrative and financial information systems and management practices to support systems. Emphasis on government involvement in health information technology and information exchanges. Prereq: 5648 or equivalent, or Grad standing in AMP, or permission of instructor. Not open to students with credit for 525 or 650.

5650E Healthcare Information Systems and Technology
In depth analysis of patient, administrative and financial information systems and management practices to support systems. Emphasis on government involvement in health information technology and information exchanges. Prereq: Honors standing, 5648 or equivalent; grad standing in AMP or permission of instructor. Not open to students with credit for 525 or 650.

5654 Health Information Systems Analysis and Design
Applied systems planning and analysis techniques including database design and project management for health information systems evaluation, modeling and implementation. Prereq: 3520, 5648, and 5650; or Grad standing in AMP, or permission of instructor. Not open to students with credit for 654 or 655.

5654E Health Information Systems Analysis and Design
Applied systems planning and analysis techniques including database design and project management for health information systems evaluation, modeling and implementation. Prereq: Honors standing, 3520, 5648, and 5650; or Grad standing in AMP or permission of instructor. Not open to students with credit for 654 or 655.

5655 Healthcare Database Administration
Database design and maintenance for health data applications including creation of data dictionaries and SQL query language to meet the business needs of healthcare entities. Prereq: 5654, or permission of instructor; Not open to students with credit for 654 or 655.

5655E Healthcare Database Administration
Database design and maintenance for health data applications including creation of data dictionaries and SQL query language to meet the business needs of healthcare entities. Prereq: Honors standing; 5654 or permission of instructor. Not open to students with credit for 654 or 655.

5660 Healthcare Financial Management
Overview of major financial issues in healthcare delivery including assessment of financial environment, financial statements, ratio analysis, managed care, payment systems, and capital project analysis. Prereq: Grad standing in AMP, and enrollment in HIMSc; or permission of instructor.

5660E Healthcare Financial Management
Overview of major financial issues in healthcare delivery including assessment of financial environment, financial statements, ratio analysis, managed care, payment systems, and capital project analysis. Prereq: Honors standing, Grad standing in AMP, enrollment in HIMSc, or permission of instructor. Not open to students with credit for 660.

5890 Seminar in Health Information Management and Informatics
Selected topics in health information management and informatics. Prereq: Grad standing in AMP, and enrollment in HIMSc, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.

5890E Seminar in Health Information Management and Informatics
Selected topics in health information management and informatics. Prereq: Honors standing, Grad standing in AMP, enrollment in HIMSc, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.

6655 Human Factors in Healthcare
Students learn human factors theories and concepts that are used in developing interventions to improve patient safety such as checklists, reporting systems, and safety culture initiatives. Prereq: Not open to students with credit for AlliMed 6655.

6655E Human Factors in Healthcare
Students learn human factors theories and concepts that are used in developing interventions to improve patient safety such as checklists, reporting systems, and safety culture initiatives. Prereq: Honors standing. Not open to students with credit for AlliMed 6655.

Hebrew

1101.01 Elementary Hebrew I
Conversation, reading, writing, vocabulary building, phonetics, and grammar of Hebrew. Closed to native speakers of this language. Prereq: 3 or more years of high school Hebrew through regular course enrollment or EM credit or credit for 102. This course is available for EM credit. GE for lang course.

1102.01 Elementary Hebrew II
Reading of passages from various periods of Hebrew literature; review of salient points of elementary grammar & introduction to elements of classical Hebrew. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1101, or permission of instructor. Not open to students with credit for 102. This course is available for EM credit. GE for lang course.

2105 Modern Hebrew Grammar, Conversation, and Composition
Development of communication skills in Modern Hebrew; special emphasis on using new grammatical skills in advanced forms of composition and conversation. Not open to native speakers of this language or students with EM credit. Prereq: 1103 (104), or permission of instructor. Not open to students with credit for 205.

2193 Individual Studies
Individual studies. Prereq: Permission of instructor or department. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

2194 Group Studies
Group studies. Prereq: Permission of instructor or department. Repeatable to a maximum of 15 cr hrs or 5 completions.

2205 Art and Ancient Judaism
An exploration of the nature and function of art in ancient Judaism from the standpoints of history, cultural history, and material culture. Prereq: English 1110 (110). Not open to students with credit for 345 or JewshSt 2205. GE VPA course. Cross-listed in JewshSt.

2209 The World of the Rabbis
An examination of the origins, literature, and religious values of the movement of intellectuals who remade the culture of Judaism in the 2nd through 6th centuries. Prereq: English 1110 (110). Not open to students with credit for 379 or JewshSt 2209. GE cultures and ideas course. Cross-listed in JewshSt.

2210 The Jewish Mystical Tradition
The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience. Prereq: English 1110 (110). Not open to students with credit for 2210H (378H), 376, CompStd 2210 (376), 2210H (376H), JewshSt 2210, or 2210H. GE cultures and ideas and diversity global studies course. Cross-listed in CompStd and JewshSt.

2210H The Jewish Mystical Tradition
The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience. Prereq: Honors standing, and English 1110 (110). Not open to students with credit for 2210 (376), 376H, CompStd 2210 (376), 2210H (376H), JewshSt 2210, or 2210H. GE cultures and ideas and diversity global studies course. Cross-listed in CompStd and JewshSt.

2216 The Medieval Jewish Experience
A survey of ten centuries of medieval Jewish culture from the rise of Islam to the death of Shabbatai Zvi, the false Messiah (1676). Prereq: Not open to students who have taken 216, MedRen 2516 (Medieval 216), or JewshSt 2516. GE cultures and ideas and diversity global studies course. Cross-listed in MedRen 2516 and JewshSt 2516.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>2241</td>
<td>Culture of Contemporary Israel</td>
<td>3</td>
<td>Not open to students with credit for Hebrew 2241H (241H), 241, JewishSt 2242, or 2242H. GE cultures and ideas and diversity global studies course. Cross-listed in JewishSt 2242.</td>
</tr>
<tr>
<td>2241H</td>
<td>Culture of Contemporary Israel</td>
<td>3</td>
<td>Honors standing, or permission of instructor. Not open to students with credit for 2241 (241), 241H, JewishSt 2242, or 2242H. GE cultures and ideas and diversity global studies course. Cross-listed in JewishSt 2242H.</td>
</tr>
<tr>
<td>2245</td>
<td>Israeli Film &amp; Society</td>
<td>3</td>
<td>A survey of Israeli films from 1948 to the present day, tracing the development of film production in Israel as well as the relationship between film and society. Prereq: English 1110 (110). Not open to students with credit for 245 or JewishSt 2245. GE VPA course. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>2700</td>
<td>Biblical and Post-Biblical Hebrew Literature in Translation</td>
<td>3</td>
<td>Reading and analysis of selected chapters from the Hebrew scriptures and post-biblical Hebrew writings representative of major historical, cultural, and literary trends. Prereq: English 1110 (110). Not open to students with credit for 370, 370H, 270H, JewishSt 2700, or JewishSt 2700H. GE lit and diversity global studies course. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>2700H</td>
<td>Biblical and Post-Biblical Hebrew Literature in Translation</td>
<td>3</td>
<td>Reading and analysis of selected chapters from the Hebrew scriptures and post-biblical Hebrew writings representative of major historical, cultural, and literary trends. Prereq: English 1110 (110); or permission of instructor. Not open to students with credit for 2700 (370), 370H, JewishSt 2700, or JewishSt 2700H. GE lit and diversity global studies course. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>2701</td>
<td>Medieval Hebrew Literature in Translation</td>
<td>3</td>
<td>Reading and analysis of medieval Hebrew Literature from the Near East, North Africa, and Europe. Prereq: English 1110 (110). Not open to students with credit for 371 or JewishSt 2701. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>2702</td>
<td>Modern Hebrew Literature in Translation</td>
<td>3</td>
<td>A survey of major themes and topics in Modern Hebrew literature from the middle of the 19th century to the present. Prereq: English 1110 (110). Not open to students with credit for 372, 2702H (372H), JewishSt 2702, or 2702H. GE lit and diversity global studies course. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>2702H</td>
<td>Modern Hebrew Literature in Translation</td>
<td>3</td>
<td>A survey of major themes and topics in Modern Hebrew literature from the middle of the 19th century to the present. Prereq: English 1110 (110); or permission of instructor. Not open to students with credit for 2702 (372), 372H, JewishSt 2702, or 2702H. GE lit and diversity global studies course. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>2703</td>
<td>Prophecy in the Bible and Post-Biblical Literature</td>
<td>3</td>
<td>The dynamics of Israelite prophecy and apocalyptic in the context of ancient Near Eastern culture. Prereq: English 1110 (110). Not open to students with credit for 373 or JewishSt 2703. GE lit and diversity global studies course. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>2704</td>
<td>Women in the Bible and Beyond</td>
<td>3</td>
<td>An examination of the social, legal, and religious position of women as they appear in the Hebrew Bible and the ways in which they have been represented and interpreted in later textual, visual, and audio sources. Prereq: English 1110 (110). Not open to students with credit for 374 or JewishSt 2704. GE lit and diversity global studies course. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>2705</td>
<td>The Holocaust in Literature and Film</td>
<td>3</td>
<td>Psychological, cultural, religious and national aspects of the Holocaust as reflected in Hebrew literature and film. Taught in English. Prereq: English 1110 (110). Not open to students with credit for NELC 375.</td>
</tr>
<tr>
<td>2708</td>
<td>Biblical and Post-Biblical Wisdom Literature</td>
<td>3</td>
<td>An examination of the various ideas, themes, attitudes, implications, and genres of biblical and post-biblical wisdom literature. Prereq: English 1110 (110). Not open to students with credit for 378 or JewishSt 2708. GE lit and diversity global studies course. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>4102</td>
<td>Hebrew and the Media</td>
<td>3</td>
<td>Practice improving Hebrew conversation, comprehension, and writing through an exploration of contemporary Israeli media such as newspapers, internet, television, radio and film. Prereq: 1103 (104), or permission of instructor. Not open to students with credit for 402.</td>
</tr>
<tr>
<td>4601</td>
<td>Modern Hebrew Short Story</td>
<td>3</td>
<td>Reading and discussion of masterpieces of modern Hebrew short stories in the 19th and 20th centuries. Prereq: 1103 (104), or permission of instructor. Not open to students with credit for 421 or JewishSt 4601. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>4602</td>
<td>Modern Hebrew Poetry</td>
<td>3</td>
<td>Reading and discussion of masterpieces of modern Hebrew poetry in the 19th and 20th centuries. Prereq: 1103 (104), or permission of instructor. Not open to students with credit for 422 or JewishSt 4602. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>4605</td>
<td>Readings in the Mishnah</td>
<td>3</td>
<td>Reading and discussion of the ideas and teachings of the Mishnah as they are reflected in the unique Mishnaic language. Prereq: 1103 (104), or permission of instructor. Not open to students with credit for 425 or JewishSt 4605. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research in Hebrew</td>
<td>1 - 3</td>
<td>Offers undergraduates with special aptitudes a greater opportunity to do more independent study and research than is possible in normal coursework. Prereq: Permission of instructor. Not open to students with credit for 783H. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4998H</td>
<td>Honors Research in Hebrew</td>
<td>1 - 3</td>
<td>Offers undergraduate honors students a greater opportunity to do more independent study than is possible in normal coursework. Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999</td>
<td>Undergraduate Thesis</td>
<td>1 - 3</td>
<td>Offers undergraduates with special aptitudes the opportunity to do independent study leading to a thesis. Prereq: Sr standing, or permission of instructor. Repeatable to a maximum of 10 or hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999H</td>
<td>Undergraduate Honors Thesis</td>
<td>1 - 3</td>
<td>Offers undergraduates with advanced aptitudes the opportunity to do independent study leading to an honors thesis. Prereq: Honors standing, and a grade of A in at least half of the Hebrew courses taken and an average grade of 8 or above in all Hebrew courses, and Sr standing; or permission of instructor. Repeatable to a maximum of 10 or hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5101</td>
<td>Biblical Hebrew Grammar</td>
<td>3</td>
<td>Introduction to the phonology, morphology, and syntax of the Biblical Hebrew idiom. Prereq: 1103 (104), or permission of instructor. Not open to students with credit for 601 or JewishSt 5101. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>5105</td>
<td>History of the Hebrew Language</td>
<td>3</td>
<td>Genealogical and typological relations within the Semitic family; a survey of Biblical, Mishnaic, and Modern Hebrew. Prereq: 1103 (104), or permission of instructor. Not open to students with credit for 611 or JewishSt 5105. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>5193</td>
<td>Individual Studies</td>
<td>1 - 10</td>
<td>Individual studies. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies</td>
<td>1 - 10</td>
<td>Group Studies. Repeatable to a maximum of 20 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>5601</td>
<td>Introduction to Hebrew Literary and Cultural Texts</td>
<td>3</td>
<td>Literary and cultural Hebrew texts from the biblical to the modern period; will develop the ability to read critically and to build analytical vocabulary. In Hebrew. Prereq: 2105, or permission of instructor. Not open to students with credit for 620 or JewishSt 5601. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>5602</td>
<td>The Bible as Literature: Selected Readings</td>
<td>3</td>
<td>Critical study of basic issues in the language and analysis of biblical texts. In Hebrew. Prereq: 4201 (421) or 4202 (422). Repeatable to a maximum of 12 cr hrs. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>5603</td>
<td>Readings in Rabbinic Literature</td>
<td>3</td>
<td>Study of selected texts and issues in Rabbinic literature, and discussions of the methods by which they are studied. In Hebrew. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in JewishSt.</td>
</tr>
</tbody>
</table>
Study at a Foreign Institution

5797 Study at a Foreign Institution  U  G  1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Repeatable to a maximum of 30 cr hrs or 5 completions.

Basic Bibliographic and Reference Tools in Hebraica, Judaica, and Semitics

5801 Basic Bibliographic and Reference Tools in Hebraica, Judaica, and Semitics  U  G  3
A survey of tools which may be used in doing research at all levels in the study of Hebraica, Judaica, and Semitics. Prereq: Not open to students with credit for 5800. Open cross-listed in JewishSt.

The Problem of Evil in Biblical and Post-Biblical Literature

5802 The Problem of Evil in Biblical and Post-Biblical Literature  U  G  3
Study of the vexing problem of evil; the seeming contradiction between tradition and experience; extensive readings and discussions of appropriate biblical and post-biblical literature. In English. Prereq: Not open to students with credit for 5800. Cross-listed in JewishSt.

Studies in Biblical Law

5806 Studies in Biblical Law  U  G  3
Examination of the various biblical corpora of laws within the context of a great body of legal collections which extended throughout the ancient Near East. Prereq: 2700H (370H), or Grad standing, or permission of instructor. Not open to students with credit for 5796 or JewishSt 5806. Cross-listed in JewishSt.

Studies in Hebrew Poetry

7601 Studies in Hebrew Poetry  G  3
Advanced study of specific poetic periods, figures, and/or topics involving extensive readings and discussions of appropriate primary and secondary materials. Repeatable to a maximum of 9 cr hrs. Cross-listed in JewishSt.

Studies in Hebrew Prose

7602 Studies in Hebrew Prose  G  3
Advanced study of specific periods, authors, and/or topics or prose writing, involving extensive readings and discussions of appropriate primary and secondary materials. Repeatable to a maximum of 9 cr hrs. Cross-listed in JewishSt.

Teaching Hebrew at the College Level

7891 Teaching Hebrew at the College Level  G  3
Methods and techniques for teaching Hebrew at the college level. Prereq: Not open to students with credit for 801 or JewishSt 7891. Cross-listed in JewishSt.

Seminar in Hebrew Studies

8891 Seminar in Hebrew Studies  G  3
Intensive investigation of a selected topic or problem in Hebrew linguistics, philology, literature, or literary culture. Repeatable to a maximum of 12 cr hrs. Cross-listed in JewishSt.

Elementary Hindi I

1101 Elementary Hindi I  U  4
Study of Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing. Close-natured native speakers of the language. Prereq: Not open to students with credit for 101. This course is available for EM credit. GE for lang course.

Elementary Hindi II

1102 Elementary Hindi II  U  4
Continued study of Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing. Prereq: 1101. Not open to students with credit for 102. GE for lang course.

Intermediate Hindi I

1103 Intermediate Hindi I  U  4
Continued study of Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing. Prereq: 1102. Not open to students with credit for 104. This course is available for EM credit. GE for lang course.

Intermediate Hindi II

2104 Intermediate Hindi II  U  3
Continued study of Hindi language, with appropriate cultural background; development of listening, reading, speaking, and writing. Prereq: 1103.

Group Studies

2194 Group Studies  U  1 - 10
Course topics may vary on subjects not otherwise covered by NELC courses. Prereq: Permission of instructor or department. Repeatable to a maximum of 15 cr hrs or 5 completions.

Latin American Civilizations to 1825

1101 Latin American Civilizations to 1825  U  3
Latin American political, social, economic, and cultural history from pre-Columbian times to independence (1825) focusing on imperialism, religion, minorities, war, and rebellion. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx. Not open to students with credit for 171. GE historical study and diversity global studies course.

Latin American Civilizations since 1825

1102 Latin American Civilizations since 1825  U  3
Latin American political, social, economic, and cultural history from independence (1825) to the present focusing on neo-colonialism, instability, underdevelopment, militarism, and minorities. Prereq or concur: English 1110.xx. Not open to students with credit for 172. GE historical study and diversity global studies course.

American Civilization to 1877

1151 American Civilization to 1877  U  3
The political, constitutional, social, and economic development of the United States from the colonial period through the era of Reconstruction. Prereq or concur: English 1110.xx. Not open to students with credit for 1150, 2001, or 151. GE historical study course. This course is available for EM credit.

American Civilization since 1877

1152 American Civilization since 1877  U  3
The political, constitutional, social and economic development of the United States from the end of Reconstruction to the present. Prereq or concur: English 1110.xx. Not open to students with credit for 1150, 2002, or 152. GE historical study course. This course is available for EM credit.

Introductory Undergraduate Group Studies

1194 Introductory Undergraduate Group Studies  U  3
The investigation of particular problems in various fields of history. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx. Repeatable to a maximum of 18 cr hrs.

Western Civilization to the 17th Century

1211 Western Civilization to the 17th Century  U  3
Ancient civilizations (Near East, Greece, Rome); barbarian invasions; medieval civilizations (Byzantium, Islam, Europe); Renaissance and Reformation. Prereq or concur: 1110.xx. Not open to students with credit for 1210, 2201, 2201H, 2202, 2203, 2205, or 111. This course is available for EM credit. GE historical study and diversity global studies course.

Western Civilization, 17th Century to Present

1212 Western Civilization, 17th Century to Present  U  3
Political, scientific, and industrial revolutions; nationalism; the two World Wars; the decline of empires; the Cold War. Prereq or concur: English 1110.xx. Not open to students with credit for 1210, 2203, 2204, or 112. This course is available for EM credit. GE historical study and diversity global studies course.

World History to 1500

1681 World History to 1500  U  3
Comparative survey of the world's major civilizations and their interconnectedness from the beginnings of human civilization through 1500. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 181. This course is available for EM credit. GE historical study and diversity global studies course.

World History from 1500 to the Present

1682 World History from 1500 to the Present  U  3
Survey of the human community, with an emphasis on its increasing global integration, from the first European voyages of exploration through the present. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 182. This course is available for EM credit. GE historical study and diversity global studies course.

Launching America

2001 Launching America  U  3
An intermediate-level approach to American history in its wider Atlantic context from the late Middle Ages to the era of Civil War and Reconstruction. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1511 (151). GE historical study and diversity soc div in the US course.

2001H Launching America

2001H Launching America  U  3
Studies American society from earliest times to the abandonment of Reconstruction policies in 1877. Students will study the relation of structural changes in American society to the development of radical ideology, political institutions, and culture. Prereq or concur: Honors standing, and English 1110.xx; or permission of instructor. Not open to students with credit for 2001, 1151 (151), or 151H. GE historical study and diversity soc div in the US course.

Making America Modern

2002 Making America Modern  U  3
A rigorous, intermediate-level history of modern U.S. in the world from the age of industrialization to the age of globalization. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1152 (152). GE historical study and diversity soc div in the US course.

2002H Making America Modern

2002H Making America Modern  U  3
Examines twentieth century American history in a global perspective, with special emphasis on the themes of industrial, military, and global expansion, as well as the expansion of civil and political rights of the American people. Students in good standing in the course will have the opportunity to participate in a University-sponsored field trip to Chicago. Prereq or concur: Honors standing, and English 1110.xx; or permission of instructor. Not open to students with credit for 2002, 1152 (152), or 152H. GE historical study and diversity soc div in the US course.

History of American Capitalism

2010 History of American Capitalism  U  3
Study of the evolution of “American Capitalism” from pre-capitalist economies of the medieval period to the early 21st century. Prereq or concur: English 1110.xx. Not open to students with credit for 387. GE historical study course.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>History of American Criminal Justice</td>
<td>U 3</td>
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<td></td>
<td>The history of crime, criminal law, law enforcement, prisons, and juvenile courts. Prereq or concur: English 1110.xx. Not open to students with credit for 375. GE historical study course.</td>
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<td>2045</td>
<td>History of American Religion to the Civil War</td>
<td>U 3</td>
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<td></td>
<td>History of religion in America from the colonial era through the Civil War. Prereq or concur: English 1110.xx. Not open to students with credit for 578. GE historical study course.</td>
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<tr>
<td>2065</td>
<td>Colonialism at the Movies: American History in Film</td>
<td>U 3</td>
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<td></td>
<td>Explores historical treatment of Native/European contact, colonization, and key events and issues in American history in film. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity soc div in the US course.</td>
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<tr>
<td>2066</td>
<td>History of Medicine in Film</td>
<td>U 3</td>
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<td>Examines portrayals of physicians in American film over the past seventy-five years, giving particular attention to what popular films can say about the cultural images of physicians and medicine in American society. Prereq or concur: English 1110.xx, or permission of instructor: GE historical study course.</td>
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<tr>
<td>2070</td>
<td>Introduction to Native American History</td>
<td>U 3</td>
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<td></td>
<td>History of Native Americans from pre-contact times to the present. Prereq or concur: English 1110.xx. Not open to students with credit for 368.01. GE historical study course.</td>
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<td>2071</td>
<td>American Indian History of the U.S. Midwest</td>
<td>U 3</td>
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<td>Native American history in Great Lakes and Ohio Valley regions from ancient times to the present, including moundbuilders, fur trade, removal, reservations, urbanization, contemporary issues. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity soc div in the US course.</td>
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<tr>
<td>2075</td>
<td>Introduction to U.S. Latino/a History</td>
<td>U 3</td>
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<td>Survey of Latinos/Latinos and their history in the United States from Spanish colonial period to the present. Prereq or concur: English 1110.xx. Not open to students with credit for 324. GE historical study and diversity soc div in the US course.</td>
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<td>2079</td>
<td>Asian American History</td>
<td>U 3</td>
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<td>A survey of how Asian immigrants, their American-born children, and international relations with Asia have shaped U.S. history. Prereq or concur: English 1110.xx. Not open to students with credit for 346. GE cultures and ideas and historical study and diversity soc div in the US course.</td>
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<tr>
<td>2080</td>
<td>African American History</td>
<td>U 3</td>
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<td>The study of the African American experience in America from the era of Reconstruction, focusing on slavery, resistance movements, and African American culture. Prereq or concur: English 1110.xx. Not open to students with credit for 323.01 or AfAmASt 2030. GE historical study course. Cross-listed in AfAmASt.</td>
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<tr>
<td>2081</td>
<td>African American History</td>
<td>U 3</td>
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<td></td>
<td>The study of the African American experience in the United States from the era of Reconstruction through the present. Prereq or concur: English 1110.xx. Not open to students with credit for 323.02 or AfAmASt 2081. GE historical study course. Cross-listed in AfAmASt.</td>
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<tr>
<td>2085</td>
<td>Exploring Race and Ethnicity in Ohio: Black Ohio in the 19th Century</td>
<td>U 3</td>
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<td>Explores the lives and experiences of African Americans in 19th century Ohio. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for AfAmASt 2085. GE historical study and diversity soc div in the US course. Cross-listed in AfAmASt.</td>
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<tr>
<td>2100</td>
<td>Introduction to the Spanish Atlantic World</td>
<td>U 3</td>
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<td>Introductory survey of the Spanish Empire in the Americas to 1825. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
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<tr>
<td>2105</td>
<td>Latin America and the World</td>
<td>U 3</td>
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<td>Latin America's relationship with the World since independence (1825) focusing on cases of direct and indirect U.S. intervention as well as European influences and globalization. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
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<tr>
<td>2110</td>
<td>Introduction to Native American Peoples from Mesoamerica</td>
<td>U 3</td>
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<td>Introductory survey of the Native American peoples from Mesoamerica (contemporary Guatemala, Honduras, Southern Mexico) from pre-colonial times to the present. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
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<tr>
<td>2111</td>
<td>Introduction to Native American People of the Andes</td>
<td>U 3</td>
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<td>Introductory survey of the history of the Native American peoples of the Andes from the Pre-Columbian period to the present. Prereq or concur: English 1110.xx. Not open to students with credit for 368.02. GE historical study course.</td>
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<tr>
<td>2115</td>
<td>Women and Gender in Latin America</td>
<td>U 3</td>
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<td>Women, gender relations, reproductive rights, and women's response to the impact of religion and the state in Latin America from the Conquest to the present. Prereq or concur: English 1110.xx. Not open to students with credit for 533.06. GE historical study course.</td>
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<tr>
<td>2120</td>
<td>Revolutions and Social Movements in Modern Latin America</td>
<td>U 3</td>
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<td></td>
<td>Latin American history from independence (1825) to the present focusing on revolutions, dictatorships, labor, political, and social movements, women, and indigenous populations. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
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<td>2125</td>
<td>The History of Latin America Through Film</td>
<td>U 3</td>
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<td>Latin American history from the pre-colonial era to the present as depicted in film, including the analysis of colonialism, revolutions, society, women, and current events. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
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<td>2194</td>
<td>Intermediate Undergraduate Group Studies</td>
<td>U 3</td>
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<td></td>
<td>The investigation of particular problems in various fields of history. Prereq or concur: English 1110.xx. Repeatable to a maximum of 18 or hrs or 6 completions.</td>
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<tr>
<td>2201</td>
<td>Ancient Greece and Rome</td>
<td>U 3</td>
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<td>Comparative historical analysis of ancient Mediterranean civilizations of the Near East, Greece, and Rome from the Bronze Age to Fall of Rome. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1211 or 301. GE historical study course.</td>
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<tr>
<td>2201E</td>
<td>Ancient Greece and Rome</td>
<td>U 3</td>
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<td></td>
<td>Comparative historical analysis of ancient Mediterranean civilizations of the Near East, Greece, and Rome from the Bronze Age to Fall of Rome. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1211 or 301H. GE historical study course.</td>
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<tr>
<td>2201H</td>
<td>Ancient Greece and Rome</td>
<td>U 3</td>
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<td></td>
<td>Comparative historical analysis of ancient Mediterranean civilizations of the Near East, Greece, and Rome from the Bronze Age to Fall of Rome. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1211 or 301H. GE historical study course.</td>
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<td>2202</td>
<td>Introduction to Medieval History</td>
<td>U 3</td>
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<td>Survey of medieval history from the late Roman Empire to the early sixteenth century. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1211 or 1212. GE historical study and diversity global studies course.</td>
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<tr>
<td>2203</td>
<td>Introduction to Early Modern Europe</td>
<td>U 3</td>
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<td>A survey of European history from the Black Death to the Congress of Vienna. This course examines social, cultural, religious, political and economic developments from the mid fourteenth to the early nineteenth century. Sometimes taught at distance. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1211 or 1212. GE historical study and diversity global studies course.</td>
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<tr>
<td>2204</td>
<td>Modern European History</td>
<td>U 3</td>
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<td>Examination of selected themes from the history of Modern Europe from the French Revolution to the Present. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1211 or 312. GE historical study and diversity global studies course.</td>
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<tr>
<td>2204H</td>
<td>Modern European History</td>
<td>U 3</td>
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<tr>
<td></td>
<td>Examination of selected themes from the history of Modern Europe from the French Revolution to the Present. Prereq or concur: Honors standing and English 1110.xx. Not open to students with credit for 1211 or 312. GE historical study and diversity global studies course.</td>
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<tr>
<td>2205</td>
<td>Themes in the History of Western Civilization, Prehistory to 1600</td>
<td>U 3</td>
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<td>Thematic approach to the history of Western Civilization from prehistory to the early seventeenth century. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for 1211. GE historical study and diversity global studies course.</td>
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</table>
2210 Classical Archaeology U 3
Introduction to the principles, methods, and history of archaeological investigation in the ancient Greek and Roman world, illustrated through a selection of major classical sites. Prereq or concord: English 1110.xx. Not open to students with credit for 306, Clas 2301 (240), or HistArt 2301 (306). GE cultures and ideas and historical study and diversity global studies course. Cross-listed in Clas 2301 and HistArt 2301.

2211 The Ancient Near East U 3
The ancient history of Mesopotamia, Egypt, Anatolia, Persia, Israel, and the Levant to the establishment of the Persian Empire. Prereq or concord: English 1110.xx. Not open to students with credit for 500. GE historical study course.

2213 The Ancient Mediterranean City U 3
Cities in the ancient Near East, Greece, and Rome, with an emphasis on their physical form and historical importance. Prereq or concord: English 1110.xx. Not open to students with credit for 504.02. GE historical study course.

2220 Introduction to the History of Christianity U 3
Introduces students to the historical study of Christianity as a religious tradition. Sometimes this course is taught in a distance-only format. Prereq or concord: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

2230 Decoding the Middle Ages U 3
Introduction to historical problem solving through the study of three late medieval episodes: the Knights Templar, Joan of Arc, and Richard III. Sometimes this course is offered in a distance-only format. Prereq or concord: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

2231 The Crusades U 3
Examines the various European crusades - in the Holy Land, Spain, Eastern Europe, and southern France - from their origins to the late 15th century. Sometimes this course is offered in a distance-only format. Prereq or concord: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

2240 Elizabethan England U 3
The social, political, cultural and religious history of England during the reign of Queen Elizabeth I, 1558-1603, including the darker side of the Golden Age. Sometimes this course is offered in a distance-only format. Prereq or concord: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

2250 Empires and Nations in Western Europe, 1500 - Present U 3
Comparative study of the Modern European Overseas Empires from the "age of discovery" to the postcolonial present. Sometimes this course is offered in a distance-only format. Prereq or concord: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

2251 Empires and Nations in Eastern Europe, 1500-Present U 3
Comparative study of the Ottoman, Habsburg, and Russian empires, and their successor states in eastern Europe, from 1500 to the present. Prereq or concord: English 1110.xx, or permission of instructor. Not open to students with credit for 519.03. GE historical study and diversity global studies course.

2275 Children and Childhood in the Western World U 3
History of children, childhood and youth in the Western World from Antiquity to the present. Sometimes this course is offered in a distance-only format. Prereq or concord: English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.

2280 Introduction to Russian History U 3
Selected topics introducing students to the history of Russian politics, society, and culture. Prereq or concord: English 1110.xx, or permission of instructor. Not open to students with credit for 336. GE historical study and diversity global studies course.

2301 African Peoples and Empires in World History U 3
A thematic course focusing on African world history, empire building, and commercial and cultural links across the Atlantic, the Indian Ocean, and the Mediterranean worlds before and during the Atlantic slave trade. Prereq or concord: English 1110.xx. Not open to students with credit for 551. GE historical study course.

2302 History of Modern Africa, 1800 - 1960s U 3
Thematic survey of African history from 1800 to the 1960s. Prereq or concord: English 1110.xx. Not open to students with credit for 350 or AAFAmSt 350. GE historical study course.

2303 History of Contemporary Africa, 1960 - present U 3
Africa from independence to the present. Contemporary African societies, cultures, economics, and politics from independence to the present. Prereq or concord: English 1110.xx. Not open to students with credit for 350. GE historical study course.

2350 Islam, Politics, and Society in History U 3
Introduction to the manner in which Islam has interacted with politics in the Middle East and, until recently, in the Islamic world. Prereq or concord: English 1110.xx. Not open to students with credit for 340. GE historical study course.

2351 Early Islamic Society, 610-1258 U 3
Origins and early development of selected fundamental Islamic institutions in the historical and cultural context. Prereq or concord: English 1110.xx. Not open to students with credit for 540.01. GE historical study course.

2375 Islamic Central Asia U 3
Introductory survey of the political, cultural, religious, and economic history of Islamic central Asia from the eighth-century Arab conquests to the nineteenth-century Russian colonial era. Prereq or concord: English 1110.xx, or permission of instructor. Not open to students with credit for 343. GE historical study and diversity global studies course.

2390 Ancient India U 3
History of India from 2500 BCE to the 11th century CE. Prereq or concord: English 1110.xx. Not open to students with credit for 543.01. GE historical study course.

2391 Islamic India U 3
The Sultanate and Mughal Empires (1000-1707 AD): emphasis on imperial institutions and the interaction of Hindu and Muslim societies. Prereq or concord: English 1110.xx. Not open to students with credit for 543.02. GE historical study course.

2392 Colonial India U 3
South Asia during the colonial period, from the arrival of Vasco da Gama in 1498 until independence and partition of India and Pakistan in 1947. Prereq or concord: English 1110.xx. Not open to students with credit for 543.03. GE historical study course.

2393 Contemporary India and South Asia U 3
The political, social, economic, and cultural history of contemporary India and the South Asian subcontinent, focusing on India, Pakistan, and Bangladesh. Prereq or concord: English 1110.xx. Not open to students with credit for 543.04. GE historical study course.

2401 History of East Asia in the Pre-Modern Era U 3
Introduction to societies and cultures of pre-modern China, Korea, and Japan; the East Asian geographical and cultural unit. Prereq or concord: English 1110.xx. Not open to students with credit for 141. GE historical study and diversity global studies course.

2402 History of East Asia in the Modern Era U 3
Introduction to the transformation of societies and cultures of modern China, Korea, and Japan from the 17th century to the present. Prereq or concord: English 1110.xx. Not open to students with credit for 142. GE historical study and diversity global studies course.

2450 Ancient and Medieval Jewish History, 300 BCE-1100 CE U 3
Introduction to the history of Jewish communities, religion, and culture in the Near East from the Greco-Roman period to the First Crusade. Prereq or concord: English 1110.xx, or permission of instructor. Not open to students with credit for 330.01 or JewshSt 2450. GE cultures and ideas and historical study and diversity global studies course. Cross-listed in JewshSt.

2451 Medieval and Early Modern Jewish History, 700-1700 CE U 3
Introduction to the history of Jewish communities, religion, and culture in Europe during the Medieval and Early Modern periods. Prereq or concord: English 1110.xx, or permission of instructor. Not open to students with credit for 330.01, 330.02, or JewshSt 2451. GE historical study course. Cross-listed in JewshSt.

2452 Modern Jewish History 1700-Present U 3
Study of the history of Jewish communities and Judaism from the early modern period to the early 21st century. Prereq or concord: English 1110.xx, or permission of instructor. Not open to students with credit for 330.02 or JewshSt 2452. GE historical study course. Cross-listed in JewshSt.

2453 History of Zionism and Modern Israel U 3
The history of Zionist movement and the modern state of Israel from beginnings to present. Prereq or concord: English 1110.xx, or permission of instructor. Not open to students with credit for 334 or JewshSt 2453. GE historical study course. Cross-listed in JewshSt.

2454 History of Anti-Semitism U 3
Study of the development of anti-Semitism, the history of anti-Semitic ideologies and practices, and different Jewish responses to anti-Semitism over time. Prereq or concord: English 1110.xx, or permission of instructor. Not open to students with credit for 333 or JewshSt 2454. GE historical study course. Cross-listed in JewshSt.
<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2455</td>
<td>Jews in American Film</td>
<td>U 3</td>
<td>A study of how modern Jews appear in film compared with historical reality. Prereq or conc. English 1110.xx, or permission of instructor. Not open to students with credit for 352 or JewishSt 2455. GE historical study course. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>2475</td>
<td>History of the Holocaust</td>
<td>U 3</td>
<td>Study of the state-sponsored murder of millions of Jews and non-Jews by the Nazis and their collaborators during World War II. Prereq or conc. English 1110.xx, or permission of instructor. Not open to students with credit for 331 or JewishSt 2475. GE historical study course. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>2500</td>
<td>20th Century International History</td>
<td>U 3</td>
<td>Examines international political, economic, and military relations from the origins of World War I through the break up of the Soviet Union. Sometimes this course is offered in a distance-only format. Prereq or conc. English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2550</td>
<td>History of War</td>
<td>U 3</td>
<td>A survey of the main concepts and issues involved in the study of war in world perspective, using case studies from prehistoric times to the present. Prereq or conc. English 1110.xx, or permission of instructor. Not open to students with credit for 330. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2610</td>
<td>Introduction to Women and Gender in the U.S.</td>
<td>U 3</td>
<td>Survey of women and gender from pre-European settlement to present, with particular attention to differences among women. Prereq or conc. English 1110.xx. Not open to students with credit for 325. GE historical study and diversity soc div in the US course.</td>
</tr>
<tr>
<td>2610H</td>
<td>Introduction to Women and Gender in the U.S.</td>
<td>U 3</td>
<td>Survey of women and gender from pre-European settlement to present, with particular attention to differences among women. Prereq: Honors standing, or permission of instructor. Prereq or conc. English 1110.xx. Not open to students with credit for 325 or 325H. GE historical study and diversity soc div in the US course.</td>
</tr>
<tr>
<td>2620</td>
<td>Women Changing the World: Histories of Activism and Struggle</td>
<td>U 3</td>
<td>History of women's activism in global perspective. Sometimes this course is offered in a distance-only format. Prereq or conc. English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2630</td>
<td>History of Modern Sexualities</td>
<td>U 3</td>
<td>In-depth analysis of particular topics in the history of modern sexualities throughout the world; topic varies by semester. Prereq or conc. English 1110.xx. Not open to students with credit for 326. GE historical study course.</td>
</tr>
<tr>
<td>2641</td>
<td>Global History to 1500</td>
<td>U 3</td>
<td>Examines the major issues that have shaped the human experience from the beginnings of human civilization (ca. 3500 B.C.E.) to ca. 1500 C.E., through comparative study of civilizations within the context of religion, trade, technology, art, culture, and gender relations. Prereq or conc. English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2642</td>
<td>Global History 1500 to Present</td>
<td>U 3</td>
<td>Examines the major issues that have shaped the human experience of various regions since 1500 C.E. through comparative study of civilizations within the context of religion, trade, technology, art, culture, industrialism, imperialism, revolution, and gender relations. Prereq or conc. English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2650</td>
<td>The World since 1914</td>
<td>U 3</td>
<td>Global perspective on major forces that shaped the world since 1914. Provides students with factual knowledge and a critical interpretive framework for responsible global citizenship. Prereq or conc. English 1110.xx, or permission of instructor. Not open to students with credit for 597. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2651</td>
<td>World History before the Modern Age</td>
<td>U 3</td>
<td>A thematic approach to exploring selected major processes and events that shaped human experience between the Stone Age and 1750. Specific topics and content can vary. Sometimes this course is offered in a distance-only format. Prereq or conc. English 1110 (110), or equiv. Not open to students with credit for 1681 (181). GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2700</td>
<td>Global Environmental History</td>
<td>U 3</td>
<td>Global overview of the ecology of the human condition in past time, stressing climate change, earth systems, technology, energy, demography, and human cultural-economic revolutions. Prereq or conc. English 1110.xx. Not open to students with credit for 396.01. GE historical study and soc sci human, nat, and econ resources and diversity global studies course.</td>
</tr>
<tr>
<td>2701</td>
<td>History of Technology</td>
<td>U 3</td>
<td>Survey of the history of technology in global context from ancient times. Prereq or conc. English 1110.xx. Not open to students with credit for 362. GE historical study course.</td>
</tr>
<tr>
<td>2702</td>
<td>Food in World History</td>
<td>U 3</td>
<td>Survey of the history of food, drink, diet and nutrition in a global context. Sometimes this course is offered in a distance-only format. Prereq or conc. English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2703</td>
<td>History of Public Health, Medicine and Disease</td>
<td>U 3</td>
<td>Survey of the history of public health, disease and medicine in a global context. Sometimes this course is offered in a distance-only format. Prereq or conc. English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2704</td>
<td>Water: A Human History</td>
<td>U 3</td>
<td>History of human use and understandings of water from ancient to modern times, with case studies taken from different geographic locations. Sometimes this course is offered in a distance-only format. Prereq or conc. English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2705</td>
<td>The History of Medicine in Western Society</td>
<td>U 3</td>
<td>Explores the changing intellectual, economic, institutional and cultural relationships that have characterized medicine in the Western world from antiquity to the present, and examines individual roles and trends in the education of practitioners, locations of healing, and expectations that people had of medicine as ideas about the body and illness shifted. Prereq or conc. English 1110.xx, or permission of instructor. GE historical study course.</td>
</tr>
<tr>
<td>2720</td>
<td>Big History</td>
<td>U 3</td>
<td>&quot;Big History&quot; attempts to explain history at the very largest scales in the widest perspectives, exploring theories of how the universe, planet, life, and humanity came to be. Students will work to understand the essential state of knowledge about cosmic, earth, evolutionary, and human history. Prereq or conc. English 1110.xx, or permission of instructor. GE historical study course.</td>
</tr>
<tr>
<td>2750</td>
<td>Natives and Newcomers: Immigration and Migration in U.S. History</td>
<td>U 3</td>
<td>General survey of immigration history in the U.S. from precolonial times to the present. Topics include cultural contact, economic relations, citizenship, politics, family, and sexuality. Prereq or conc. English 1110.xx. Not open to students with credit for 322. GE historical study and diversity soc div in the US course.</td>
</tr>
<tr>
<td>2750E</td>
<td>Natives and Newcomers: Immigration and Migration in U.S. History</td>
<td>U 3</td>
<td>General survey of immigration history in the U.S. from precolonial times to the present. Topics include cultural contact, economic relations, citizenship, politics, family and sexuality. Prereq: Honors standing, or permission of instructor. Prereq or conc. English 1110.xx. Not open to students with credit for 322, 322H, or WGSSt 2750H (332H). GE historical study and diversity soc div in the US course.</td>
</tr>
<tr>
<td>2750H</td>
<td>Natives and Newcomers: Immigration and Migration in U.S. History</td>
<td>U 3</td>
<td>General survey of immigration history in the U.S. from precolonial times to the present. Topics include cultural contact, economic relations, citizenship, politics, family and sexuality. Prereq: Honors standing, or permission of instructor. Prereq or conc. English 1110.xx. Not open to students with credit for 322H, WGSSt 3322H or 2750H. GE historical study and diversity soc div in the US course. Cross-listed in WGSSt.</td>
</tr>
<tr>
<td>2752</td>
<td>Social Reform Movements in U.S. History</td>
<td>U 3</td>
<td>Explores organized movements for social change from 1830 to 1970s, including antislavery, women's rights, temperance, utopias, Populists, Progressives, African-American, American Indian and Chicano rights. Sometimes this course offered at distance. Prereq or conc. English 1110.xx, or permission of instructor. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2797.01</td>
<td>Study at a Foreign Institution</td>
<td>U 1 - 6</td>
<td>An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq or conc. English 1110.xx., or permission of instructor. Repeatable to a maximum of 27 or hrs or 9 completions.</td>
</tr>
<tr>
<td>2797.02</td>
<td>The Western Tradition and Contemporary Issues: From Ancient Greece to the Global Present</td>
<td>U 3</td>
<td>Participating students will have the opportunity to experience, and gain a greater appreciation for, the significance of the Western tradition through Ionian University faculty-led overviews of the various historical eras, beginning with ancient Greece and ending in the modern era, and group excursions to historical sites. Prereq or conc. English 1110.xx, or permission of instructor. GE historical study course.</td>
</tr>
<tr>
<td>2798</td>
<td>Study Tour</td>
<td>U 1 - 6</td>
<td>Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Prereq or conc. English 1110.xx. Not open to students with credit for 698.01 or 698.02. Repeatable to a maximum of 27 cr hrs or 9 completions.</td>
</tr>
<tr>
<td>2800</td>
<td>Introduction to the Discipline of History</td>
<td>U 3</td>
<td>Investigation of the methods and analytical approaches historians use to understand the past. Prereq or conc. English 1110.xx. Not open to students with credit for 398.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Prerequisites</td>
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<tr>
<td>3017</td>
<td>The Sixties</td>
<td>U 3</td>
<td>Examination of postwar America's pivot point, focusing on civil rights; liberal, radical, and conservative politics; sweeping social, cultural, and economic change; and the Vietnam War. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 306. GE historical study course.</td>
</tr>
<tr>
<td>3020</td>
<td>19th Century American Ideas</td>
<td>U 3</td>
<td>Urbanism, fundamentalism, slavery, Darwinism, Modernism, Anti-modernism. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 579.01. GE historical study course.</td>
</tr>
<tr>
<td>3021</td>
<td>20th Century American Ideas</td>
<td>U 3</td>
<td>Surveys major American thought and thinkers of the 20th century. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 579.02. GE historical study course.</td>
</tr>
<tr>
<td>3030</td>
<td>History of Ohio</td>
<td>U 3</td>
<td>Survey of economic, social, political development of the geographic area that became Ohio from Native Americans to present. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 570.01. GE historical study course.</td>
</tr>
<tr>
<td>3032</td>
<td>History of the U.S. West</td>
<td>U 3</td>
<td>The social, cultural, and economic development of the U.S. West. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 560. GE historical study course.</td>
</tr>
<tr>
<td>3040</td>
<td>The American City</td>
<td>U 3</td>
<td>History of the American city (urban-suburban) from colonial times to the early 21st century. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity soc div in the US course.</td>
</tr>
<tr>
<td>3041</td>
<td>American Labor History</td>
<td>U 3</td>
<td>Evolution of working-class life, culture, politics, and trade unionism in America from the late 18th century to the present. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 569. GE historical study course.</td>
</tr>
<tr>
<td>3045</td>
<td>American Religious History</td>
<td>U 3</td>
<td>An examination of religious history of the United States from colonial era to the present. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 576. GE historical study course.</td>
</tr>
<tr>
<td>3049</td>
<td>War and Dissent in American History</td>
<td>U 3</td>
<td>Opposition to war in America from the Revolution to the present. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity soc div in the US course.</td>
</tr>
<tr>
<td>3070</td>
<td>Native American History from European Contact to Removal, 1566-1820</td>
<td>U 3</td>
<td>Major issues and events in Native American history from before the European invasion and colonization through the early 1820s. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 576. GE historical study course.</td>
</tr>
<tr>
<td>3071</td>
<td>Native American History from Removal to the Present</td>
<td>U 3</td>
<td>Covers major events in American Indian history from 1820s to present, including removal, reservations, cultural adaptation, federal policies, self-determination, activism, and contemporary issues. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Open to students with credit for 568.02. GE historical study and diversity soc div in the US course.</td>
</tr>
<tr>
<td>3075</td>
<td>Mexican American Chicana/o History</td>
<td>U 3</td>
<td>History of people of Mexican descent and their presence in the United States from Spanish colonial times to contemporary period. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 577.01 or 577.02. GE historical study and diversity soc div in the US course.</td>
</tr>
<tr>
<td>3080</td>
<td>Slavery in the United States</td>
<td>U 3</td>
<td>The African American experience in slavery, focusing on the rise of the slave trade, slavery in the colonial and antebellum eras, the Civil War, and abolition. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 559 or AfrAmASt 3080. GE historical study course. Cross-listed in AfrAmASt.</td>
</tr>
<tr>
<td>3081</td>
<td>Free Blacks in Antebellum America</td>
<td>U 3</td>
<td>Explores the development of free Black communities in the era before the Civil War, focusing on emancipation, fugitive slaves, resistance movements and suffrage. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for AfrAmASt 3080. GE historical study and diversity soc div in the US course. Cross-listed in AfrAmASt.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Units</td>
<td>Description</td>
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<tr>
<td>3082</td>
<td>Black Americans During the Progressive Era</td>
<td>U 3</td>
<td>History and experiences of Black Americans during the period best known in American History as the Progressive Era. Sometimes this course is offered in a distance-only format. Pre Req: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for AFAMAS 3082. GE historical study and diversity soc div in the US course. Cross-listed in AFAMAS.</td>
</tr>
<tr>
<td>3083</td>
<td>Civil Rights and Black Power Movements</td>
<td>U 3</td>
<td>Examines the origins, evolution, and outcomes of the African American freedom struggle, focusing on the Civil Rights and Black Power movements. Sometimes this course is offered in a distance-only format. Pre Req: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for AFAMAS 3083. GE historical study and diversity soc div in the US course. Cross-listed in AFAMAS.</td>
</tr>
<tr>
<td>3085</td>
<td>African American History Through Contemporary Film</td>
<td>U 3</td>
<td>Uses contemporary film to explore the history of African American life, culture, politics, and resistance. Pre Req: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity soc div in the US course.</td>
</tr>
<tr>
<td>3086</td>
<td>Black Women in Slavery and Freedom</td>
<td>U 3</td>
<td>Traces the experiences and struggles of African American women from slavery through the Civil Rights/Black Power era. Sometimes this course is offered in a distance-only format. Pre Req: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for AFAMAS 3086. GE historical study and diversity soc div in the US course. Cross-listed in AFAMAS.</td>
</tr>
<tr>
<td>3089</td>
<td>Studies in African American History</td>
<td>U 3</td>
<td>Selected topics in African American history from the origins of slavery to the present. Pre Req or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 555.01, 555.02, or AFAMAS 3089. Repeatable to a maximum of 12 cr hrs. GE historical study course. Cross-listed in AFAMAS.</td>
</tr>
<tr>
<td>3090</td>
<td>Comparative Slavery</td>
<td>U 3</td>
<td>Different forms of slavery and other forms of unfree labor in different cultures, focusing mainly on Europe, the Americas, and Africa. Pre Req: English 1110.xx and any History 2000-level course; or permission of instructor. Not open to students with credit for 588 or AFAMAS 586. GE historical study course.</td>
</tr>
<tr>
<td>3100</td>
<td>Colonial Latin America</td>
<td>U 3</td>
<td>Mayan, Aztec, and Incan Empires; the Spanish and Portuguese conquests and the transplanting of Iberian institutions; the Baroque period, the Bourbon Century and the Enlightenment. Pre Req or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 333.01. GE historical study course.</td>
</tr>
<tr>
<td>3101</td>
<td>South America Since Independence</td>
<td>U 3</td>
<td>Nation-building in the South American republics during the 19th and 20th centuries with special emphasis on Argentina and Brazil. Pre Req or conc: Any 2000-level History course, and English 1110.xx. Not open to students with credit for 533.02. GE historical study course.</td>
</tr>
<tr>
<td>3102</td>
<td>Central America and the Caribbean since Independence</td>
<td>U 3</td>
<td>Political, economic, and cultural history of West Indies (Cuba, Haiti, Dominican Republic, etc.) and Central America (Panama, Guatemala, Nicaragua, etc.) and relations with United States. Pre Req or conc: Any 2000-level History course, and English 1110.xx. Not open to students with credit for 534.01. GE historical study course.</td>
</tr>
<tr>
<td>3105</td>
<td>History of Brazil</td>
<td>U 3</td>
<td>History of Brazil during colonial and independence periods with major emphasis on the 19th and 20th centuries. Pre Req or conc: Any 2000-level History course, and English 1110.xx. Not open to students with credit for 534.02. GE historical study course.</td>
</tr>
<tr>
<td>3106</td>
<td>History of Mexico</td>
<td>U 3</td>
<td>History of Mexico during precolonial, colonial, and independence periods with emphasis on the 19th and 20th centuries. Pre Req: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 534.03. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>3107</td>
<td>History of Argentina</td>
<td>U 3</td>
<td>Introduction to the history, society, and culture of Argentina from the sixteenth century to the present. Pre Req or conc: Any 2000-level History course, and English 1110.xx. Not open to students with credit for 534.04. GE historical study course.</td>
</tr>
<tr>
<td>3110</td>
<td>The Jewish Experience in Latin America</td>
<td>U 3</td>
<td>Introduction to issues in the history of Jews in Latin America, including the role of the region as a refuge from source of anti-Semitism. Pre Req: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for 534.08 or JEWISHST 3110. GE historical study course. Cross-listed in JEWISHST.</td>
</tr>
<tr>
<td>3115</td>
<td>History of Medicine and Public Health in Latin America</td>
<td>U 3</td>
<td>Survey of the history of medicine and public health in Latin America from the pre-Colombian period to the present. Sometimes this course is offered in a distance-only format. Pre Req: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>3191</td>
<td>Historical Internship</td>
<td>U 3</td>
<td>Internships will provide students with the opportunity to work on historical projects under the supervision of a practicing professional and a professor. Pre Req: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 489.</td>
</tr>
<tr>
<td>3193.01</td>
<td>Individual Studies</td>
<td>U 1-6</td>
<td>Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest. Pre Req: English 1110.xx and any History 2000-level course, and permission of instructor.</td>
</tr>
<tr>
<td>3193.02</td>
<td>Individual Studies</td>
<td>U 1-6</td>
<td>Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest. Pre Req: English 1110.xx and any History 2000-level course, and permission of instructor. This course is graded S/U.</td>
</tr>
<tr>
<td>3194</td>
<td>Upper-Level Undergraduate Group Studies</td>
<td>U 3</td>
<td>The investigation of particular problems in various fields of history. Pre Req or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 12 or hrs.</td>
</tr>
<tr>
<td>3210</td>
<td>Archaic Greece</td>
<td>U 3</td>
<td>Survey of Greek history from Neolithic Age (7000-3000 BC) to the end of the Archaic Era (700-490 BC). Pre Req or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 501.01. GE historical study course.</td>
</tr>
<tr>
<td>3211</td>
<td>Classical Greece</td>
<td>U 3</td>
<td>Survey of Greek history during the Classical era (480-320 BC). Pre Req or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 501.02. GE historical study course.</td>
</tr>
<tr>
<td>3212</td>
<td>Hellenistic Greece</td>
<td>U 3</td>
<td>Survey of Greek history during Hellenistic era (320-31 BC). Pre Req or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 501.03. GE historical study course.</td>
</tr>
<tr>
<td>3214</td>
<td>Women, Gender, and Sexuality in the History of Christianity</td>
<td>U 3</td>
<td>Explores the ways in which women were portrayed in early Christian literature, and the functions of gender (femininity and, to a lesser extent, masculinity) in Christian discourse. Students will consider the roles women played in the early Christian churches and the significance of gender and femininity in early Christian thought and practice. Pre Req: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>3215</td>
<td>Sex and Gender in the Ancient World</td>
<td>U 3</td>
<td>Introductory study of women, gender, and sexual relations in the ancient Mediterranean world, especially Greece and Rome. Sometimes this course is offered in a distance-only format. Pre Req: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for Class 3215 (Classics 508). GE historical study and diversity global studies course. Cross-listed in Clas.</td>
</tr>
<tr>
<td>3216</td>
<td>War in the Ancient Mediterranean World</td>
<td>U 3</td>
<td>A survey of military history from the late Bronze Age to the fall of the Roman Empire in the West. Pre Req: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 2212 or 504.01. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>3220</td>
<td>The Rise of the Roman Republic</td>
<td>U 3</td>
<td>An advanced survey of Rome's history from the foundation of the city to the establishment of the Republic's Mediterranean Empire, ca 150 BC. Pre Req or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 501.01, 501.02, or 2212. GE historical study and diversity global studies course.</td>
</tr>
<tr>
<td>3222</td>
<td>The Roman Empire, 69-337 CE</td>
<td>U 3</td>
<td>An advanced survey of Rome's imperial history from the end of the Julio-Claudian dynasty to the death of Constantine. Pre Req or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 503.02. GE historical study course.</td>
</tr>
</tbody>
</table>
3223 The Later Roman Empire U 3
An advanced survey of Rome’s history in the fourth, fifth, and sixth centuries with focus on themes of decline, fall, and transformation. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 503.03. GE historical study course.

3225 Early Byzantine Empire U 3
History of Byzantium, 600-1453, with emphasis on internal developments, relations with neighbors, the Crusades, the Fall of the City, and the legacy of Byzantium. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 505.01. GE historical study course.

3226 Later Byzantine Empire U 3
History of Byzantium, 843-1453, with emphasis on internal developments, the Crusades, the Fall of the City, and the legacy of Byzantium. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 505.02. GE historical study course.

3227 Gnostics and Other Early Christian Heresies U 3
Examines the early Christian philosophical movement known as “the Gnostics” whose beliefs, based on the stories of the Bible, Platonist philosophy, and the new revelation of Jesus, shocked other Christians. Sometimes taught at distance. Prereq. English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3228 Religion and Society in Late Antiquity U 3
Advanced survey of religions and society in late antiquity, with focus on themes of continuity and change. Sometimes this course is offered in a distance-only format. Prereq. English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3229 History of Early Christianity U 3
A survey of the history of Christianity from its Jewish and Greco-Roman roots to the late sixth century. Prereq. English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 506. GE historical study course and diversity global studies course.

3230 History of Medieval Christianity U 3
Study of the development of Medieval Christianity from Constantine to the early sixteenth century. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 507. GE historical study course.

3235 Medieval Europe I, 300-1100 U 3
Study of the development of Western European institutions from the fall of the Roman Empire to the eleventh century. Prereq. Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 508.01. GE historical study course.

3236 Medieval Europe II, 1100-1500 U 3
Study of the growth of Western Europe from the eleventh century to the late fifteenth century. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 508.02. GE historical study course.

3239 Medieval England U 3
Survey of English history from the Roman conquest to 1485. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 509.01. GE historical study course.

3240 History of the Italian Renaissance, 1250-1450 U 3
Study of the society, culture, and politics of Italy, from the communal era until the age of humanism, thirteenth to fifteenth century. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 509.01. GE historical study course.

3241 History of the Italian Renaissance, 1450-1600 U 3
Historical study of Italian society from the beginnings of humanism and naturalist art to the High Renaissance and beyond. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 509.02. GE historical study course.

3242 The Holy Roman Empire (1495-1806) U 3
The political, social, religious, and economic history of the Holy Roman Empire of the German Nation from 1495 to the fall of the Empire in 1806. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3245 The Age of Reformation U 3
The history of the Protestant, Catholic, and Radical Reformations of 16th and early 17th century Europe. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 511. GE historical study course.

3246 Tudor and Stuart Britain, 1485-1714 U 3
The social, political, and religious history of England and the British Isles in the age of Renaissance, Reformation, and Revolution. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 514.01. GE historical study course.

3247 Magic and Witchcraft in Early Modern Europe (1450-1750) U 3
Investigation of the history of European witchcraft, focusing on intellectual, religious, and social developments and on the great witchcraft trials of the early modern period. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3249 Early-Modern Europe, 1560-1778 U 3
A survey of Europe from the late-sixteenth-century wars of religion to the more secular political conflicts on the eve of the French Revolution. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 512.01. GE historical study course.

3250 Revolutionary and Napoleonic Europe, 1750-1815 U 3
A survey of European but especially French history from the crisis of the Old Regime to the end of the wars of the French Revolution. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 512.02. GE historical study course.

3251 History of Europe in the 19th Century U 3
Major trends and developments in 19th century European history. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 512.03. GE historical study course.

3252 People on the Move: Migration in Modern Europe U 3
Study of migration movements in Europe from the age of industrialization to the present. Prereq. English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3253 20th Century Europe to 1950 U 3
Exploration of the major historical events and issues from approximately 1900 to 1950. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 512.04. GE historical study course.

3254 Europe Since 1950 U 3
Europe from Division to Unification. Prereq. English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 512.05. GE historical study and diversity global studies course.

3260 Britain in the 19th Century U 3
An introduction to the political, economic, and social history of Britain and the British empire from the eighteenth to early twentieth century. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 514.02. GE historical study course.

3261 Britain in the 20th Century U 3
History of Britain and the British Empire in the Twentieth Century. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 514.03. GE historical study course.

3262 France in the 19th Century U 3
Study of the major political, economic, social, and cultural transformations between the defeat of Napoleon and World War I. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 515.01. GE historical study course.

3263 France in the 20th Century U 3
Study of the major political, economic, social, and cultural transformations between the Dreyfus Affair and the postcolonial present. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 515.02. GE historical study course.

3264 19th Century German History U 3
Exploration from 1806 to 1914 of the cultural, economic, political, and social history of the peoples and territories included in the German Empire after 1871. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 518.01. GE historical study course.

3265 20th-Century German History U 3
Exploration from 1914 to the present of German cultural, economic, political, and social history. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 518.02. GE historical study course.

3266 History of Spain, 1469-Present U 3
Unification of the thrones; the rise and fall of empire; rivalry with Portugal; Napoleon to the Civil War; Franco and the Post-Franco Era. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 532. GE historical study course.
3287  Modern Greece  U  3
Greece from 1453 to the present; Turkish rule, War of Independence, emergence of the modern state; focus on political, social, and cultural developments. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 517. GE historical study course.

3268  Eastern Europe in the 19th Century  U  3
Study of the political, economic, social and cultural transformations and the rise of nationalism in the Balkans and East-Central Europe. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 519.01. GE historical study course.

3269  Eastern Europe in the 20th Century  U  3
Survey of East European history from World War I to the post-communist era. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 519.02. GE historical study course.

3270  History of World War I  U  3
Origins, conduct, and consequences of the First World War in global context. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 311. GE historical study course.

3273  Modernist Thought & Culture, 1880-1945  U  3
This is a team-taught course that surveys modern Western cultural history and its revolutionary developments in physics, genetics, philosophy, psychiatry, visual art, architecture, music, dance, and literature. The team-teaching format ensures that students will have the opportunity to approach modernist ideas and forms of expression from more than one disciplinary perspective. Prereq: English 1110 and any History 2000-level course, or permission of instructor. Not open to students with credit for English 3273. Cross-listed in English.

3275  Religion and Its Critics in Modern Europe  U  3
Religion and its critics in Western culture since 1789. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3276  European Thought and Culture, 19th Century  U  3
European cultural developments in 19th century: romanticism, realism, existentialism: Shelley, Flaubert, Dostoevsky, Darwin, Marx, Nietzsche. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 513.01. GE historical study course.

3277  European Thought and Culture, 20th Century  U  3
Major developments in 20th century literature, philosophy, science, and the arts. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 513.02 or 2281. GE historical study course.

3278  Love in the Modern World  U  3
History of love in philosophy, literature, and art, focusing on the 19th and 20th centuries. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 2270 or 528. GE historical study course.

3280  History of Russia to 1700  U  3
A survey from the origins of the Russian state to the reign of Peter the Great. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 536. GE historical study course.

3281  Imperial Russian History, 1700-1917  U  3
Survey of Russian history from the reign of Peter the Great to the 1917 revolutions. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 537.01. GE historical study and diversity global studies course.

3282  History of the Soviet Union  U  3
History of the Soviet Union from the Russian Revolution of 1917 to the collapse of communism in 1991. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 538. GE historical study and diversity global studies course.

3283  Siberia in World History  U  3
Introduction to the history, geography, culture, ethnic diversity, inter-communal relations, economy, and strategic importance of Siberia in Eurasia’s past and present. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 539. GE historical study course.

3301  History of Modern West Africa, post 1800  U  3
History of Modern West Africa since 1800; examines West African history from the era of European conquests to the present. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3302  Nationalism, Socialism, and Revolution in Africa  U  3
Nationalist and revolutionary movements and governments in Africa 1950s to present. Socialist, revolutionary, and nationalist strategies for state-formation, social reform, and economic development. Sometimes this course is offered in distance only. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3304  History of Islam in Africa  U  3
Africa from the emergence of Islam in the 600s to the Present. African contributions to Islam and the impact of Islam on African societies. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 541.02 or AAmpASt 3304 (541). GE historical study course. Cross-listed in AAmpASt.

3306  History of African Christianity  U  3
The development of Christianity in Africa from antiquity to the present; Christianity’s interaction with Islam and indigenous religions; Mission Christianity and its aftermath. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3307  History of African Health and Healing  U  3
African approaches to health and healing; interaction between religion, culture and healing; intersections and contradictions between African and Western concepts of health healing. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3308  History of US - Africa Relations, 1900 - Present  U  3
History of the United States’ relations with Africa since World War I. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for AAmpASt 3308. GE historical study and diversity global studies course. Cross-listed in AAmpASt.

3310  History of African Cinema  U  3
Emergence and development of African cinema as a film genre and part of material culture. European colonial and ethnographic film to modern African cinema. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 542.01. GE historical study course.

3351  Intellectual and Social Movements in the Muslim World  U  3
Upper-level lecture/discussion course on significant intellectual and social movements in the Middle East and vicinity from the advent of Islam to the present. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 542.01. GE historical study course.

3352  Marginal Groups in the Non-Western World  U  3
An examination of selected marginal populations, who may include religious and/or ethnic minorities, women, slaves, eunuchs, those with physical disabilities, and geographically isolated groups. Prereq or conc: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 589. GE historical study course.

3353  Jewish Communities under Islamic Rule  U  3
Lecture and discussion course examining the experiences of Jewish communities in predominantly Muslim societies from the advent of Islam through ca. 1800. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3354  Islamic Spain and North Africa  U  3
Lecture/discussion course examining Spain and North Africa under Islamic rule, from the Muslim conquests of the early 7th century through the early 19th century. Prereq or conc: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 541.01. GE historical study course.

3356  The Ottoman Empire, 1300-1800  U  3
Studies the political, economic, social, and cultural power of the Ottoman Empire from its origins, through the highpoint of its geopolitical power in the 16th century, to its further evolution through the opening of the period of European imperialism, and will examine the Ottoman Empire as a case from which to study the developmental dynamics of patrimonial sociopolitical systems. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 2352 or 540.03. GE historical study course.

3357  The Middle East in the 19th Century  U  3
Lecture and discussion course examining the transformations wrought by westernizing reforms and European imperialism in the Middle East during the 19th century. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 3350 or 540.04. GE historical study course.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Corequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>3358</td>
<td>The Middle East Since 1914</td>
<td>U</td>
<td>A specialized study of the political, social and cultural history and evolution of Islamic civilization since 1914. The course will examine the impact of outside power on the Middle East, as well as the region's responses to modernity; political, socioeconomic and cultural change; ideological strategy; Islamic identity and globalization; and changes in media of communication. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 2353 or 540.03. GE historical study course.</td>
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<tr>
<td>3360</td>
<td>History of Iran</td>
<td>U</td>
<td>A history of Iran in the Islamic period, focusing on nomadic-urban interaction and Iranian culture. Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 541.02. GE historical study course.</td>
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<tr>
<td>3365</td>
<td>History of Afghanistan</td>
<td>U</td>
<td>This course will address Afghan society, its historical foundations, and the challenges that confront it. Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 355. GE historical study course.</td>
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<tr>
<td>3375</td>
<td>Mongol World Empire: Central Eurasia, 1000-1500</td>
<td>U</td>
<td>This course will address the social, cultural, and political history of medieval Central Eurasia, focusing on the Mongol Empire and its legacy. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 544. GE historical study and diversity global studies course.</td>
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<tr>
<td>3376</td>
<td>The Silk Road: Commerce and Culture in Eurasia 200 BCE-1449 GE</td>
<td>U</td>
<td>A study of the commercial and cultural relations among Chinese, Indian, Iranian, and Roman/Islamic civilizations. Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 341. GE historical study course.</td>
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<tr>
<td>3401</td>
<td>Foundations of Chinese Civilization</td>
<td>U</td>
<td>Cross-era comparative development of thoughts, beliefs, culture, economy, and political system through the Tang (618-907) that shaped China's later history and role in East Asia. Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 342. GE historical study course.</td>
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<tr>
<td>3402</td>
<td>Chinese Empire, 10th - 14th Centuries</td>
<td>U</td>
<td>Study of Chinese society and state, its interaction with the outside world, and developments in philosophy, arts and literature in the Song and Yuan dynasties. Sometimes this course is offered in a distance-only format. Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 545.01. GE historical study course.</td>
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<tr>
<td>3403</td>
<td>History of Early Modern China: 14th-18th century</td>
<td>U</td>
<td>Introduction to political, social, cultural, and economic developments from 14th to 18th century, mainly the Ming and early Qing dynasty. Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 545.02. GE historical study course.</td>
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<tr>
<td>3404</td>
<td>Modern China 1750-1949</td>
<td>U</td>
<td>History of Modern China, circa 1750 to 1949; emphasis on state and society (politics, military affairs, economics, social structure, and culture). Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 545.03. GE historical study and diversity global studies course.</td>
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<tr>
<td>3405</td>
<td>Contemporary China 1921-2000</td>
<td>U</td>
<td>History of Contemporary China from 1921 to 2000; emphasis on Communist Party, state and society (politics, military affairs, economics, social structure, and culture). Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 545.04. GE historical study and diversity global studies course.</td>
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<tr>
<td>3410</td>
<td>Studies in Chinese History</td>
<td>U</td>
<td>Topics and issues in any period of Chinese history contingent on interests of faculty and students; usually this course emphasizes readings and discussions. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 546. Repeatable to a maximum of 9 or hrs. GE historical study and diversity global studies course.</td>
<td></td>
</tr>
<tr>
<td>3411</td>
<td>Gender and Sexuality in China</td>
<td>U</td>
<td>Introduction to gender and sexuality in China, including Confucian gender ideology, changes in marriage, family, sexual morality, and work from pre-modern to modern period. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.</td>
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<tr>
<td>3425</td>
<td>History of Japan Before 1800</td>
<td>U</td>
<td>History of Japan to 19th century; emphasis on religion, politics, economic development, social structure and culture. Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 548.01. GE historical study course.</td>
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<tr>
<td>3426</td>
<td>History of Modern Japan</td>
<td>U</td>
<td>Japanese history since 1800; politics, economics, intellectual change, foreign relations. International scientific, technological and cultural interaction, World War II, Japanese contributions to global culture featured. Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 548.02. GE historical study course.</td>
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<tr>
<td>3435</td>
<td>History of Early Modern Korea</td>
<td>U</td>
<td>Examines the development of Korea from ancient times through the turn of the 20th century. Sometimes this course is taught in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.</td>
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</tr>
<tr>
<td>3436</td>
<td>History of Modern Korea</td>
<td>U</td>
<td>Modern Korean History, with focus on the legacy of colonialism, the Korean War, the impact of the Cold War, divided Korea, the growth of competing national ideologies and economic systems, and the recent military crises. Sometimes taught at distance. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.</td>
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<tr>
<td>3455</td>
<td>Jewish Life from the Renaissance to the Early Enlightenment</td>
<td>U</td>
<td>Life and thought of European and Mediterranean Jews in the early modern period. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx, and any History 2000-level course, or permission of instructor. Not open to students with credit for 531.02, 531.03, or JewshSt 3455. GE historical study course. Cross-listed in JewshSt.</td>
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<tr>
<td>3460</td>
<td>European Jewish History, 1789-1989</td>
<td>U</td>
<td>Study of European Jewish Communities from the French Revolution through the end of the Cold War. Prereq: English 1110.xx, and any History 2000-level course, or permission of instructor. Not open to students with credit for 530.03 or JewshSt 3460. GE historical study course. Cross-listed in JewshSt.</td>
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<tr>
<td>3465</td>
<td>American Jewish History</td>
<td>U</td>
<td>Study of topics in American Jewish history from the colonial era to the present. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx, and any History 2000-level course, or permission of instructor. Not open to students with credit for 530.04 or JewshSt 3465. GE historical study course. Cross-listed in JewshSt.</td>
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<tr>
<td>3470</td>
<td>Messiahs and Messianism in Jewish History</td>
<td>U</td>
<td>The history of Jewish messianic ideas and of Jewish messianic leadership from ancient to modern times. Prereq: English 1110.xx, and any History 2000-level course, or permission of instructor. Not open to students with credit for 531.01 or JewshSt 3470. GE historical study course. Cross-listed in JewshSt.</td>
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<tr>
<td>3500</td>
<td>U.S. Diplomacy from Independence to 1920</td>
<td>U</td>
<td>The formulation of U.S. foreign policy and foreign relations around the world from the independence of the republic to the aftermath of World War I. Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 583.01. GE historical study course.</td>
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<tr>
<td>3501</td>
<td>U.S. Diplomacy, 1920-Present</td>
<td>U</td>
<td>The formulation of U.S. foreign policy and foreign relations around the world from the aftermath of World War I to the modern day. Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 583.02. GE historical study course.</td>
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<tr>
<td>3505</td>
<td>U.S. Diplomacy in the Middle East</td>
<td>U</td>
<td>Survey of U.S. foreign policy in the Middle East emphasizing the Cold War, Arab-Israeli conflict, Iran, and wars against Iraq. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx, and any History 2000-level course, or permission of instructor. Not open to students with credit for JewshSt 3505. GE historical study and diversity global studies course. Cross-listed in JewshSt.</td>
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</table>
3525 19th Century European International History U 3

History of the international relations and diplomacy of Europe from the French Revolution to the First World War.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 581.01. GE historical study course.

3526 20th-Century European International History U 3

Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 581.02. GE historical study course.

3540 Modern Intelligence History U 3

This course examines the role of diplomatic and military intelligence in the making of policy in modern history.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 584. GE historical study course.

3550 War in World History, 500-1650 U 3

Study of the causes, conduct, and consequences of warfare around the world, 500-1650.
Sometimes this course is offered in a distance-only format.
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3551 War in World History, 1651-1899 U 3

Study of the causes, conduct, and consequences of warfare around the world, 1650-1899.
Sometimes this course is offered in a distance-only format.
Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 582.01. GE historical study course.

3552 War in World History, 1900 - Present U 3

Study of the causes, conduct, and consequences of warfare around the world, 1900-present.
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 580.02. GE historical study course.

3560 American Military History, 1607-1902 U 3

American military history, 1607-1902; emphasis on the formation of national security policy, war-waging, and the reciprocal impact of society and military institutions.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 582.02. GE historical study course.

3561 American Military History, 1902 to the Present U 3

American military history, 1902 to the present; emphasis on the formation of national security policy, war-waging, and the reciprocal impact of society and military institutions.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 582.02. GE historical study course.

3570 World War II U 3

Study of the causes, conduct, and consequences of World War II.
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 307. GE historical study and diversity global studies course.

3580 The Vietnam War U 3

Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 308. GE historical study and diversity global studies course.

3590 Wars of Empire U 3

This course examines the means, methods, challenges and results of military encounters between modern imperial powers and indigenous forces they met on the battlefield.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 381. GE historical study course.

3600 Studies in Women’s and Gender History U 3

In-depth analysis of selected topics in American, European, and/or Third World women's history; topic varies by semester.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Repeatable to a maximum of 12 or hrs. GE historical study course.

3612 Asian American Women: Race, Sex, & Representations U 3

Examines the experiences and cultural representations of Asian American women for insight into race, gender, sexuality, and citizenship in U.S. society. Sometimes this course is offered in a distance-only format.
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity soc div in the US course. Cross-listed in WGSST 4401.

3620 Lesbian, Gay, Bisexual, and Transgender History in the United States, 1940-Present U 3

An overview of LGBT culture and history in the U.S. from 1940 to the present. Students will examine changes in LGBT lives and experiences during the last half of the 20th century and the beginning of the 21st century, as well as the intersections of race, sexuality, and class, and how these categories have affected sexual minority communities and broader US law and culture.
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity soc div in the US course.

3630 Same-Sex Sexuality in a Global Context U 3

History of same-sex love and sexuality in comparative geographical and chronological contexts.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 523. GE historical study course.

3640 Medieval Women: Power, Piety, and Production U 3

Investigation of the lives and experiences of medieval European women, with special focus on political power, religious life, work, and family life.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 524. GE historical study course.

3641 Women and Gender in Early Modern Europe: 1450-1750 U 3

Investigation of the lives and experiences of early modern European women, with special focus on family life, gender, work, education, religious life, and political power.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 525. GE historical study course.

3642 Women in Modern Europe, from the 18th century to the Present U 3

Study of women's lives and activism emphasizing the ways in which economic position, religion, sexuality, marital status, regional and national differences influenced their experiences.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 524. GE historical study course.

3650 Families in Historical Perspective U 3

Comparative and transnational analysis of family history. Focus on questions of gender, sexuality, culture, religion, and economy as they intersect with families and households.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 527. GE historical study course.

3675 How to Stage a Revolution U 3

Compares revolutionary movements in order to help explain why some fail and some succeed. Sometimes this course is offered in a distance-only format.
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3700 American Environmental History U 3

The history of American ecosystems from the last Ice Age to the present; focuses on historical debates over the causes and consequences of environmental change.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 306.02. GE historical study course.

3701 History of American Medicine U 3

Survey of the history of American medicine from the Colonial period through the twentieth century.
Prereq or concur: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Not open to students with credit for 582. GE historical study course.

3704 HIV: From Microbiology to Macrohistory U 3

This course is an interdisciplinary exploration of HIV/AIDS, tracing the evolution of the virus at both the molecular level and within its global historical context. This course is team-taught by a virologist and a historian.
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for Microbio 3704. Cross-listed in Microbio.

3705 History of Capitalism in Comparative and Global Perspective U 3

An historical comparison of the development of modern forms of capitalism globally.
Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 587.01. GE historical study course.

3710 European Environmental History U 3

Environmental history of Europe from ancient to modern times. Sometimes this course is offered in a distance-only format.
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3711 Science and Society in Early Modern Europe U 3

A survey of the history of science and its place and relationship to European society in the early modern period.
Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 520.01. GE historical study course.
3712 Science and Society in Modern Europe U 3
History of science in modern Europe from Scientific Revolution to contemporary climate change and genetics. Prereq or concur: Any 2000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 520.02. GE historical study course.

3715 Explorations of Science, Technology and the Environment in East Asia U 3
Case studies in the Development of Science, Technology and Environmental Change in the East Asian context, pre-modern to modern times. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for 587.02. GE historical study and diversity global studies course.

3720 Environmental History of Ancient Greece and Rome U 3
A historical examination of interactions between the environment and human activity in the ancient Greece and Rome. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3750 Race, Ethnicity, and Nation in Global Perspective U 3
An overview of theories of race, ethnicity, and nation in varying historical periods and in a global context. Sometimes this course is offered in a distance-only format. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies course.

3797 Study at a Foreign Institution U 1 - 6
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: English 1110 or equiv, and course work in History at the 2000 level, or permission of instructor. Repeatable to a maximum of 27 cr hrs or 9 completions.

3798.01 Study Tour U 1 - 6
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.

3798.02 The U.S., Europe, and the Second World War: Intersections in 20th Century History U 3
Study Tour in Europe exploring the history of World War II, the United States, and Europe. Prereq: English 1110.xx, History 2015, 3070, 4795, and French 3801; or permission of instructor. GE historical study and diversity global studies and education abroad course.

3798.03 Shanghai, 1750 to 2050: History, Culture, and Language U 3
The Shanghai Study Tour will present students with general empirical information and interpretations about the history of Shanghai and China. Students will study the history, culture, and language of Shanghai, "up close and personal," by taking classes at East China Normal University, visiting major historical sites in Shanghai, and by living in China. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies and education abroad course.

3798.04 Global Hotspots of the Early Modern World: Buenos Aires U 3
Through the study of 18th century Buenos Aires, this course will inform students about the emergence of cities that connected old and New Worlds and that served as places of innovation in commerce, political structures, and ideas. Students will benefit from international travel experience and exposure, and will acquire new depth of knowledge about the history of global interconnectedness. Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. GE historical study and diversity global studies and education abroad course.

3800E Introduction to Historical Research U 1 - 6
Research strategies and techniques to write an honors thesis and prepare research posters (such as for the Denman competition). Prereq: Honors standing. Prereq or concur: English 1110.xx. Not open to students with credit for 399H.

3800H Introduction to Historical Research U 1 - 6
Research strategies and techniques to write an honors thesis and prepare research posters (such as for the Denman competition). Sometimes this course is offered in a distance-only format. Prereq: Honors standing. Prereq or concur: English 1110.xx. Not open to students with credit for 399H.

4000 Readings in Early American History U 3
Advanced readings on selected topics in Early American History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4000E Readings in Early American History U 3
Advanced readings on selected topics in Early American History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4000H Readings in Early American History U 3
Advanced readings on selected topics in Early American History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4005 Research Seminar in Early American History U 3
Advanced research and writing on selected topics in Early American History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4005E Research Seminar in Early American History U 3
Advanced research and writing on selected topics in Early American History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4005H Research Seminar in Early American History U 3
Advanced research and writing on selected topics in Early American History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4010 Readings in Modern U.S. History U 3
Advanced readings on selected topics in Modern U.S. History. Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4010E Readings in Modern U.S. History U 3
Advanced readings on selected topics in Modern U.S. History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4010H Readings in Modern U.S. History U 3
Advanced readings on selected topics in Modern U.S. History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4015 Research Seminar in Modern U.S. History U 3
Advanced research and writing on selected topics in Modern U.S. History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4015E Research Seminar in Modern U.S. History U 3
Advanced research and writing on selected topics in Modern U.S. History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4015H Research Seminar in Modern U.S. History U 3
Advanced research and writing on selected topics in Modern U.S. History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4080 Readings in African American History U 3
Advanced readings on selected topics in African American History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4080E Readings in African American History U 3
Advanced readings on selected topics in African American History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4080H Readings in African American History U 3
Advanced readings on selected topics in African American History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4085 Research Seminar in African American History U 3
Advanced research and writing on selected topics in African American History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4085E Research Seminar in African American History U 3
Advanced research and writing on selected topics in African American History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.
4090  Readings in Atlantic World History  U  3
Advanced readings on selected topics in Atlantic World History. Sometimes this course is offered in a distance-only format.
Prereq or concr: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4090E Readings in Atlantic World History  U  3
Advanced readings on selected topics in Atlantic World History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4090H Readings in Atlantic World History  U  3
Advanced readings on selected topics in Atlantic World History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4095 Research Seminar in Atlantic World History  U  3
Advanced research and writing on selected topics in Atlantic World History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4095E Research Seminar in Atlantic World History  U  3
Advanced research and writing on selected topics in Atlantic World History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4095H Research Seminar in Atlantic World History  U  3
Advanced research and writing on selected topics in Atlantic World History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4100 Readings in Latin American History  U  3
Advanced readings on selected topics in Latin American History.
Prereq or concr: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4100E Readings in Latin American History  U  3
Advanced readings on selected topics in Latin American History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4100H Readings in Latin American History  U  3
Advanced readings on selected topics in Latin American History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4125 Research Seminar in Latin American History  U  3
Advanced research and writing on selected topics in Latin American History.
Prereq or concr: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4125E Research Seminar in Latin American History  U  3
Advanced research and writing on selected topics in Latin American History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4125H Research Seminar in Latin American History  U  3
Advanced research and writing on selected topics in Latin American History.
Prereq or concr: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4193.01 Individual Studies  U  1 - 6
Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest.
Prereq: English 1110.xx and any History 3000-level course, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions.

4193.02 Individual Studies  U  1 - 6
Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest.
Prereq: English 1110.xx and any History 3000-level course, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded SU/NR.

4194 Advanced Undergraduate Group Studies  U  1 - 6
Advanced Undergraduate Group Studies. Sometimes this course is offered in a distance-only format.
Prereq or concr: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.

4210 Readings in Greek History  U  3
Advanced readings on selected topics in Greek History.
Prereq or concr: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4210E Readings in Greek History  U  3
Advanced readings on selected topics in Greek History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4210H Readings in Greek History  U  3
Advanced readings on selected topics in Greek History.
Prereq or concr: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4211 Readings in Roman History  U  3
Advanced readings on selected topics in Roman History.
Prereq or concr: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4211E Readings in Roman History  U  3
Advanced readings on selected topics in Roman History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4211H Readings in Roman History  U  3
Advanced readings on selected topics in Roman History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4212 Readings in Late Antiquity  U  3
Advanced readings on selected topics in Late Antiquity.
Prereq or concr: English 1110.xx, any 3000-level History course, and enrollment in History major; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4212E Readings in Late Antiquity  U  3
Advanced readings on selected topics in Late Antiquity.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4212H Readings in Late Antiquity  U  3
Advanced readings on selected topics in Late Antiquity.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Not open to students with credit for 598, 598.01, 598.02, or 598H. Repeatable to a maximum of 6 cr hrs.

4213 Readings in Byzantine History  U  3
Advanced readings on selected topics in Byzantine History.
Prereq or concr: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4213E Readings in Byzantine History  U  3
Advanced readings on selected topics in Byzantine History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4213H Readings in Byzantine History  U  3
Advanced readings on selected topics in Byzantine History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4215 Research Seminar in Greek History  U  3
Advanced research and writing on selected topics in Greek History.
Prereq or concr: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4215E Research Seminar in Greek History  U  3
Advanced research and writing on selected topics in Greek History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4215H Research Seminar in Greek History  U  3
Advanced research and writing on selected topics in Greek History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4216 Research Seminar in Roman History  U  3
Advanced research and writing on selected topics in Roman History.
Prereq or concr: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4216E Research Seminar in Roman History  U  3
Advanced research and writing on selected topics in Roman History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4216H Research Seminar in Roman History  U  3
Advanced research and writing on selected topics in Roman History.
Prereq or concr: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.
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4217 Research Seminar in Late Antiquity U 3
Advanced research and writing on selected topics in Late Antiquity. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4217E Research Seminar in Late Antiquity U 3
Advanced research and writing on selected topics in Late Antiquity. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4217H Research Seminar in Late Antiquity U 3
Advanced research and writing on selected topics in Late Antiquity. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4218 Research Seminar in Byzantine History U 3
Advanced research and writing on selected topics in Byzantine History. Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4218E Research Seminar in Byzantine History U 3
Advanced research and writing on selected topics in Byzantine History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4218H Research Seminar in Byzantine History U 3
Advanced research and writing on selected topics in Byzantine History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4220 Readings in Medieval History U 3
Advanced readings on selected topics in Medieval History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4220E Readings in Medieval History U 3
Advanced readings on selected topics in Medieval History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4220H Readings in Medieval History U 3
Advanced readings on selected topics in Medieval History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4235 Research Seminar in Medieval History U 3
Advanced research and writing on selected topics in Medieval History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4235E Research Seminar in Medieval History U 3
Advanced research and writing on selected topics in Medieval History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4235H Research Seminar in Medieval History U 3
Advanced research and writing on selected topics in Medieval History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx, or permission of instructor. Not open to students with credit for 598H, 598H.01, or 598H.02. Repeatable to a maximum of 6 cr hrs.

4240 Readings in Early Modern European History U 3
Advanced readings on selected topics in Early Modern European History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4240E Readings in Early Modern European History U 3
Advanced readings on selected topics in Early Modern European History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4240H Readings in Early Modern European History U 3
Advanced readings on selected topics in Early Modern European History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4245 Research Seminar in Early Modern European History U 3
Advanced research and writing on selected topics in Early Modern European History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4245E Research Seminar in Early Modern European History U 3
Advanced research and writing on selected topics in Early Modern European History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4245H Research Seminar in Early Modern European History U 3
Advanced research and writing on selected topics in Early Modern European History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4250 Readings in Modern European History U 3
Advanced readings on selected topics in Modern European History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4250E Readings in Modern European History U 3
Advanced readings on selected topics in Modern European History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4250H Readings in Modern European History U 3
Advanced readings on selected topics in Modern European History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4255 Research Seminar in Modern European History U 3
Advanced research and writing on selected topics in Modern European History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4255E Research Seminar in Modern European History U 3
Advanced research and writing on selected topics in Modern European History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4255H Research Seminar in Modern European History U 3
Advanced research and writing on selected topics in Modern European History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx, or permission of instructor. Not open to students with credit for 598, 598H, 598H.01, or 598H.02. Repeatable to a maximum of 6 cr hrs.

4260 Readings in Russian, E European and Eurasian History U 3
Advanced readings on selected topics in Russian, E European and Eurasian History. Prereq or concur: English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4260E Readings in Russian, E European and Eurasian History U 3
Advanced readings on selected topics in Russian, E European and Eurasian History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4260H Readings in Russian, E European and Eurasian History U 3
Advanced readings on selected topics in Russian, E European and Eurasian History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4265 Research Seminar in Russian, E European and Eurasian History U 3
Advanced research and writing on selected topics in Russian, E European and Eurasian History. Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4265E Research Seminar in Russian, E European and Eurasian History U 3
Advanced research and writing on selected topics in Russian, E European and Eurasian History. Prereq or concur: Honors standing, and English 1110 or equiv, and course work in History at the 3000 level, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4265H Research Seminar in Russian, E European and Eurasian History U 3
Advanced research and writing on selected topics in Russian, E European and Eurasian History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4300 Readings in African History U 3
Advanced readings on selected topics in African History. Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4300E Readings in African History U 3
Advanced readings on selected topics in African History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4300H Readings in African History U 3
Advanced readings on selected topics in African History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx, or permission of instructor. Repeatable to a maximum of 6 cr hrs.
4325  Research Seminar in African History  U  3
Advanced research and writing on selected topics in African History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4325E  Research Seminar in African History Embedded  U  3
Advanced research and writing on selected topics in African History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4325H  Research Seminar in African History Honors  U  3
Advanced research and writing on selected topics in African History Honors.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4350  Readings in Islamic History  U  3
Advanced readings on selected topics in Islamic History.
Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4350E  Readings in Islamic History  U  3
Advanced readings on selected topics in Islamic History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4350H  Readings in Islamic History  U  3
Advanced readings on selected topics in Islamic History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4375  Research Seminar in Islamic History  U  3
Advanced research and writing on selected topics in Islamic History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4375E  Research Seminar in Islamic History  U  3
Advanced research and writing on selected topics in Islamic History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4375H  Research Seminar in Islamic History  U  3
Advanced research and writing on selected topics in Islamic History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4390  Readings in South Asian History  U  3
Advanced readings on selected topics in South Asian History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4390E  Readings in South Asian History  U  3
Advanced readings on selected topics in South Asian History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4390H  Readings in South Asian History  U  3
Advanced readings on selected topics in South Asian History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4395  Research Seminar in South Asian History  U  3
Advanced research and writing on selected topics in South Asian History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4395E  Research Seminar in South Asian History  U  3
Advanced research and writing on selected topics in South Asian History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4395H  Research Seminar in South Asian History  U  3
Advanced research and writing on selected topics in South Asian History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4400  Readings in Chinese History  U  3
Advanced readings on selected topics in Chinese History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4400E  Readings in Chinese History  U  3
Advanced readings on selected topics in Chinese History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4400H  Readings in Chinese History  U  3
Advanced readings on selected topics in Chinese History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4410  Research Seminar in Chinese History  U  3
Advanced research and writing on selected topics in Chinese History.
Prereq or concur: English 1110.xx, any 3000-level History course, and enrollment in History major; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4410E  Research Seminar in Chinese History  U  3
Advanced research and writing on selected topics in Chinese History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4410H  Research Seminar in Chinese History  U  3
Advanced research and writing on selected topics in Chinese History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4425  Readings in Japanese History  U  3
Advanced readings on selected topics in Japanese History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4425E  Readings in Japanese History  U  3
Advanced readings on selected topics in Japanese History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4425H  Readings in Japanese History  U  3
Advanced readings on selected topics in Japanese History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4430  Research Seminar in Japanese History  U  3
Advanced research and writing on selected topics in Japanese History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4430E  Research Seminar in Japanese History  U  3
Advanced research and writing on selected topics in Japanese History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4430H  Research Seminar in Japanese History  U  3
Advanced research and writing on selected topics in Japanese History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4450  Readings in Jewish History  U  3
Advanced readings on selected topics in Jewish History.
Prereq: English 1110.xx, and any History 3000-level course; or permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in JewshSt.

4450E  Readings in Jewish History  U  3
Advanced readings on selected topics in Jewish History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

4450H  Readings in Jewish History  U  3
Advanced readings on selected topics in Jewish History.
Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4475  Research Seminar in Jewish History  U  3
Advanced research and writing on selected topics in Jewish History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in JewshSt.

4475E  Research Seminar in Jewish History  U  3
Advanced research and writing on selected topics in Jewish History.
Prereq: Honors standing, and English 1110.xx, and any History 3000-level course; or permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in JewshSt.

4475H  Research Seminar in Jewish History  U  3
Advanced research and writing on selected topics in Jewish History.
Prereq: Honors standing, and English 1110.xx, and any History 3000-level course; or permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in JewshSt.

4500  Readings in International History  U  3
Advanced readings on selected topics in International History.
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.
Readings in International History  
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.

Readings in World/Global/Transnational History  
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

Readings in Women's/Gender History  
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

Research Seminar in International History  
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

Research Seminar in World/Global/Transnational History  
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

Research Seminar in Women's/Gender History  
Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>4705H</td>
<td>Research Seminar in the History of Environment, Technology, and Science</td>
<td>U 3</td>
<td>Advanced research and writing on selected topics in Environmental History, Technology, and Science. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>472S</td>
<td>Readings in the History and Theory of the State</td>
<td>U 3</td>
<td>Advanced readings on selected topics in the History and Theory of the State. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4725E</td>
<td>Readings in the History and Theory of the State</td>
<td>U 3</td>
<td>Advanced readings on selected topics in the History and Theory of the State. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Not open to students with credit for 598, 598H, 598.01, or 598.02. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>4725H</td>
<td>Readings in the History and Theory of the State</td>
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<td>Advanced readings on selected topics in the History and Theory of the State. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>4730</td>
<td>Research Seminar in the History and Theory of the State</td>
<td>U 3</td>
<td>Advanced research and writing on selected topics in the History and Theory of the State. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>4730E</td>
<td>Research Seminar in the History and Theory of the State</td>
<td>U 3</td>
<td>Advanced research and writing on selected topics in the History and Theory of the State. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>4730H</td>
<td>Research Seminar in the History and Theory of the State</td>
<td>U 3</td>
<td>Advanced research and writing on selected topics in the History and Theory of the State. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4790</td>
<td>Readings in History</td>
<td>U 3</td>
<td>Advanced readings on selected topics in History. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>4790E</td>
<td>Readings in History</td>
<td>U 3</td>
<td>Advanced readings on selected topics in History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4790H</td>
<td>Readings in History</td>
<td>U 3</td>
<td>Advanced readings on selected topics in History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4795</td>
<td>Research Seminar in History</td>
<td>U 3</td>
<td>Advanced research and writing on selected topics in History. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>4795E</td>
<td>Research Seminar in History</td>
<td>U 3</td>
<td>Advanced research and writing on selected topics in History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>4795H</td>
<td>Research Seminar in History</td>
<td>U 3</td>
<td>Advanced research and writing on selected topics in History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4797</td>
<td>Study at a Foreign Institution</td>
<td>U 1 - 6</td>
<td>An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>4798</td>
<td>Study Tour</td>
<td>U 1 - 6</td>
<td>Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
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<tr>
<td>4881</td>
<td>Interdepartmental Seminar</td>
<td>U 1 - 6</td>
<td>Two or more departments may collaborate in seminars on pressing subjects of mutual interest; topics to be announced. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research in History</td>
<td>U 1 - 6</td>
<td>Undergraduate research in history. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4998E</td>
<td>Honors Undergraduate Research in History</td>
<td>U 1 - 6</td>
<td>Honors undergraduate research in History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.</td>
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<tr>
<td>4998H</td>
<td>Honors Undergraduate Research in History</td>
<td>U 1 - 6</td>
<td>Honors undergraduate research in History. Prereq or concur: Honors standing, and any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999</td>
<td>Undergraduate Research Thesis</td>
<td>U 1 - 6</td>
<td>Informal conferences to allow full scope to the initiative of the student; a special topic is assigned and results are tested by papers and special examinations. Prereq or concur: Any 3000-level History course, and English 1110.xx; or permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5000</td>
<td>Special Topics in Early American History</td>
<td>U G 3</td>
<td>Advanced course in Early American History. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
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<tr>
<td>5010</td>
<td>Special Topics in Modern U.S. History</td>
<td>U G 3</td>
<td>Advanced course in Modern U.S. History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>5080</td>
<td>Special Topics in African American History</td>
<td>U G 3</td>
<td>Advanced course in African American History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>5090</td>
<td>Special Topics in Atlantic World History</td>
<td>U G 3</td>
<td>Advanced course in Atlantic World History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>5100</td>
<td>Special Topics in Latin American History</td>
<td>U G 3</td>
<td>Advanced course in Latin American History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>5194</td>
<td>Combined Undergrad and Grad Group Studies</td>
<td>U G 1 - 6</td>
<td>The investigation of particular problems in various fields of History. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
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<tr>
<td>5210</td>
<td>Special Topics in Greek History</td>
<td>U G 3</td>
<td>Advanced course in Greek History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
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<tr>
<td>5211</td>
<td>Special Topics in Roman History</td>
<td>U G 3</td>
<td>Advanced course in Roman History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>5212</td>
<td>Special Topics in Late Antique History</td>
<td>U G 3</td>
<td>Advanced course in Late Antique History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>5213</td>
<td>Special Topics in Byzantine History</td>
<td>U G 3</td>
<td>Advanced course in Byzantine History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
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</tbody>
</table>
5230 Special Topics in Medieval History U G 3
Advanced course in Medieval History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5240 Special Topics in Early Modern European History U G 3
Advanced course in Early Modern European History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5250 Special Topics in Modern European History U G 3
Advanced course in Modern European History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5280 Special Topics in Russian, East European, and Eurasian History U G 3
Advanced course in Russian, East European, and Eurasian History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5300 Special Topics in African History U G 3
Advanced course in African History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5350 Special Topics in Islamic History U G 3
Advanced course in Islamic History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5390 Special Topics in South Asian History U G 3
Advanced course in South Asian History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5400 Special Topics in Chinese History U G 3
Advanced course in Chinese History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5425 Special Topics in Japanese History U G 3
Advanced course in Japanese History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5450 Special Topics in Jewish History U G 3
Advanced course in Jewish History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5500 Special Topics in International History U G 3
Advanced course in International History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5550 Special Topics in Military History U G 3
Advanced course in Military History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5600 Special Topics in Women's/Gender History U G 3
Advanced course in Women's/Gender History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5650 Special Topics in World/Global/Transnational History U G 3
Advanced course in World/Global/Transnational History. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5660 Special Topics in the History of Religion. U G 3
Advanced course in the History of Religion. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5700 Special Topics in the History of Environment, Technology, and Science U G 3
Advanced course in the History of Environment, Technology, and Science. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5725 Special Topics in the History and Theory of the State U G 3
Advanced course in the History and Theory of the State. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5750 Special Topics in the History of Ethnicity, Race, and the Nation U G 3
Advanced course in the History of Ethnicity, Race, and the Nation. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5775 Special Topics in the History of Colonialism and Empire U G 3
Advanced course in the History of Colonialism and Empire. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5790 Special Topics in History U G 3
Advanced course in Historical Study. Topics Vary. Prereq or concur: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5900 Introduction to Quantitative Methods in History U G 3
Prepares students to use quantitative methods in historical research and to take intermediate courses in statistics and data analysis. Prereq: Any 3000-level History course, and English 1110.xx; or Grad standing; or permission of instructor. Not open to students with credit for 596.

6193.01 Independent Study in History G 1 - 6
The investigation of particular problems in various fields of history through graduate-level individual studies. Prereq: Grad standing. Not open to students with credit for 791. Repeatable to a maximum of 15 cr hrs or 5 completions.

6193.02 Independent Study in History G 1 - 6
The investigation of particular problems in various fields of history through graduate-level individual studies. Prereq: Grad standing. Not open to students with credit for 791. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

6194 Graduate Group Studies G 1 - 6
The investigation of particular problems in various fields of history. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs or 4 completions.

6999 Master's Thesis Research G 1 - 12
Research for Master's thesis. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.

7000 Studies in Early American History to 1877 G 1 - 6
Graduate readings in selected topics in Early American history to 1877. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7001 Graduate Readings in Colonial America G 1 - 6
Readings in the historical literatures of Colonial America in its Atlantic World context to 1763. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7002 Graduate Readings in the American Revolution and Early Republic G 1 - 6
Readings in the historical literatures of the American Revolution and early nation-building through approximately 1800. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7003 Graduate Readings in the Early Republic & Antebellum America G 1 - 6
Reading in the historical literatures of the Early and Antebellum Republics from approximately 1800 through the 1850s. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7004 Graduate Readings in Civil War and Reconstruction G 1 - 6
Graduate reading in the historical literatures of the era of Civil War and Reconstruction, from the 1840s to 1877. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7010 Themes in Recent U.S. History G 1 - 6
Readings colloquium in selected themes in the history of the United States Since 1877. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7011 Historiography of Modern U.S. I G 1 - 6
Readings in Modern US history, 1877-1945. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7012 Historiography of Modern U.S. II G 3
Readings in Modern US history, 1945 to present. Prereq: Undergrad requires permission of instructor. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.

7013 Studies in American Legal History G 3
A graduate-level readings colloquium on the literature of American legal history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.
7014 Studies in American Urban History
Graduate Reading Seminar in American Urban History. Chronology and Themes will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7080 Studies in African American History
Readings in black culture, society, politics, and race relations. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AfAmASL.

7081 African Americans in Early America
This intensive reading and discussion seminar explores African American life and culture during the colonial, early national and antebellum eras. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AfAmASL.

7082 African Americans During the 19th Century
This intensive reading and discussion seminar explores African American life and culture from the early national period to the turn of the 20th century. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AfAmASL.

7083 African Americans During the 20th Century
This intensive reading and discussion seminar explores African American life and culture from the Nadir through the start of the new millennium. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AfAmASL.

7084 African American Historiography
This intensive reading and discussion seminar explores the origins and evolution of African American history from the late-eighteenth century to the present. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AfAmASL.

7085 19th-Century African American Political Thought
Charters the political, spiritual and social striving of the Black community during the 19th century, focusing on culture, resistance, and nationalism. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AfAmASL.

7086 The Civil Rights and Black Power Movements
This course examines the origins, evolution, and outcomes of the African American freedom struggle, focusing on the Civil Rights and Black Power movements. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AfAmASL.

7087 Black Women in the United States
A study of historical and related scholarship on the history and experience of black women in the United States. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AfAmASL.

7090 Atlantic World History
Colloquium on Atlantic World History from the 15th century through the early 19th century. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AfAmASL.

7100 Studies in Latin American History
An intensive study of problems in selected periods of Latin American history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7193.01 Independent Study in History
The investigation of particular problems in various fields of history through graduate-level individual studies. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7193.02 Independent Study in History
The investigation of particular problems in various fields of history through graduate-level individual studies. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7210 Graduate Reading Seminar in Ancient History
Graduate seminar, with focus on methodological approaches to ancient history and/or a particular problem or theme in Greek, Roman, late antique, or Byzantine history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.

7230 Studies in Medieval History
Advanced reading course in sources and monographs on the principal issues and problems in medieval history, with a stress on bibliography. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7235 Late Medieval Paleography and Diplomatics
Cursive hands in literature and diplomas, 1200-1500; the development of chanceries; notariats, secretariats, and the science of diplomatics; exercises with facsimiles, slides, and microfilm. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7240 Studies in Early Modern European History
Selected topics in western European history of the 17th and 18th centuries. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.

7243 Colloquium in Early Modern Studies
An exposure to current research topics and methods in early-modern history as exemplified in work presented by invited historians. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7245 Studies in Renaissance and Reformation History
Graduate readings seminar in the European Renaissance or Reformation, 1300 to 1600, emphasizing social, political, economic, and cultural issues throughout Europe. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7250 Studies in 19th Century European History
Readings in 19th Century European History. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7255 Studies in 20th Century European History
This intensive reading course is designed to give graduate students an introduction to historiographical questions in 20th-century European history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7259 European Thought and Culture, 19th-20th Century
Major developments in literature, philosophy, science, and the arts, 19th to 20th century. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7260 Studies in British History
Reading in British History. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7265 Studies in French History
Selected topics in French political, social, cultural, and intellectual history and historiography. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7269 Studies in German History
Graduate readings in German and European history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7275 Studies in Eastern European History
Selected topics in Eastern European political, social, cultural, and intellectual history and historiography, theoretical and comparative emphasis. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.

7280 Studies in Russian, Soviet, and Eurasian History
Graduate readings seminar on Russian, East European, and Eurasian history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.

7300 Introduction to Graduate-Level African History
The study of the historical literature of Africa and various aspects of African history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AAAS 7300.

7301 African Historiography and Methodology
The study of sources, research methods, interpretations, and research trends in the field of African history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs. Cross-listed in AfAmASL.

7302 Comparative History of The African Diaspora and Enslavement and Emancipation
Examination of the dispersal of Africans, mainly through the slave trade across the Sahara, the Indian Ocean, the Mediterranean, and the Atlantic Ocean. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in AAAS 7302.

7303 Comparative History of the African Diaspora and Post-Enslavement, Colonial, & Post-Colonial Reality
Examination of social, political, and cultural developments and realities in the Black world, from the period of the emancipation to the beginning of the 21st century. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs. Cross-listed in AfAmASL.

7304 African Women: History and Socioeconomic Change
Focuses on African women's experiences: legal and socioeconomic status, religious and political roles, the impact of colonial and post colonial developments, feminism and representation issues. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in WGSSt.

7305 Studies in African Religions
Selected topics in any African religion (including Christianity, Islam and indigenous religions). Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.

7309 Studies in Islamic History
Graduate reading seminar on a topic in Islamic history, stressing topical coverage and/or historiography. May be repeated for credit when the topic changes. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7390</td>
<td>Studies in South Asian History</td>
<td>G 1 - 6</td>
<td>Graduate Readings in South Asian History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7400</td>
<td>East Asia and the Pre-Modern World</td>
<td>G 1 - 6</td>
<td>Role of East Asia in the early modern world system, examining the changing relationships between East Asia, Southeast Asia, Central Asia, the European and New World empires. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7401</td>
<td>East Asia and the Modern/Contemporary World</td>
<td>G 1 - 6</td>
<td>East Asia in modern and contemporary contexts: comparisons of / interactions between China, Japan, and Korea; also with Europe, Southeast and Central Asia and the US. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7405</td>
<td>Introduction to Graduate-level East Asian Studies</td>
<td>G 1</td>
<td>The origins, development and current state of East Asian Area Studies in the U.S., including East Asian Studies relationship with other intellectual disciplines. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 797, EALL 7907 (797), or HistArt 6801 (797). This course is graded S/U. Cross-listed in EALL 7907 and HistArt 6801.</td>
</tr>
<tr>
<td>7410</td>
<td>Studies in Pre-Modern Chinese History</td>
<td>G 1 - 6</td>
<td>Intensive study, through reading and discussion, of major issues and recent scholarship in pre-modern Chinese history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7411</td>
<td>Studies in Modern and/or Contemporary Chinese History</td>
<td>G 1 - 6</td>
<td>Intensive study, through reading and discussion, of major issues and recent scholarship in modern and/or contemporary Chinese history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7425</td>
<td>Studies in Japanese History</td>
<td>G 1 - 6</td>
<td>An intensive study, through reading and discussion, of major issues and recent scholarship in Japanese history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7450</td>
<td>Studies in Jewish History</td>
<td>G 1 - 6</td>
<td>An intensive study of selected issues in Jewish history; emphasis on problems posed by available source material and by current research in the area. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>7500</td>
<td>Studies in International History</td>
<td>G 3</td>
<td>Colloquium in International History. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>7550</td>
<td>Studies in Military History</td>
<td>G 3</td>
<td>Studies in military history: emphasis on military institutions and activities in war and peace, along with works of historiographical interest to the military history field. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>7575</td>
<td>Studies in Military Thought and Strategy</td>
<td>G 1 - 6</td>
<td>Analysis and comparison of the most influential writers on the theory and practice of warfare including Thucydides, Machiavelli, Clausewitz, Jomini, Mahan, and Liddell Hart. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7600</td>
<td>Studies in the History of Women and Gender</td>
<td>G 1 - 6</td>
<td>Readings course for graduate students focusing on the history of women and gender. The course content will be international, emphasizing cross-cultural comparisons. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7620</td>
<td>Introduction to the Field of Women's and Gender History</td>
<td>G 1 - 6</td>
<td>Introduction to the field of women's/gender history, including historiography, theory and methods. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7630</td>
<td>Studies in the History of Sexuality</td>
<td>G 1 - 6</td>
<td>International and Interdisciplinary Readings in Sexuality History. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7650</td>
<td>Studies in World History</td>
<td>G 1 - 6</td>
<td>Analysis of seminal works and concepts in the development of global-scaled integrative approaches to world history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7660</td>
<td>Studies in the History of Religion</td>
<td>G 3</td>
<td>An intensive readings course in some aspect of the history of religion; specific topic to be announced. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>7670</td>
<td>Studies in Urban History</td>
<td>G 1 - 6</td>
<td>Seminar in urban history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7700</td>
<td>Graduate Readings in Environmental History</td>
<td>G 1 - 6</td>
<td>Graduate level readings course in the historiography and key themes in environmental history. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7705</td>
<td>Graduate Readings in the History of Technology</td>
<td>G 1 - 6</td>
<td>Graduate level readings in the history of technology. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7710</td>
<td>Graduate Readings in the History of Science</td>
<td>G 1 - 6</td>
<td>Graduate level readings in the History of Science. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7711</td>
<td>Graduate Readings in the History of Medicine and Health</td>
<td>G 3</td>
<td>A graduate readings course that introduces students to the history of medicine and health as a historical field and will explore how work in the history of medicine and health intersects with scholarly insights in other fields. Prereq: Grad standing.</td>
</tr>
<tr>
<td>7725</td>
<td>Graduate Readings In Power, Culture and State</td>
<td>G 1 - 6</td>
<td>Graduate readings in comparative topics in power, culture, and the state. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7750</td>
<td>Comparative Historiographies and Theories in Race, Ethnicity, and Nation</td>
<td>G 3</td>
<td>Graduate reading course that examines the historical scholarship and theories in race, ethnicity, and nation in comparative geographical and chronological contexts. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>7755</td>
<td>The History of the Idea of Race in Europe</td>
<td>G 1 - 6</td>
<td>Examines the use and abuse of ideas of race in Western Europe from the Enlightenment to the present. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7797</td>
<td>Study at a Foreign Institution</td>
<td>G 1 - 6</td>
<td>An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Grad standing, and permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7800</td>
<td>Introduction to Public History</td>
<td>G 1 - 6</td>
<td>Survey of the field of Public History. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7801</td>
<td>Independent Study in Public History</td>
<td>G 1 - 6</td>
<td>Permits individual students, or small groups of students to pursue independent work in public history with a faculty sponsor. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>7884</td>
<td>History of Literacy/Literacy Past and Present</td>
<td>G 1 - 6</td>
<td>Graduate Readings in the History of literacy in ongoing societies and culture; emphasis on changing ideas and impacts of literacy and its acquisition, uses, and consequences. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in English and CompLit.</td>
</tr>
<tr>
<td>7900</td>
<td>Colloquium in the Philosophy of History, Historiography, and the Historian's Skills I</td>
<td>G 3</td>
<td>Colloquium on the principles of historical thought, historiography, and methods of historical research. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>7901</td>
<td>Colloquium in the Philosophy of History, Historiography, and the Historian's Skills II</td>
<td>G 3</td>
<td>Colloquium on the principles of historical thought, historiography, and methods of historical research. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>7902</td>
<td>Graduate Colloquium on Historical Writing</td>
<td>G 1 - 6</td>
<td>Designed to develop skills in historical writing. Prereq: Grad standing.</td>
</tr>
<tr>
<td>7905</td>
<td>Pedagogy &amp; Professional Development</td>
<td>G 1 - 6</td>
<td>Basic ideas and techniques for effective teaching of college history; emphasis on classroom application. Also, professional development, esp. locating funding sources for their study, research, conferences &amp; other professional activities. Prereq: Grad standing. Not open to students with credit for 795.01. This course is graded S/U.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Prerequisites</td>
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<tr>
<td>7910</td>
<td>Prospectus Writing &amp; Professional Development</td>
<td>G 3</td>
<td>Seminar dedicated to researching and writing Dissertation Prospectus. Also review of professional development skills: grant writing, building a resume and planning a career. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8000</td>
<td>Seminar in Early American History to 1877</td>
<td>G 3</td>
<td>Graduate Research Seminar in Early American History to 1877. Topics will vary.</td>
</tr>
<tr>
<td>8010</td>
<td>Seminar in Modern U.S. History</td>
<td>G 3</td>
<td>Graduate Research Seminar in Modern U.S. History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>8080</td>
<td>Seminar in African American History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in African American History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8090</td>
<td>Seminar in Atlantic World History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in Atlantic World History. Sometimes this course is offered in a distance-only format. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8100</td>
<td>Seminar in Latin American History</td>
<td>G 3</td>
<td>Graduate Research Seminar in Latin American History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>8210</td>
<td>Seminar in Ancient History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in Ancient History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8230</td>
<td>Seminar in Medieval History</td>
<td>G 3</td>
<td>Graduate Research Seminar in Medieval History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>8240</td>
<td>Seminar in Early Modern European History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in Early Modern European History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8245</td>
<td>Seminar in Renaissance and Reformation History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in Renaissance and Reformation History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8250</td>
<td>Seminar in Modern European History</td>
<td>G 3</td>
<td>Graduate Research Seminar in Modern European History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8260</td>
<td>Seminar in French History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in French History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8280</td>
<td>Seminar in Russian, East European and Eurasian History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in Russian, East European, and Eurasian History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8300</td>
<td>Seminar in African History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in African History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8390</td>
<td>Seminar in South Asian History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in South Asian History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8400</td>
<td>Seminar in East Asian History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in East Asian History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8410</td>
<td>Chinese History Research Methodology</td>
<td>G 1-6</td>
<td>Introduction to sources and methods in Chinese historical research (pre-modern and modern periods). Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8450</td>
<td>Seminar in Jewish History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in Jewish History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>8500</td>
<td>Seminar in International History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in International and Diplomatic History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8550</td>
<td>Seminar in Military History</td>
<td>G 3</td>
<td>Graduate Research Seminar in Military History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.</td>
</tr>
<tr>
<td>8600</td>
<td>Seminar in Women's/Gender History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in Women's/Gender History. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8630</td>
<td>Seminar in the History of Sexuality</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in the History of Sexuality. Topics will vary. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8801</td>
<td>Seminar in History</td>
<td>G 1-6</td>
<td>Graduate Research Seminar in History. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8811</td>
<td>Interdepartmental Seminar</td>
<td>G 1-6</td>
<td>Two or more departments may collaborate in pressing seminars on subjects of mutual interest. Topics will be announced. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>8999</td>
<td>Dissertation Research</td>
<td>G 1-12</td>
<td>Research for dissertation. Prereq: Grad standing. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>2001</td>
<td>Western Art I: Ancient and Medieval Worlds</td>
<td>U 3</td>
<td>Examination of the history of Western Art from the third millennium BCE to the fifteenth century CE. Prereq: Not open to students with credit for 201 or 210. This course is available for EM credit. GE VPA and historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2001H</td>
<td>Western Art I: Ancient and Medieval Worlds</td>
<td>U 3</td>
<td>Examination of the history of Western Art from the third millennium BCE to the fifteenth century CE. Prereq: Honors standing, or by permission of dept or instructor. Not open to students with credit for 201, 201H, 210, or 210H. This course is available for EM credit. GE VPA and historical study and diversity global studies course. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2002</td>
<td>Western Art II: The Renaissance to the Present</td>
<td>U 3</td>
<td>Examination of the history of art in Europe and the United States, from 1400 to the present. Prereq: Not open to students with credit for 202 or 212. This course is available for EM credit. GE VPA and historical study and diversity global studies course.</td>
</tr>
<tr>
<td>2002H</td>
<td>Western Art II: The Renaissance to the Present</td>
<td>U 3</td>
<td>Examination of the history of art in Europe and the United States, from 1400 to the present. Prereq: Honors standing, or by permission of dept or instructor. Not open to students with credit for 202 or 212H. GE VPA or historical study and diversity global studies course. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2003</td>
<td>Asian Art</td>
<td>U 3</td>
<td>Art of Asian cultures from ancient through contemporary times. Prereq: Not open to students with credit for 213. GE VPA and diversity global studies course.</td>
</tr>
<tr>
<td>2003H</td>
<td>The Art and Visual Culture of East Asia</td>
<td>U 3</td>
<td>Art of East Asian cultures from ancient through contemporary times. Prereq: Honors standing. Not open to students with credit for 203 (213). GE VPA and diversity global studies course.</td>
</tr>
<tr>
<td>2005</td>
<td>History of Latin American Art: Prehispanic and Early Modern</td>
<td>U 3</td>
<td>Examines the art of Latin America from about 1500 BC to 1621, surveying both prehispanic civilizations as well as the era of Spanish and Portuguese rule from first encounters in the New World to the wars of independence in the early nineteenth century. A wide range of objects and images will be discussed, from painting, sculpture, and architecture to ceramics, featherwork, and textiles. GE VPA and historical study course.</td>
</tr>
</tbody>
</table>
264 History of Art

2101 Introduction to African Art and Archaeology  U  3
The Art and Archaeology of Africa with emphasis on the historic cultures of Rock Art (8,000 B.C.), Egypt (3,000 B.C.), Nok (900 B.C.), Igbo-Ukwu (695 A.D.), Ife (1200 A.D.), and Benin (1400-1890 A.D.). Prereq: Not open to students with credit for 216. GE VPA and diversity global studies course. VSP Adm1 Cond course.

2194 Group Studies  U  1 - 3
The investigation of particular problems in various fields of the history of art. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

2301 Classical Archaeology  U  3
Introduction to the principles, methods, and history of archaeological investigation in the ancient Greek and Roman world, illustrated through a selection of major classical sites. Prereq: Not open to students with credit for 240, 306, Class 2301 (Classics 240), or History 2210 (240 or 306), GE cultures and ideas historical study and diversity global studies course. Cross-listed in Classics 2301 and History 2210.

2901 Introduction to World Cinema  U  3
Chronological survey of the most influential and recognized film artists and film movements of the world. Prereq: Not open to students with credit for 260. GE VPA and diversity global studies course.

3002 The History of Western Architecture  U  3
Major buildings of Western Civilization from antiquity to the present in their historical and cultural contexts. Prereq: Not open to students with credit for 250, 300, or more than one course from 201-202 (201-202) or from 210-212 sequences, or Arch 1220 (201), or any course from Arch 5110-5120 (600-602) sequence. GE VPA and diversity global studies course.

3005 Christian Art  U  3
An introduction to the wide range of forms and functions of Christian images and spaces from the origin until 1700. Prereq: Soph standing. Not open to students with credit for 301. GE VPA course.

3102 Arts and Cultures of Africa and the Diaspora  U  3
An overview of African and African diaspora cultures from a historical perspective. Cultural media will include art, literature, film, dance, and photography. Prereq: Not open to students with credit for AMStAS 3376 (376), GE VPA and diversity global studies course. Cross-listed in AMStAS 3376.

3211 Art and Civilization in the Near East  U  3
An examination of the development of the visual arts and architecture of the Near East from the Neolithic Revolution to the Islamic period. Prereq: Soph standing. Not open to students with credit for 305. GE VPA course.

3521 Renaissance Art in Italy  U  3
Art and society in Renaissance Italy. Prereq: Soph standing. Not open to students with credit for 315, 515, 4521 (529), or 4630 (530). GE VPA and diversity global studies course.

3601 19th and 20th-Century European Art  U  3
European Art from about 1800 to the present, with emphasis on the outstanding masters of painting and sculpture. Prereq: Soph standing. Not open to students with credit for 520. GE VPA and diversity global studies course.

3603 Introduction to Modern and Contemporary Latin American Art and Culture  U  3
Provides students with an overview of the major trends and movements of Latin American art and culture from the late 19th to the 21st centuries. GE VPA and diversity global studies course.

3605 History of Photography  U  3
A thematic overview and critical introduction to the main debates and achievements in the history of photography. Prereq: Soph standing. Not open to students with credit for 345. GE VPA course.

3611 Impressionism, Then and Now  U  3
An examination of the emergence and evolution of French Impressionism and its impact on subsequent artistic production from the early 20th century to the present. GE VPA course.

3631 Survey of African American Art  U  3
Covers selected styles, subject matter, and movements in African American art from the late eighteenth century to the present. Prereq: Soph standing, or permission of instructor. Not open to students with credit for 335. GE VPA and diversity global studies course.

3901 World Cinema Today  U  3
An introduction to the art of international cinema today, including its forms and varied content. Prereq: Soph standing, or permission of instructor. Not open to students with credit for 350. GE VPA course.

4001 Writing Seminar in History of Art  U  3
Training in writing a variety of assignments commonly undertaken by art historians. Prereq: History of Art Major. Not open to students with credit for 415.

4005 An Introduction to Artistic Media and Techniques  U  3
A survey of the major historical and contemporary artistic media and techniques. Prereq: History of Art major, or permission of instructor. Not open to students with credit for 450.

4010 An Introduction to the Methods and Theories of Art History  U  3
An introduction to the fundamental methods and theories of art historical investigation. Prereq: History of Art major, or permission of instructor.

4015 Wexner Seminar  U  1 - 3
Seminar offered in conjunction with Wexner Center exhibits, performances, media series, or symposia; may be taught by visiting artists, performers, or critics. Repeatable to a maximum of 9 cr hrs or 3 completions. Cross-listed in CompSt 4560.

4016 Senior Research Seminar in History of Art  U  3
A research seminar required of all History of Art majors designed to develop and perfect their research and writing skills. Prereq: 4001 or 4010, or permission of instructor.

4020 Special Topics in Architecture  U  3
This is a lecture course, the contents of which would change with each offering. Prereq: 2001 (201), or 2002 (202), or permission of instructor. Repeatable to a maximum of 6 cr hrs.

4030 Museum Studies Seminar  U  3
Provide a hands-on exploration of museum exhibitions and how they shape knowledge in the field. Prereq: Permission of instructor. Not open to students with credit for 430.

4050 Art of Paris  U  3
Study of the painting, sculpture, buildings, and public and private spaces created in and for the people of Paris. Prereq: Soph standing. Not open to students with credit for 550.

4121 Contemporary African Art: 1920 to Present  U  3
Survey of the development of 20th-Century African Art. Prereq: Soph standing. Not open to students with credit for 505. GE VPA and diversity global studies course.

4191 Internship in Art History  U  1 - 3
A cooperative education or internship assignment conducted under the supervision of a faculty member. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

4193 Individual Studies  U  1 - 3
Individual study in some field of historical development; designed to allow the student to work on a problem of particular interest. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

4211 Art and Architecture of the Ancient Near East  U  3
A specialized study of the art and archeology of the ancient Near East focusing on the cultures of the Mesopotamian valley and surrounding areas. Prereq: 2001 (201); or permission of instructor. Not open to students with credit for 561 or 562.

4212 Egyptian Art and Archaeology  U  3
A specialized study of the architecture, sculpture, painting, and minor arts of ancient Egypt. Prereq: 2001 (201), or equiv with permission of instructor. Not open to students with credit for 521 or 521.

4301 Art of Ancient Greece and Rome  U  3
Explores the art of Ancient Greece and the Roman world from the early Bronze Age (c. 3000 BCE) through the era of Constantine (337 CE). While focusing on sculpture, painting and architecture, the approach in this course will also employ the methods of a wide variety of disciplines, including art history, archaeology, anthropology, history, epigraphy and Classical philology. Prereq: Not open to students with credit for Classics 4301. Cross-listed in Clas.

4401 Architecture of the Middle Ages  U  3
Cities, monasteries, churches and secular architecture of the Early Christian, Carolingian, Romanesque and Gothic periods in Western Europe within their historical context. Prereq: 2001 (201), or Arch 601, or permission of instructor. Not open to students with credit for 603, or 503.

4411 Early Christian and Byzantine Art  U  3
Art and architecture of the early Christian and Byzantine world from the 3rd through the 15th centuries with special emphasis on the Mediterranean region. Prereq: 2001 (201), or permission of instructor. Not open to students with credit for 524, or 524.

4421 Medieval Art  U  3
Art and architecture of Europe and the Eastern Mediterranean from the 8th to the 15th centuries; focuses on visual culture of monasteries, cathedrals, and castles. Prereq: Soph standing. Not open to students with credit for 603, 625, 651, 525. GE VPA and diversity global studies course.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>4510</td>
<td>Northern Renaissance Art</td>
<td>U 3</td>
<td>Art of Northern Europe from the late 14th to the mid 16th century, with emphasis on the major masters. Prereq: 2001 (201), or 2002 (202), or permission of instructor. Not open to students with credit for 527 or 627.</td>
</tr>
<tr>
<td>4521</td>
<td>Early Renaissance Art in Italy</td>
<td>U 3</td>
<td>An introduction to the art and architecture of 15th century Italy. Prereq: 2002 (202), or equiv with permission of instructor. Not open to students with credit for 529 or 629.</td>
</tr>
<tr>
<td>4522</td>
<td>High Renaissance and Mannerist Art in Italy</td>
<td>U 3</td>
<td>An introduction to the art and architecture of 16th century Italy. Prereq: 2002 (202), or permission of instructor. Not open to students with credit for 531, 630.01 or 630.02.</td>
</tr>
<tr>
<td>4531</td>
<td>17th-Century Art of the Netherlands</td>
<td>U 3</td>
<td>17th Century Dutch and Belgian art: focuses on major artists and various functions of art (propagating religious beliefs, shaping values, defining identities). Prereq: 2001 (201), 2002 (202), or permission of instructor. Not open to students with credit for 533.</td>
</tr>
<tr>
<td>4541</td>
<td>17th-Century Art of Italy and Spain</td>
<td>U 3</td>
<td>17th century Italian and Spanish art architecture: focuses on major artists and various functions of art and architecture. Prereq: 2001 (201), or 2002 (202), or permission of instructor. Not open to students with credit for 523 or 631.</td>
</tr>
<tr>
<td>4550</td>
<td>18th-Century European Art</td>
<td>U 3</td>
<td>Artistic trends in eighteenth century Venice, Rome, Paris and London. Prereq: 2002 (202), or permission of instructor. Not open to students with credit for 534 or 634.</td>
</tr>
<tr>
<td>4605</td>
<td>Aspects of Modernity</td>
<td>U 3</td>
<td>Explores questions of the distinctively &quot;modern&quot; in relation both to particular works of art and to various explicit reflections on broader cultural notions of modernity. The content will change with each offering. Prereq: English 1110 (110), and Soph standing. Not open to students with credit for 340. GE VPA course.</td>
</tr>
<tr>
<td>4610</td>
<td>19th-Century European Art</td>
<td>U 3</td>
<td>A survey of the major developments in European art from the French Revolution until the end of the nineteenth century. Prereq: 2002 (202), or permission of instructor. Not open to students with credit for 535.</td>
</tr>
<tr>
<td>4611</td>
<td>19th-Century European Architecture</td>
<td>U 3</td>
<td>An investigation of architecture from the late 18th century to the end of the 19th century, focusing on issues of Modernism. Prereq: 2002 (202), or permission of instructor. Not open to students with credit for 558 or 607.</td>
</tr>
<tr>
<td>4620</td>
<td>Twentieth-Century European Art</td>
<td>U 3</td>
<td>Historical/Conceptual survey of European art of the twentieth century. Prereq: 2002 (202) or 4605 (340), or permission of instructor. Not open to students with credit for 540.</td>
</tr>
<tr>
<td>4621</td>
<td>Twentieth-Century Architecture</td>
<td>U 3</td>
<td>A historical and conceptual survey of architecture from the late 19th century to the beginning of the 21st. Prereq: 2002 (202), or permission of instructor. Not open to students with credit for 559.</td>
</tr>
<tr>
<td>4625H</td>
<td>Abstract Art</td>
<td>U 3</td>
<td>A study of the underlying principles of abstraction in modern European art. Prereq: Honors standing, and 2001 (201), or 2002 (202), or permission of instructor. Not open to students with credit for 512H.</td>
</tr>
<tr>
<td>4630</td>
<td>American Art</td>
<td>U 3</td>
<td>A study of architecture, painting, and sculpture in America. Prereq: Soph standing, and 2002 (202), and English 1110 (110). Not open to students with credit for 330 or 530. GE VPA course.</td>
</tr>
<tr>
<td>4640</td>
<td>Contemporary Art Since 1945</td>
<td>U 3</td>
<td>Visual arts of Europe and the United States from 1945 to the present. Prereq: 2002 (202), or permission of instructor. Not open to students with credit for 541.</td>
</tr>
<tr>
<td>4701</td>
<td>An Introduction to Buddhist Art and Iconography</td>
<td>U 3</td>
<td>Examines how Buddhist art conveys the ideal of human perfection as the ultimate attainment of Buddhist practice. Prereq: Not open to students with credit for 570. GE cultures and ideas course.</td>
</tr>
<tr>
<td>4810</td>
<td>The Arts of China</td>
<td>U 3</td>
<td>An overview of the visual arts of China and their cultural context from prehistoric times to the modern era. Prereq: Soph standing, or permission of instructor. Not open to students with credit for 576. GE VPA and diversity global studies course.</td>
</tr>
<tr>
<td>4815</td>
<td>Modern and Contemporary Chinese Art</td>
<td>U 3</td>
<td>Modern Chinese art (late 19th century to today) with emphasis on artists, artworks, and their social, artistic, institutional, and theoretical contexts. Prereq: Soph standing. Not open to students with credit for 679.</td>
</tr>
<tr>
<td>4820</td>
<td>The Arts of Japan</td>
<td>U 3</td>
<td>Major trends in the visual arts of Japan, from prehistory through the 19th century. Prereq: English 1110 (110) or 111 or equiv. Not open to students with credit for 582. GE VPA and diversity global studies course.</td>
</tr>
<tr>
<td>4901</td>
<td>Classic Film Theories</td>
<td>U 3</td>
<td>Study of historically important theories of film art. Prereq: Soph standing, or permission of instructor. Not open to students with credit for 546 or 646.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Scholarship: Research and Creative Activity in History of Art</td>
<td>U 1 - 3</td>
<td>Undergraduate research or creative activities in varying topics. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4998H</td>
<td>Undergraduate Research (Honors)</td>
<td>U 1 - 3</td>
<td>Undergraduate research or creative activities in varying topics. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999</td>
<td>Thesis Research</td>
<td>U 1 - 3</td>
<td>Undergraduate research or creative activities in varying topics for an Honors thesis project. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5001</td>
<td>Topics: Western Art</td>
<td>U G 3</td>
<td>Topics to be announced. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>5002</td>
<td>Topics in Asian and Non-Western Art</td>
<td>U G 3</td>
<td>Topics to be announced. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>5060</td>
<td>Alternative Histories</td>
<td>U G 3</td>
<td>An exploration of the strategies and techniques developed by both academic and non-academic historians to re-imagine the past, with an emphasis on interpreting non-alphabetic traces of the past.</td>
</tr>
<tr>
<td>5111</td>
<td>African Art and Archaeology I</td>
<td>U G 3</td>
<td>A study of the art and culture of west Africa with emphasis on stylistic, historic, and archaeological implications. Prereq: 2101 (216), or Grad standing, or permission of instructor. Not open to students with credit for 610.</td>
</tr>
<tr>
<td>5221</td>
<td>Early Islamic Art</td>
<td>U G 3</td>
<td>Introduction to the history of Islamic art and architecture from its formation through the classical age (i.e. from the 7th through the 13th centuries). Prereq: 2001 (201), or 2003 (213), Grad standing, or permission of instructor. Not open to students with credit for 683.</td>
</tr>
<tr>
<td>5222</td>
<td>Later Islamic Art</td>
<td>U G 3</td>
<td>Introduction to the history of Islamic art and architecture in the later period (14th through the 18th centuries) including the Mongol, Timurid, Mamluk, Ottoman, Safavid, and Indo-Muslim art. Prereq: 2001 (201), or 2002 (202), or 2003 (213), or Grad standing, or permission of instructor. Not open to students with credit for 684.</td>
</tr>
<tr>
<td>5311</td>
<td>Art and Archaeology of Preclassical Greece</td>
<td>U G 3</td>
<td>Study of the art and archaeology of Ancient Greece from the early Bronze Age (c. 3000 BCE) through the Archaic period (c. 480 BCE). Prereq: 2001 (201), or S22, or equiv preparation in Classical Studies or Ancient History; or Grad standing. Not open to students with credit for Clas 5311. Cross-listed in Clas.</td>
</tr>
<tr>
<td>5312</td>
<td>Art and Archaeology of Classical Greece</td>
<td>U G 3</td>
<td>Study of the art and archaeology of Greece during the Classical period (c. 480-300 B.C.). Prereq: 2001 (201) or 2002 (202), or Grad standing; or permission of instructor. Not open to students with credit for Clas 5312. Cross-listed in Clas.</td>
</tr>
<tr>
<td>5321</td>
<td>Art and Archaeology of the Hellenistic Mediterranean and Roman Republic</td>
<td>U G 3</td>
<td>Study of the art and archaeology of the Hellenistic Mediterranean, including the Roman Republic. Prereq: 2001 (201) or 523, or equiv, or Grad standing. Not open to students with credit for Clas 5321. Cross-listed in Clas.</td>
</tr>
</tbody>
</table>
5322  Art and Archaeology of the Roman Empire  U G  3
Study of the art and archaeology of Rome and its empire from the accession of Augustus to the time of Constantine (27 BCE-338 CE).
Prereq: 2001 (201) or 2002 (202), or Grad standing, or permission of instructor. Not open to students with credit for Clas 5322. Cross-listed in Clas.

5420  Romanesque and Gothic Art  U G  3
The art of Western Europe from the Carolingian period to the 14th century.
Prereq: 2001 (201), or Grad standing, or permission of instructor. Not open to students with credit for 625.

5422  Medieval and Renaissance Manuscript Illumination  U G  3
A chronological survey of Medieval and Renaissance illuminated manuscripts in the West.
Prereq: 2001 (201), or Grad standing, or permission of instructor. Not open to students with credit for 652.

5430  The Age of Giottto  U G  3
Art of the Late Middle Ages in Western Europe in its social context, with new developments and major artists (Giotto, Duccio, Pucelle, Slater, Parler) emphasized.
Prereq: 2001 (201), or Grad standing, or permission of instructor. Not open to students with credit for 628.

5521  Renaissance Painting in Central Italy  U G  3
A history of the arts of Florence and Rome from 1400 to 1600.
Prereq: 2002 (202), or Grad standing, or permission of instructor.

5522  Renaissance Painting in Venice  U G  3
A detailed introduction to the pictorial arts of Venice from 1400 to 1600.
Prereq: 2002 (202), or Grad standing, or permission of instructor.

5525  The Sacred Image in the Italian Renaissance  U G  3
An intensive investigation of the diverse types and meanings of sacred imagery of the Italian Renaissance.
Prereq: 2002 (202), or Grad standing, or permission of instructor.

5531  17th-Century Dutch Art  U G  3
Major artists, including Rembrandt and Vermeer, and developments of 17th century Dutch art examined with a focus on modes of representation and issues of interpretation.
Prereq: 2002 (202), or 4531 (533), or Grad standing, or permission of instructor. Not open to students with credit for 632 or 633 prior to Au Qtr 1998.

5535  Representations of Power and the Power of Representation in 17th-Century European Art  U G  3
Examination of art and architecture as instruments of power and persuasion and vehicles for shaping identity and fostering cohesion in 17th Century Europe.
Prereq: 4541 (532), 4531 (533), or Sr or Gr standing or permission of instructor. Not open to students with credit for 654.

5551  French Art: The Ancient Regime (1660-1789)  U G  3
The evolution of French architecture, painting and sculpture from the beginning of Louis XIV's reign to the Revolution.
Prereq: 2002 (202), or 4559 (534), or Grad standing, or permission of instructor. Not open to students with credit for 656.

5562  Art and History in Early Modern Latin America, 1492-1820  U G  3
Explores the visual culture of early modern Latin America through studies of wide range of objects—from featherwork shields to beadwork "idols" to paintings on paper and canvas—interpreted from a range of disciplinary (art history, anthropology, history) and theoretical perspectives.

5605  Russian Art of the 19th and 20th Centuries  U G  3
Prereq: Not open to students with credit for 645.01 or 645.02.

5611  European Art in the Age of Revolution, 1774-1851  U G  3
Survey of major trends in European art from the French Revolution until the middle of the 19th Century.
Prereq: 2002 (202), or 4610 (535), or Grad Standing, or permission of instructor. Not open to students with credit for 657.

5612  European Art in the Age of Empire, 1852-1900  U G  3
Survey of major trends in European art from 1852 until the end of the 19th Century.
Prereq: 2002 (202), or 4610 (535), or Grad standing, or permission of instructor. Not open to students with credit for 658.

5621  Post-Impressionism to Dada  U G  3
Survey of major trends in European art from circa 1880 to the aftermath of World War I.
Prereq: 2002 (202), or Grad standing, or permission of instructor. Not open to students with credit for 636.01.

5622  From Dada to Dictatorship  U G  3
European art between the World Wars: Post-Cubism, Dada and Surrealism, Bauhaus and Constructivism, and Abstraction.
Prereq: 2002 (202), or Grad standing, or permission of instructor. Not open to students with credit for 636.02.

5625  Modern Art in Eastern Europe  U G  3
Late 19th and early 20th century art in Czechoslovakia, Poland, Romania, Hungary, and Yugoslavia.
Prereq: Soph or Grad standing, or permission of instructor. Not open to students with credit for 655.

5630  American Architecture  U G  3
Survey of American architecture from the pre-colonial era to the present day.
Prereq: 2002 (202), or Grad standing, or permission of instructor. Not open to students with credit for 636.

5631  American Painting and Sculpture to 1900  U G  3
History of painting and sculpture in America from colonial times to the end of the 19th century.
Prereq: 2002 (202), or English 1110 (110) or 111 or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 637.

5632  American Painting, Photography and Sculpture from 1900 to the Present  U G  3
American painting, sculpture and photography from 1900 to the present.
Prereq: 2002 (202), or English 1110 (110) or 111 or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 638.

5640  Introduction to Contemporary Art Historical Theory  U G  3
Exploration of new theoretical paradigms in art history.
Prereq: Not open to students with credit for 650.

5641  Postmodernism  U G  3
Exploration of the central issues in the claim to the emergence of a distinctly "postmodern" art in the last part of the 20th century.
Prereq: 4620 (540), or 4640 (541), or Grad standing, or permission of instructor. Not open to students with credit for 641.

5643  New Media Art and Theory  U G  3
An investigation of the art and theory of contemporary new media.

5645  Video Art  U G  3
Introduces students to video as an artistic medium by studying its contentious past, multiple forms, and the trajectories of this expanding field.
Prereq: Not open to students with credit for 640.

5711  Art of India I  U G  3
Art and Architecture of India from Pre-Historic Times to circa 1200.
Prereq: Not open to students with credit for 671.

5712  Art of India II  U G  3
Art and Architecture of India from circa 1200 to contemporary times.
Prereq: Not open to students with credit for 672.

5720  Art of Central Asia  U G  3
An analysis of the cross currents of style and iconography that constitute the pre-Muslim art of Central Asia.
Prereq: Not open to students with credit for 673.

5723  Art of Nepal and Tibet  U G  3
A study and analysis of the major aspects of style, iconography, and historical sequences as found in the arts of Nepal and Tibet.
Prereq: Not open to students with credit for 674.

5724  The Buddhist Art of Gandhara and Kashmir  U G  3
Explores the Buddhist art of greater Gandhara and Kashmir, examining in particular its influence on both East Asian and South Asian Art.
Prereq: 2003 (213), or Grad standing, or permission of instructor. Not open to students with credit for 669.

5812  Chinese: Buddhist  U G  3
Examination of the Buddhist arts of China; with emphasis on religious expression and content.
Prereq: English 1110 (110) or 111 or equiv, or Grad standing. Not open to students with credit for 677.02.

5815  The Lyric Journey: Chinese Painting of the Tang and Song Periods (618-1279)  U G  3
A survey of Chinese painting from the Tang and Song Periods (618-1279), with emphasis on style, subject matter, and cultural context.
Prereq: Soph standing. Not open to students with credit for 678.01.

5816  Images of the Mind: Chinese Painting of the Yuan and Ming Periods (1279-1644)  U G  3
A survey of Chinese painting from the Yuan and Ming periods, with emphasis on style, subject matter, and cultural context.
Prereq: Soph or Grad standing, or permission of instructor. Not open to students with credit for 678.02.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Department</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>5821</td>
<td>Japanese Art: Proto-Historic and Buddhist</td>
<td>History of Art</td>
<td>3</td>
<td>Selected topics in the history of Japanese art of the Proto-Historic period in relation to the Buddhist religion. PreReq: English 1110 (110) or 111 or equiv, or Grad standing. Not open to students with credit for 681.</td>
</tr>
<tr>
<td>5901</td>
<td>Silent Cinema, 1895-1927</td>
<td>History of Art</td>
<td>3</td>
<td>A study of the development of silent film as an international art form. PreReq: Soph standing. Not open to students with credit for 647.</td>
</tr>
<tr>
<td>5902</td>
<td>Classical Sound Cinema, 1927-1948</td>
<td>History of Art</td>
<td>3</td>
<td>A study of the development of film as an art form from the advent of sound to WW II. PreReq: Soph standing. Not open to students with credit for 648.</td>
</tr>
<tr>
<td>5903</td>
<td>Recent Cinema, 1948-Present</td>
<td>History of Art</td>
<td>3</td>
<td>A study of film as an art form since WW II. PreReq: Soph standing. Not open to students with credit for 649.</td>
</tr>
<tr>
<td>5905</td>
<td>Avant-Garde Cinema</td>
<td>History of Art</td>
<td>3</td>
<td>A survey of significant historical contributions to avant-garde cinema. PreReq: Jr standing. Not open to students with credit for 650.</td>
</tr>
<tr>
<td>5910</td>
<td>History of Documentary Cinema</td>
<td>History of Art</td>
<td>3</td>
<td>Historical, chronological survey of significant ideas about and contributions to documentary cinema. PreReq: Jr standing. Not open to students with credit for 653.</td>
</tr>
<tr>
<td>6001</td>
<td>Historical and Conceptual Bases of Art History</td>
<td>History of Art</td>
<td>3</td>
<td>Investigation of intellectual and historical foundations of modern art history. PreReq: 60 hrs in HistArt. Not open to students with credit for 715.</td>
</tr>
<tr>
<td>6015</td>
<td>Practicum for Graduate Teaching Associates in the History of Art</td>
<td>History of Art</td>
<td>1</td>
<td>A teacher-training and professional development workshop for new Graduate Teaching Associates in Art History. PreReq: Open only to students with a GTA appointment in the department of history of art. Repeatable to a maximum of 2 or 3 hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>6801</td>
<td>Introduction to Graduate-Level East Asian Studies</td>
<td>History of Art</td>
<td>1</td>
<td>Exploration of the origin, development and current state of East Asian Area studies in the U.S., including its relationship to the state and other intellectual disciplines. PreReq: Grad standing, or permission of instructor. Not open to students with credit for 797, or History 7405 (797), or EALL 7897 (797). This course is graded S/U. Cross-listed in EALL 7897 and History 7405.</td>
</tr>
<tr>
<td>8000</td>
<td>Topics in Art History</td>
<td>History of Art</td>
<td>3</td>
<td>A graduate-level equivalent of a course being offered at the 500-level. PreReq: Grad standing. Not open to students with credit for 890. Repeatable to a maximum of 6 or 8 hrs.</td>
</tr>
<tr>
<td>8001</td>
<td>Studies in Art Theory and Criticism</td>
<td>History of Art</td>
<td>4</td>
<td>Investigations of theories of art and their applications. PreReq: 5640 (600), or permission of instructor. Not open to students with credit for 839 or 710. Repeatable to a maximum of 12 hrs.</td>
</tr>
<tr>
<td>8005</td>
<td>Studies in History and Theory of Architecture</td>
<td>History of Art</td>
<td>4</td>
<td>Selected studies in the history and theory of architecture. PreReq: 4611 (558), or 4621 (559), or Arch 600-603, or Arch 501-803, or permission of instructor. Repeatable to a maximum of 12 hrs.</td>
</tr>
<tr>
<td>8015</td>
<td>Studies in Museums</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research in the problems of museums. Repeatable to a maximum of 12 hrs.</td>
</tr>
<tr>
<td>8111</td>
<td>Studies in African Art and Archeology</td>
<td>History of Art</td>
<td>4</td>
<td>Studies in African Art with emphasis on scholarly methods involving the search for available source materials on African Art and individual criticism. PreReq: 5111 (610), or 5112 (611), or permission of instructor. Repeatable to a maximum of 12 hrs.</td>
</tr>
<tr>
<td>8121</td>
<td>Studies in Contemporary African Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research on major topical problems in contemporary African Art. PreReq: 4121, or 5121, or 5122, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8193</td>
<td>Individual Studies</td>
<td>History of Art</td>
<td>1-3</td>
<td>Advanced study for students in specialized programs. PreReq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8211</td>
<td>Studies in Near Eastern Art and Archaeology</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research on major topical problems in the art and archaeology of the Near East. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8301</td>
<td>Studies in Ancient Greek and Roman Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research on major topical problems in ancient art. PreReq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in Clas.</td>
</tr>
<tr>
<td>8401</td>
<td>Studies in Medieval Art</td>
<td>History of Art</td>
<td>4</td>
<td>Selected problems in architecture, painting, sculpture, and the minor arts from the Early Christian through Byzantine and Gothic periods. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8521</td>
<td>Studies in Italian Renaissance Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research on topical problems in the painting, sculpture, and architecture of Italy in the 14th, 15th, and 16th centuries. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8531</td>
<td>Studies in Northern Baroque Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research on topical problems in the painting, sculpture, and architecture of Belgium, the Netherlands, Germany and France in the 17th century. PreReq: 5531 (632), or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8541</td>
<td>Studies in Italian Baroque Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research on topical problems in the painting, sculpture, and architecture of Italy in the 17th century. PreReq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8551</td>
<td>Studies in 18th-Century European Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research on topical problem in the painting, sculpture, architecture, graphic and decorative arts of the 18th century in Europe. PreReq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8561</td>
<td>Studies in Latin American Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research on topical issues in Latin American Art. PreReq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8601</td>
<td>Studies in Modern Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research on topical problems in the art of the United States or modern Europe. PreReq: Grad level course in Modern Art, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8605</td>
<td>Studies in Russian, Soviet and East European Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research in problems in the painting, sculpture, and architecture of Russia and the region. PreReq: 5605 (645), 5625 (655), 8601 (737), or 8605 (745), or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8641</td>
<td>Wexner Seminar</td>
<td>History of Art</td>
<td>1-4</td>
<td>Graduate seminar offered in conjunction with Wexner exhibitions, performance series, media series, or symposia; may be taught by visiting artists, performers, or critics. Repeatable to a maximum of 12 or 12 hrs or 12 completions. Cross-listed in CompStd 8891.</td>
</tr>
<tr>
<td>8701</td>
<td>Studies in Buddhist Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research in Buddhist art and iconography. PreReq: Two of the following: 5701 (670), or 5711 (671), or 5720 (673), or 5811 (677), or 5821 (681), or 8701 (770); or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8711</td>
<td>Studies in the Art of India</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research in the art of India. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8721</td>
<td>Studies in Inner Asian Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research in Inner Asian history of art. PreReq: 5720 (673), 5723 (674), or 5811 (677), or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8811</td>
<td>Studies in Chinese Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research in the history of Chinese art. PreReq: 5811 (677), 5815 (678), or 5816, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8821</td>
<td>Studies in Japanese Art</td>
<td>History of Art</td>
<td>4</td>
<td>Advanced study and specialized research in the history of Japanese art. PreReq: 5821 (681), 5822 (682), or 8821 (780), or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>8901</td>
<td>Cinema Studies</td>
<td>History of Art</td>
<td>4</td>
<td>Intensive studies of specific movements, artists, periods and theories of cinema. PreReq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
</tbody>
</table>
268 History of Art

8999 Dissertation Research in History of Art  G  1 - 12
Research for dissertation purposes only.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.
This course is graded S/U.

Honors, University

2296H University Honors Proseminar  U  1 - 3
Designed to foster an understanding of concepts, issues, and problems which transcend
the boundaries of a single discipline; topic varies.
Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs or
3 completions.

2396H London Honors  U  3
An introduction to British life and culture. Students study the formation of British rule, political
structures, immigration, diversity, global position, art, and literature and how these
experiences have shaped the worldviews, beliefs, policies, and practices of English society.
At the end of the semester, students participate in a week long study abroad in
London/England.
Prereq: Honors standing, and enrollment in London Honors program, and permission of
department. GE education abroad course.

2596H Interdisciplinary and Collaborative Research  U  3
Provides an introduction to and practicum on interdisciplinary and collaborative research and
creative activity. Students separate into teams and execute a project of their own, the results of
which will be shared in the final weeks of the semester. The students, guided by faculty, will
formulate projects that relate specifically to the Ohio State University.
Prereq: Honors standing. GE cross-disciplinary seminar.

3596H University Honors Seminar  U  1 - 3
University Honors Seminar.
Prereq: Honors standing. Repeatable to a maximum of 9 cr hrs or 3 completions.

Horticultural Technology

1201T Exploring Horticulture  U  1
Promotes student success in college and preparation for a career; explores personal and
career interests, needs, goals, and the support services available for student success.

2110T Plant Materials I  U  3
Prereq or concur: GenMath 1040T or Math 1050 or math placement level R or higher.
Plant identification course to include: trees, shrubs, evergreens, vines, annuals, perennials
and tropical plants common to the Midwest covering: identification, morphology, classification,
nomenclature and adaptability. A grade of C or better required to meet graduation
requirements for Landscape Horticulture and Turfgrass Management.
Prereq: Not open to students with credit for 243T and 244T. This course is available for EM
credit.

2120T Plant Materials II  U  3
Prereq: Open to Turfgrass Management major. Repeatable to a maximum of 3 cr hrs.
Plant identification including: less common deciduous and evergreen trees, shrubs, vines
and herbaceous plants common to the Midwest covering: identification, morphology, classification,
nomenclature and adaptability. A grade of C or better required to meet graduation
requirements. Supervised experiences in landscape maintenance work. A grade of C or better is
required to meet graduation requirements.
Prereq: Open to Turfgrass Management major. Repeatable to a maximum of 4 cr hrs.

2130T Flowering and Foliage Plants  U  3
The identification, culture and use of flowering and foliage plants, including annuals,
perennials, bulbs and tropical plants for indoor and outdoor use.
Prereq: Not open to students with credit for 243T. This course is available for EM credit.

2140T Horticultural Photography  U  1
Introductory digital photography and image editing course emphasizing composition, lighting,
and exposure. Digital correction and editing with emphasis on horticultural marketing and
portfolio development.
Prereq: Not open to students with credit for 270T. This course is available for EM credit.

2150T Horticultural Root Media  U  2
Study of horticultural root media, including functions, texture, structure, ingredients,
preparation, pasteurization, pore spaces, water and nutrient holding capacity, pH, irrigation
practices and containers.
This course is available for EM credit.

2189.10T Practicum in Floral Design  U  1 - 2
Supervised experiences in floral design and flower shop work. A grade of C or better is
required to meet graduation requirements. Prereq: 2600T. Repeatable to a maximum of 4 cr hrs or
4 completions.

2189.21T Practicum in Greenhouse Management  U  1
Supervised experiences in greenhouse crop production. A grade of C or better is required to
meet graduation requirements. Repeatable to a maximum of 4 cr hrs.

2189.22T Practicum in Nursery Management  U  1
Supervised experiences in nursery crop production and management. A grade of C or better is
required to meet graduation requirements. Repeatable to a maximum of 4 cr hrs.

2189.30T Practicum in Landscape Horticulture  U  1 - 2
Supervised experiences in landscape maintenance work. A grade of C or better is required to
meet graduation requirements.
Repeatable to a maximum of 4 cr hrs or 4 completions.

2189.50T Turfgrass Management Practicum  U  1
Practical experience in supervised horticultural/turfgrass laboratories, with emphasis on
developing and improving competencies related to classroom, laboratory and career activities.
A grade of C or better is required to meet graduation requirements.
Prereq: Open to Turfgrass Management major. Repeatable to a maximum of 3 cr hrs.

2190.10T Practical Leadership in Floral Design  U  1 - 2
Supervised experiences in flower shop leadership and management. A grade of C or better is
required to meet graduation requirements.
Prereq: 2189.10T (264T and 268T). Repeatable to a maximum of 2 cr hrs or 2 completions.

2190.21T Practical Leadership in Greenhouse Management  U  1
Supervised experiences in greenhouse leadership and management. A grade of C or better is
required to meet graduation requirements.
Prereq: 2189.21T. Repeatable to a maximum of 2 cr hrs.

2191.10T Floral Design and Marketing Internship  U  1 - 2
Employment in the floral industry, structured to provide varied occupational experiences,
supervised by an industry employer, and coordinated by faculty. A grade of C or better is
required to meet graduation requirements.
Prereq: 2191.10T and 2620T (264T). Repeatable to a maximum of 4 cr hrs or 4 completions.

2191.21T Greenhouse Management Internship  U  1 - 3
Employment in the greenhouse industry, structured to provide varied occupational
experiences, supervised by an industry employer, and coordinated by faculty. A grade of C or
better is required to meet graduation requirements.
Prereq: 1201T, 2189.21T, and 2500T. Repeatable to a maximum of 6 cr hrs or 2 completions.

2191.22T Nursery Management Internship  U  3
Employment in the nursery industry, structured to provide varied occupational experiences,
supervised by an industry employer, and coordinated by faculty. A grade of C or better is
required to meet graduation requirements.
Prereq: 1201T and 2189.22T. Repeatable to a maximum of 6 cr hrs.

2191.23T Greenhouse Engineering Technology Internship  U  3
Experience of employment in the greenhouse industry, structured to provide varied
occupational experiences, supervised by an industry employer, and coordinated by faculty. A
grade of "C" or better required to meet graduation requirements for Greenhouse and Nursery
Management Greenhouse Engineering Technology specialization.
Prereq: 1201T, 2189.21T, and 2500T. Repeatable to a maximum of 6 cr hrs.

2191.30T Landscape Horticulture Internship  U  3
Employment in the landscape industry structured to provide varied occupational experiences.
Supervised by an industry employer and coordinated by faculty. A grade of C or better is
required to meet graduation requirements.
Prereq: 1201T (230T); a grade of C or above in 2110T (244T); GPA 2.0 or above. Repeatable to
a maximum of 6 cr hrs.

2191.50T Turfgrass Management Internship  U  3
Employment in turfgrass management industry at an approved facility structured to provide
varied occupational experiences. Supervised by an industry professional and coordinated by
faculty. A grade of C or better required to meet graduation requirements.
Prereq: A grade of C or above in 2225T (289.05T and EngTech 219T), 2230T (223T) and
2250T (225T), and CPHR 2.0 or above. Repeatable to a maximum of 6 cr hrs.

2193T Individual Studies  U  1 - 3
Designed to give an individual student an opportunity to pursue special studies not offered in
other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.
This course is graded S/U.

2194T Group Studies  U  1 - 3
Designed to give groups of students an opportunity to pursue special studies not offered in
other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

2225T Turf Equipment Operation and Maintenance  U  3
Principles and practices of turf facilities organization and management, equipment
maintenance, operation, safety and fleet management. A grade of C or better required to
meet graduation requirements for Turfgrass Management.
Prereq or concur: GenMath 1040T or Math 1050 or math placement level R or higher.
2230T Fundamentals of Turfgrass Science and Management U 3
Identification, growth and development characteristics and responses, uses, and fundamental practices essential to the production and management of fine quality turf. A grade of C or better required to meet graduation requirements for Landscape Horticulture and Turfgrass Management.
Prereq or concur: GenBiol 125T and GenMath 1040T or Math 1050 or math placement level R or higher. This course is available for EM credit.

2240T Golf Course and Sports Turf Irrigation and Drainage U 3
Principles of design, selection, installation, maintenance, and operation of equipment and materials used in golf course and sports turf irrigation and drainage systems. A grade of C or better required to meet graduation requirements for Turfgrass Management.
Prereq: GenMath 1040T or Math 1050 or math placement level R or higher.

2250T Turfgrass Cultural Systems and Practices U 3
A study of cultural and environmental factors related to maintaining fine turfgrasses with special emphasis on mathematical calculations and materials applications. A grade of C or better required to meet graduation requirements for Turfgrass Management.
Prereq: 2220T (EngTech 219T), 2230T (223T). Not open to students with credit for 225T.

2260T Sports Turf Operations Organization and Management U 3
Specialized course in sports turf management including the organization, design, construction, equipment, field surface quality, safety, personnel, finances, renovation, and maintenance of a sports turf facility. A grade of C or better required to meet graduation requirements for Turfgrass Management.
Prereq: 2191.50T (290.05T), BioTech 2218T (218T). Prereq or concur: 2880T (272T) or 2890T (274T).

2270T Golf Course Organization and Management U 3
Specialized course in golf course management including the organization, design, construction, equipment, personnel, finances, and maintenance of the golf course. A grade of C or better required to meet graduation requirements for Turfgrass Management.
Prereq: 2191.50T (290.05T), BioTech 2218T (218T). Prereq or concur: 2880T (272T) or 2890T (274T). Not open to students with credit for 227T.

2300T Sustainable Landscape Practices U 1
Study of sustainability as it applies to the landscape industry with emphasis on practices that promote ecologically responsible design and management. A grade of C or better required to meet graduation requirements for Landscape Horticulture.
Prereq: Not open to students with credit for 234T. This course is available for EM credit.

2320T Landscape Construction U 3
Techniques for building, pricing, bidding and installing various landscape plantings, features and structures including (but not limited to): pavers, retaining walls and wooden structures. A grade of C or better required to meet graduation requirements for Landscape Horticulture.
Prereq: GenMath 1040T or Math 1050 or math placement level R or better. This course is available for EM credit.

2360T Landscape Design U 3
Introduction to landscape drafting, CAD, design and planning emphasizing the design program, form composition, drafting techniques, design representation and 2 and 3-dimensional CAD. A grade of C or better required to meet graduation requirements for Landscape Horticulture.
Prereq or concur: 2110T. Not open to students with credit for 231T.

2380T Introduction to Turfgrass Management and Landscape Irrigation U 4
An introduction to establishment and maintenance practices for turfgrasses, design, installation, and maintenance of irrigation systems for various landscape situations. A grade of C or better required to meet graduation requirements in Landscape Horticulture Management Specialization.
Recommended prereq: GenBiol 125T (125T).
Prereq: GenMath 1140T (140T). Not open to students with credit for 223T and EngTech 222T. This course is available for EM credit.

2410T Sustainable Nursery Management and Production U 4
Principles of sustainable nursery management, marketing and production operations with an emphasis on nursery practices and practices necessary to produce field grown and container nursery stock.
Prereq: 2120T, and GenBiol 125T (125T) or Biology 1113 (113). Not open to students with credit for 241T and 242T.

2420T Garden Center Management U 2
Principles of retail garden center management including sales, marketing, advertising, personnel management, customer relations and management of product lines, stock and displays.
Prereq: 2120T. Not open to students with credit for 246T.

2500T Greenhouse Environment Control U 4
Principles and practices of sustainable greenhouse operation and management. Topics include glazings, frames, heating, cooling, energy conservation, nutrition, irrigation, light, plant growth and operations management. A grade of C or better required to meet graduation requirements in Greenhouse and Nursery Management Nursery Specialization.
Prereq: Not open to students with credit for 251T. This course is available for EM credit.

2520T Greenhouse Perennial Production U 3
Principles and practices of greenhouse perennial plant production, including propagation, vernalization, photoperiodic treatments, production techniques, integrated pest and plant health management, and post-harvest marketing.
Prereq: 2505T (251T). Not open to students with credit for 255T. This course is available for EM credit.

2540T Greenhouse Bedding and Flowering Pot Plant Production U 4
Principles and practices of greenhouse bedding and flowering pot plant production, including propagation, transplanting, nutrition, environmental requirements, height control, harvesting, pests, pathogens and post-harvest marketing.
Prereq: 2505T (251T), 2520T (255T). Not open to students with credit for 253T and 254T.

2600T Commercial Floral Design U 4
A basic course introducing the elements and principles of floral design as they relate to the construction of saleable flower arrangements and corsages.
Prereq: Not open to students with credit for 262T and 264T. This course is available for EM credit.

2620T Retail Flower Shop Operation U 2
Principles and practices of management and operation of a retail flower shop with emphasis on purchasing, pricing, merchandising, selling, delivery and wire services.
Prereq: 2600T (262T and 264T). Not open to students with credit for 268T. This course is available for EM credit.

2640T Flowers for Celebrations U 4
A specialized course dealing with consulting, planning, organizing and creating floral designs and decor for wedding ceremonies and receptions, parties, and celebrations of life.
Prereq: 2600T (262T and 264T). Not open to students with credit for 265T and 269T.

2660T Post-Harvest Flower Care U 2
Principles and practices of post-harvest flower care from producer to consumer with emphasis on identification and proper care and handling at the retail level.
Prereq: 2640T. Concur: 2680T. Not open to students with credit for 263T. This course is available for EM credit.

2680T Contemporary Floral Design U 3
An advanced course emphasizing the artistic nature of floral design with a global perspective of contemporary styles, techniques and trends.
Prereq: 2640T. Concur: 2660T. Not open to students with credit for 267T.

2720T Arboriculture U 3
Principles of proper tree culture, management and care emphasizing planting, maintenance, evaluation, and diagnosis of tree problems.
Prereq: 2110T (243T or 249T); and GenBiol 125T (125T) or Biology 1113 (113). Not open to students with credit for 276T.

2740T Propagation of Nursery and Greenhouse Plants U 4
Principles, techniques, skills, materials, and facilities used to propagate herbaceous and woody plants with emphasis on commercial propagation methods. A grade of C or better required to meet graduation requirements for Greenhouse and Nursery Management Nursery Specialization.
Prereq: GenBiol 125T (125T) or Biology 1113 (113). Not open to students with credit for 246T.

2760T Plant Health Management U 3
The care of woody and herbaceous ornamental plants including landscape sustainability and holistic management practices. A grade of C or better required to meet graduation requirements for Greenhouse and Nursery Management Nursery Specialization and Landscape Horticulture.
Prereq: 2110T or 213T; GenBiol 125T (125T). Not open to students with credit for 2880T (274T or 275T) and BioTech 2218T (218T or LabBiosc 218T). This course is available for EM credit.

2780T Outdoor Gardening U 2
Fundamentals of basic gardening with emphasis on planning and maintaining specialty and theme gardens. A grade of C or better required to meet graduation requirements for Landscape Horticulture Design Specialization.
Prereq: Not open to students with credit for 276T.

2880T Principles of Weed Science U 3
A study of weed classification, ecology, plant competition, herbicide formulation, properties and uses of herbicides and weed management in horticultural crops. A grade of C or better required to meet graduation requirements for Landscape Horticulture and Turfgrass Management.
Prereq: GenBiol 125T (125T). Prereq or concurrence: GenChem 1100T (131T). Not open to students with credit for 272T or CropSoil 2422T (269T). This course is available for EM credit.

2890T Plant Diseases of Ornamentals and Turf U 3
Principles and practices in diagnosing and treating plant diseases on woody ornamentals and turf. A grade of C or better required to meet graduation requirements for Landscape Horticulture and Turfgrass Management.
Prereq: 2110T (243T) or 2130T (245T) or 2230T (223T) or 2245T (249T); GenBiol 125T (125T). Not open to students with credit for 274T. This course is available for EM credit.
<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>2200</td>
<td>Science of Sustainable Plant Production</td>
<td>3</td>
<td>Study of the cultivation, environmental, genetic, and sociocultural factors which influence the sustainable production of plants for food, fiber, ornamental and recreational uses. Prereq: Not open to students with credit for 200. This course is available for EM credit. GE nat sci bio course.</td>
</tr>
<tr>
<td>2201</td>
<td>Ecology of Managed Plant Systems</td>
<td>4</td>
<td>Origin, diversification, and biogeography of plants inhabiting managed landscapes. GE nat sci bio course.</td>
</tr>
<tr>
<td>2202</td>
<td>Form and Function in Cultivated Plants</td>
<td>4</td>
<td>An introduction to plant growth and development with special emphasis on structure function relationships important to productivity and quality in cultivated plants. Prereq: Not open to students with credit for 300, 300E, 310, 315, or PlantBio 300. GE nat sci bio course.</td>
</tr>
<tr>
<td>2203</td>
<td>People &amp; Plants: Meals, Medicine, Material, &amp; Myth</td>
<td>3</td>
<td>How to get back to &quot;The Garden&quot;: an exploration of human and plant interactions.</td>
</tr>
<tr>
<td>2305</td>
<td>Organic Gardening</td>
<td>1</td>
<td>An overview and assessment of organic gardening practices for sustainability and recreation. Prereq: Not open to students with credit for 270.</td>
</tr>
<tr>
<td>2306</td>
<td>Sustainable Vegetable Production Practicum: Planning, Growing and Marketing</td>
<td>3</td>
<td>Provides students with an introduction to small-scale vegetable farm planning and management through consideration of plant growth and production, farm design, farm management and operations, and produce marketing. Prereq: Not open to students with credit for 213.</td>
</tr>
<tr>
<td>2340</td>
<td>Landscape Plants</td>
<td>3</td>
<td>Overview of the identification and management of plants used in gardens and landscapes. Prereq: Not open to students with credit for 234.</td>
</tr>
<tr>
<td>2401</td>
<td>Sustainable Landscape Design I</td>
<td>3</td>
<td>An introduction to sustainable landscape design for residential and small scale properties with an emphasis on principles of design and graphic communication. Prereq or concour: 2340. Not open to students with credit for 204.</td>
</tr>
<tr>
<td>3320</td>
<td>Plant Propagation: The Manipulation of Plant Reproduction</td>
<td>3</td>
<td>Techniques, equipment and facilities involved in the sexual and asexual multiplication of plants. Prereq: 2201 or 2202. Not open to students with credit for 320.</td>
</tr>
<tr>
<td>3340</td>
<td>Landscape Plants II</td>
<td>4</td>
<td>Expanded study of landscape plants used in constructed landscapes. Emphasis on identification, proper selection and appropriate use for sustainable management of deciduous and evergreen trees, shrubs, vines and herbaceous ornamental plants. Prereq: 2201 or 2202, and 2340, and ENR 3000 (300.01).</td>
</tr>
<tr>
<td>3410</td>
<td>Sustainable Landscape Maintenance Practices</td>
<td>2</td>
<td>An integrated approach to the sustainable maintenance of constructed landscapes - residential, commercial, and institutional, combining research based knowledge with field experience in maintenance practices. Prereq: 2201 or 2202.</td>
</tr>
<tr>
<td>3420</td>
<td>Seed Science</td>
<td>3</td>
<td>A study of the physiological processes of seed formation, dormancy, and germination; the production and marketing of seed in commerce. Prereq: 2201 or 2202, or permission of instructor. Not open to students with credit for 420.</td>
</tr>
<tr>
<td>3438</td>
<td>Theme and Specialty Gardens</td>
<td>2</td>
<td>Study of the principles and techniques of theme and specialty gardening. Prereq: 2201. Not open to students with credit for 438.</td>
</tr>
<tr>
<td>3439</td>
<td>Design of Specialty Gardens</td>
<td>1</td>
<td>Theories introduced in HCS 3438 are applied through research and creation of thematic buildable designs for specific sites. Students produce present client quality designs. Prereq: 2401. Prereq or concour: 3438. Not open to students with credit for 439.</td>
</tr>
<tr>
<td>3470</td>
<td>Principles of Turfgrass Selection and Management</td>
<td>3</td>
<td>Adaptation, identification, uses, growth characteristics, growth responses, and fundamental principles essential to the production of quality turf. Prereq: 2201. Not open to students with credit for 470.</td>
</tr>
<tr>
<td>3475</td>
<td>Turf Management for Golf Course Managers</td>
<td>3</td>
<td>Survey of the culture and management of golf turfs specifically aimed at course setup and daily maintenance practices.</td>
</tr>
<tr>
<td>3488.01</td>
<td>Professional Development</td>
<td>1</td>
<td>Participation in structured co-curricular programs leading to professional development. Prereq: GPA 2.00 or above, and permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.</td>
</tr>
</tbody>
</table>

Horticultural Technology

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>2000</td>
<td>Components of Greenhouse Technologies</td>
<td>3</td>
<td>A study of selected components of modern greenhouse technology, including electric motors, automated material handling and watering controls, pesticide application, and supplemental lighting. Prereq: 2500T; GenMath 1145T; EngTech 2312T and 2322T. This course is available for EM credit.</td>
</tr>
<tr>
<td>2001</td>
<td>Integrated Greenhouse Climate Control</td>
<td>4</td>
<td>Computerized climate control for greenhouse plant production, including data acquisition and control basics, use of the data, and climate control strategies for improved production efficiency. Prereq: 2500T and 3505T. This course is available for EM credit.</td>
</tr>
</tbody>
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Horticulture and Crop Science

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<tr>
<td>1100</td>
<td>Exploring Sustainable Plant Sciences and Prof Golf Mgt</td>
<td>1 ½</td>
<td>Basic understanding of the global trends within sustainable plant systems and professional golf management, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.</td>
</tr>
<tr>
<td>1120</td>
<td>Sex and Propagation in the Garden</td>
<td>2</td>
<td>Introduction to principles and practices of plant reproduction including: flower development, pollination, seed-set, proper seed handling, and methods of asexual propagation such as division, grafting, layering, rootcuttings, micropropagation. Prereq: Not open to students with credit for 3320 (320).</td>
</tr>
<tr>
<td>2194</td>
<td>Group Studies</td>
<td>1 - 3</td>
<td>Special group studies in the area of horticulture and crop science. Repeatable to a maximum of 6 cr hrs or 6 completions.</td>
</tr>
<tr>
<td>3380</td>
<td>The Latino Workforce in Land Based Industries</td>
<td>2</td>
<td>Current issues faced by immigrant workers in agriculture and the cultural, historical and legal context affecting work relations with their American supervisors. Au Sem, every years. Prereq: Not open to students with credit for 380.</td>
</tr>
<tr>
<td>3380.01</td>
<td>Greenhouse Industry</td>
<td>1</td>
<td>Two-day course comprised of visits to several greenhouses and allied businesses. Prereq: Permission of instructor. Not open to students with credit for 401.01. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>3401.02</td>
<td>Environmental Horticulture Organizations</td>
<td>1</td>
<td>Two-day course comprised of visits to several &quot;green industry&quot; locations including nurseries, landscape design, public and private gardens and allied businesses. Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.</td>
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<tr>
<td>3410</td>
<td>Sustainable Landscape Maintenance Practices</td>
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Prerequisites:

- Prereq: Not open to students with credit for 150. Not open to majors in sustainable plant systems.
- Prereq or concour: 2340. Not open to students with credit for 234.
- Prereq: Not open to students with credit for 370. This course is available for EM credit.
- Prereq: Not open to students with credit for 380.
Horticulture and Crop Science 271

3488.02  PGM Player Development U 1
Focus on assisting students who have not passed the PGA of America's Playing Ability Test. Encompasses golf skills development, mental approach, development of a corrective action plan and re-evaluation of skills progress. Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

3501  PGM Basic Golf Operations U 2
This course encompasses learning objectives and materials pertaining to Checkpoint 1 of the PGA of America's PGM Program including tournament operations, golf car fleet management, rules of golf and introduction to teaching. Sp Sem. Prereq: 2250. Not open to students with credit for 350.01, 350.02, or 350.03.

3502  PGM Club Design, Performance, Fitting and Repair U 2
This course encompasses learning objectives and work experience-related materials pertaining to Checkpoints 1 and 2 of the PGA of America's PGM Program including golf club design, performance, fitting and repair. Sp Sem. Prereq: 2250 and 3501. Not open to students with credit for 350.01 and 350.05.

3521  Basic Greenhouse Production U 2
Introduction to manipulating the greenhouse environment to grow plants. Includes identification of and specific requirements for growing plants commonly grown in greenhouses and shade structures. Prereq: 2201 or 2202. Not open to students with credit for 321, or 5521 (521).

3522  Sustainable Irrigation and Fertilization Systems U 2
Introduction to the basic concepts of irrigation and fertilizer injector (fertigation) systems as components of sustainable plant systems. Prereq: 2201 or 2202, and Math 1148 or 1130.

4191.01  Sustainable Plant Systems Major Internship U 2
Gives students an overview of the variety of internships available as well as their importance in career selection. Students will rate their internships on their educational value and help comprehend post graduation HCB career options. Prereq: Enrollment in Sustainable Plant Systems major, and permission of instructor. Not open to students with credit for 489.

4191.02  PGM Internship U 1
Real world job experience at golf courses, clubs, or resorts. Students are mentored by the on-site PGA professional and must complete specified written Work Experience Activities. Must be enrolled while on internship. Prereq: 2250 (250), and enrollment in Pre-Professional or Professional Golf Management majors. Repeatable to a maximum of 5 completions.

4193  Individual Studies U 1 - 3
Special studies in the field of horticulture and crop science. Prereq: GPA 2.50 or above, and permission of instructor. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.

4194  Group Studies U 1 - 3
Special group studies in the area of horticulture and crop science. Repeatable to a maximum of 6 cr hrs or 6 completions.

4325  Plant Genetics U 3
A study of plant transmission and functional genetics and their role in crop improvement. Prereq: 2200 (200) or 2201 or 2202 or 300 or MolGen 3300 (PtBio 300); and Chem 1110 (101) or 1210 (121), and Biology 1011 (101) or 1113 (113), or MolGen 1110 (PtBio 101). Not open to students with credit for 326.

4410  Landscape Management U 3
Sustainable practices in Landscape Management covering business issues (labor, estimation, equipment) and technical issues (softscape & hardscape installation, maintenance) typical of landscaping firms, with emphasis on field experience. Prereq: 2201, 2401, and 3410. Not open to students with credit for 502.

4411  Grain, Oilseed, and Fiber Crops U 3
Study of major world crops with emphasis on their evolution and domestication, improvement, production practices, and utilization. Prereq: 2201 or 2202, and Biology 1101 or 1113. Not open to students with credit for 411.

4501.01  PGM Advanced Professional Experience I U 1
Enhances professional development for students intending a career within the golf industry. While on this experience, students will complete specified Advanced Professional Experience activities. Students will learn about career opportunities and better understand the types of tasks/challenges associated with a career in professional golf management. Prereq: 2250, and PGM major or pre-major. Concur: 4191.02. This course is graded S/U.

4501.02  PGM Advanced Professional Experience II U 1
Enhances professional development for students intending a career within the golf industry. While on this experience, students will complete specified Advanced Professional Experience activities. Students will learn about career opportunities and better understand the types of tasks/challenges associated with a career in professional golf management. Prereq: 4501.01, and PGM major or pre-major. Concur: 4191.02. This course is graded S/U.

4501.03  PGM Advanced Professional Experience III U 1
Enhance professional development for students intending a career within the golf industry. While on this experience, students will complete specified Advanced Professional Experience activities. Students will learn about career opportunities and better understand the types of tasks/challenges associated with a career in professional golf management. Prereq: 4501.02, and PGM major or pre-major. Concur: 4191.02. This course is graded S/U.

4501.04  PGM Advanced Professional Experience IV U 1
Enhances professional development for students intending a career within the golf industry. While on this experience, students will complete specified Advanced Professional Experience activities. Students will learn about career opportunities and better understand the types of tasks/challenges associated with a career in professional golf management. Prereq: 4501.03, and PGM major or pre-major. Concur: 4191.02. This course is graded S/U.

4501.05  PGM Advanced Professional Experience V U 1
Enhances professional development for students intending a career within the golf industry. While on this experience, students will complete specified Advanced Professional Experience activities. Students will learn about career opportunities and better understand the types of tasks/challenges associated with a career in professional golf management. Prereq: 4501.04, and PGM major or pre-major. Concur: 4191.02. This course is graded S/U.

4503  PGM Advanced Teaching and Swing Analysis U 2
This course encompasses learning objectives and work experience-related materials pertaining to Checkpoints 2 and 3 of the PGA of America's PGM Program including swing concepts, analysis of the golf swing, and philosophy of teaching. Prereq: 2250, 3501, and 3502.

4504  PGM Golf Operations U 2
This course encompasses learning objectives and work experience-related materials pertaining to Checkpoints 2 and 3 of the PGA of America's PGM Program including supervising, delegating, merchandising/inventory mgmt., business planning, managing. Prereq: 2250, 3501, and 3502. Not open to students with credit for 350.04 or 350.07.

4560  Creating a Virtual Perspective U 3
Examine a variety of open source and Web 2.0 communication technologies applicable to turf, landscape and other professionals. Identify issues related to authoring, delivering, and integrating applications into a professional social network. Prereq: Not open to students with credit for 560.

4570  Turfgrass Management and Science U 3
A study of cultural practices and environmental factors affecting the maintenance of quality turf. Prereq: 3470, and Biology 1101 or 1113. Not open to students with credit for 570.

4600  Capstone U 2
Examination of issues related to economic viability, social and ethical responsibility, environmental compatibility, and production efficiency of HCS-related enterprises to prepare students for transition from university to workplace. Prereq: Sr standing in Sustainable Plant System or Professional Golf Management major. Not open to students with credit for 600 or 601.

4999  Research with Distinction U 1 - 3
Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum. Prereq: CPRH 3.00 or above, and GPA 3.00 or above in major, and permission of project supervisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

4999H  Honors Research with Distinction U 1 - 3
Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum. Prereq: Honors standing, and FAES 4590,01H (590H), and GPA 3.4 or above. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5097.01  European Gardens Pre-Departure U G 1
Preparation for study abroad trip to visit and study European Gardens. Repeatable to a maximum of 3 cr hrs.

5097.03  Chile Study Abroad Pre Departure U G 1
This is a pre departure program for students enrolled in Agriculture & Agro Ecosystems in Chile.

5097.04  PGM History of Golf: Scotland, Pre-departure U G 1
Introduce students to the rich history of golf in Scotland as well as Scottish golf course operations and make compare these courses with golf courses in the United States.

5193  Individual Studies U G 1 - 3
Special studies in the field of horticulture and crop science. Prereq: CPRH 2.50 or above, and permission of instructor. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.

5194  Group Studies U G 1 - 3
Special group studies in the area of horticulture and crop science.
**Human Development And Family Science**

**2189 Introduction to Field Work**
Participation in community agency, learning roles and responsibilities, with increasing involvement in program development and evaluation. Department application must be filed one semester in advance.
Prep: 2210, and CPHR 2.5 or above, and permission of instructor. Not open to students with credit for 589.01 and 589.02.

- 3

**2200 Family Development**
Dynamics of family interaction over the life cycle; emphasis on developmental, social, and cultural influences on the family experience.
Prep: Not open to students with credit for 360. GE soc sci indivs and groups course.

- 3

**2210 Helping Skills in Context**
The study of various strategies and techniques used to assess and work with individuals and families in the context of family service organizations.
Prep: 2200. Not open to students with credit for 466 and 468.

- 4

**2350 Parenting**
Identification and examination of the theoretical approaches applicable to child rearing in families; emphasis on developing practical skills for working with parents and children.
Prep: Not open to students with credit for 665. GE soc sci indivs and groups course.

- 3

**2367 American Family Issues**
Development of writing, presentation, and oral discussion skills while critically examining family and related community issues.
Prep: English 1110.01 (110.01), 1110.02 (110.02), or 1110.03 (110.03). Not open to students with credit for 367. GE writing and comm course: level 2.

- 3

**2400 Life Span Human Development**
Survey of human development across the life span directed toward an applied understanding of the individual and forces that shape development.
Prep: Not open to students with credit for 364. This course is available for EM credit. GE soc sci indivs and groups course.

- 4

**2410 Child Development**
Study of the nature, nurture, and development of children from conception through the childhood years.
Prep: Not open to students with credit for 361. GE soc sci indivs and groups course.

- 3

**2420 Adolescence and Emerging Adult Development**
Current theory and research on individual development during the adolescent and emerging adulthood years.
Prep: Not open to students with credit for 362.

- 3

**2600 Foundations of Prevention Science**
Explores the interdisciplinary field of prevention science. Topics address practical and ethical issues and the history and integration of developmental, ecological, preventive, and cross-cultural perspectives.

- 3

**2900 Methods in Human Ecology Research**
Introduction to the fundamental elements of human ecology research, using qualitative, quantitative, and historical perspectives.
Prep: Not open to students with credit for 334.

- 3

**3189.01 Field Work with Targeted Populations: Children**
Field Work for students who are interested in working with children.
Prep: 2410, and Jr or Sr standing; or permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.

- 3

**3189.02 Field Work with Targeted Populations: Adolescents**
Field Work for students who are interested in working with adolescents.
Prep: 2420, and Jr or Sr standing. Repeatable to a maximum of 6 cr hrs or 6 completions.

- 3

**3189.03 Field Work with Targeted Populations: Older Adults**
Field Work for students who are interested in working with older adults.
Prep: 5430, and Jr or Sr standing. Repeatable to a maximum of 6 cr hrs or 6 completions.

- 3

**3189.04 Field Work with Targeted Populations: Couple and Family Therapy Clinic**
Field Work for students who are interested in working in the Couple and Family Therapy Clinic.
Prep: 5200, and Jr or Sr standing. Repeatable to a maximum of 5 cr hrs or 5 completions.

- 3

**3189.05 Field Work with Targeted Populations: At-Risk Populations**
Field Work for students who are interested in working with at-risk populations.
Prep: 2410, 2420, 5430, and Jr or Sr standing. Repeatable to a maximum of 6 cr hrs or 6 completions.

- 3

**3189.06 Field Work with Targeted Populations: Children with Disabilities**
Field work for students who are interested in working with children with disabilities; promoting independent and productive inclusion in home, school, and community environments.
Prep: 2410, and Jr or Sr standing. Not open to students with credit for 589.02. Repeatable to a maximum of 6 cr hrs or 6 completions.

- 3

**3189.07 Field Work with Targeted Populations: Developmental and Prevention Science**
Provides students with opportunities to apply knowledge gained in coursework to service delivery in education, intervention, or prevention programs.
Prep: 2600, and Soph, Jr, or Sr standing; or permission of instructor.

- 3

**3193 Practicum in Human Development and Family Science Research**
Provides students with opportunity to work individually with faculty member on research project.
Arr. Prep: 2900 or equiv, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

- 3

**3200 Foundations of Family Science**
Examination of theories and perspectives of family development with an emphasis on the family systems perspective and application.
Prep: 2200. Not open to students with credit for 560.

- 3

**3360 International Family Issues**
A practical problem-solving approach to the study of perennial family issues in cross cultural contexts.
Prep: Soph, Jr, or Sr standing or permission of instructor. Not open to students with credit for 597.01 and 597.02.

- 3

**3440 Human Sexuality**
Examination of the intellectual, physical, social, and emotional aspects of human sexuality.
Prep: Not open to students with credit for 670.02. GE soc sci indivs and groups course.

- 3

**3450 Managing and Supporting Behavior in Social Contexts**
Examines strategies to help promote adaptive behavior in home, school, and community contexts. Students will learn strategies for managing and preventing behavioral problems and develop an understanding of behavior management practices.
Prep: Soph, Jr, Sr standing; or permission of instructor. Not open to students with credit for 461.

- 3

**3620 Intervention and Prevention Practices: Development and Evaluation**
Students will identify practices that have empirical support and focus on development, integration, and evaluation of intervention and prevention practices applied to teaching important skills that improve functional outcomes in everyday contexts.
Prep: Soph, Jr, or Sr standing, or permission of instructor. Not open to students with credit for 464.

- 3

**3630 Family Ethics and Policy**
Explores the relationship between ethics and family policy, and how competing approaches are valued and balanced in the context of moral development and cultural norms as stakeholders seek to solve pressing national and global problems.
Prep: Soph, Jr, or Sr standing, or permission of instructor.

- 3

**3800 Professional Development**
The professional: performance, role in society, position securment, involvement in organizations, and continuing development. Students are encouraged to take this course early in the major.
Prep: Not open to students with credit for 595.

- 3

**4194 Group Studies**
Selected topics in human development and family science.
Prep: Jr or Sr standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.

- 3

**4370 Families and Stress**
Examination of normative and developmental stressors and crises that impact on the family; implications for practitioners drawn from conceptual frameworks and recent research.
Prep: 2200, or permission of instructor. Not open to students with credit for 690.
### Development and Evaluation of School-Based Prevention and Intervention Strategies

Overview of theory, practice, and research evaluation in prevention science, using a developmental perspective to focus on factors that promote or inhibit healthy development at different stages and during transitions.  
Prereq: 2600, or permission of instructor. Not open to students with credit for 669.

### Etiology and Models of Human Development

From a multidisciplinary perspective, this course investigates underlying genetics and biology as well as overlapping family, community, and macro-level environmental factors that interact to shape differences in human thought and behavior.  
Prereq: 2600, or permission of instructor.

### Promoting Emotional Well-Being

Explores the development of emotional competence and emotional problems in the family and broader socio-cultural context. Topics include foundations and antecedents of emotional development, understanding, regulation, and socialization.  
Prereq: Soph, Jr, or Sr standing; or permission of instructor.

### Interdisciplinary Collaboration & Consultation: Serving Families and Communities

Service providers learn to collaborate effectively with parents and others to support learning and development in educational, vocational, socio-emotional, physical health and mental health areas.  
Prereq: Permission of instructor. Not open to students with credit for 667.

### Development and Prevention Science Research Methods

Focuses on how to critically analyze the literature in developmental and prevention science striving to develop and experimentally evaluate practices, programs, and policies.  
Prereq: Soph, Jr, or Sr standing, or permission of instructor.

### Undergraduate Research in Human Development and Family Science

Undergraduate research in areas of study related to the unit and the instructor’s research agenda.  
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

### Undergraduate Honors Research in Human Development and Family Science

Undergraduate honors research in areas of study related to the unit and the instructor’s research agenda.  
Prereq: Honors standing, Jr, or Sr standing, or permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

### Foundations of Couple and Family Therapy

Overview and development of key theories of couple and family therapy.  
Prereq: Jr, Sr, or Grad standing; or by petition. Not open to students with credit for 650.

### Intimate Relationships

An examination of the individual, couple, and contextual factors that affect the development and maintenance of intimate relationships across the life course.  
Prereq: 2400, or Grad standing. Not open to students with credit for 670.03.

### Families with Adolescents

This is an upper level advanced course that is designed to provide students with an understanding of theory, research, and application efforts targeting families with adolescents.  
Prereq: 2200 or 2400, or equiv, or Grad standing.

### Infant-Toddler Development: Current Research and Controversies

Infant and toddler development during the first four years of life with special consideration of bases of support for provision of effective care.  
Prereq: 2410 or equiv, and Jr, or Sr standing.

### Adult Development and Aging

Examination of change and continuity in human development from young adulthood to very old age using a psycho-social-biological perspective.  
Prereq: 2400 or 2420, or equiv, and Jr or Sr standing. Not open to students with credit for 670.01.

### Human Sexuality in Context

Examination of issues in human sexuality across the lifespan in the context of peoples’ lived experiences within families, communities, and society, using film, texts, and narratives.  
Prereq: Jr standing or above, and 2400 or 2200 or equiv, or Sexuality Studies major or minor. Not open to students with credit for 370.

### Study at a Foreign Institution

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.  
Prereq: Permission of department chairperson. Repeatable to a maximum of 30 cr hrs or 30 completions.
Human Development And Family Science 275

8861 Family in Mid-to-Late Years G 3
The interrelationship and adjustment of families with emphasis on the middle and later years of the life cycle.
Pre req: Grad standing, or permission of instructor. Not open to students with credit for 881.

8862 Seminar in Human Development and Family Science G 3
Seminar in Human Development and Family Science, topics to be announced.
Pre req: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

8870 Family Systems Assessment G 3
A survey of issues and techniques used in assessment of families for purposes of research and practice, including issues and design for family therapy research.
Pre req: Grad standing, or permission of instructor. Not open to students with credit for 870.

8874 Family Therapy Theory I G 3
An emphasis on the theoretical orientation of the structural, strategic, MRI, and Milan approaches to family therapy.
Pre req: Grad standing, or permission of instructor. Not open to students with credit for 874.

8875 Family Therapy Theory II G 3
An emphasis on the theoretical orientation of the intergenerational, behavioral, experimental and solution-focused approaches to family therapy.
Pre req: Grad standing, or permission of instructor. Not open to students with credit for 875.

8876 Marital Therapy Theory G 3
An emphasis on theoretical approaches, intervention techniques, and basic issues or problems of application for couple therapy.
Pre req: Grad standing, or permission of instructor. Not open to students with credit for 876.

8878 Supervision of Couple and Family Therapy G 3
Preparation of Couple and Family Therapy doctoral students to provide supervision of therapy.
Pre req: Grad standing, or permission of instructor. Not open to students with credit for 878.

8999 Dissertation Research G 1 - 12
Research for thesis or dissertation purposes only.
Pre req: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

Human Nutrition

2193 Individual Studies U 1 - 6
Problems in various phases of human nutrition chosen for Intermediate level undergraduate individual study.
Pre req: Written permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

2194 Group Studies U 1 - 3
Selected topics for intermediate undergraduate study in human nutrition.
Repeatable to a maximum of 6 cr hrs or 6 completions.

2210 Science of Human Nutrition U 3
Basic principles of biological science, emphasizing the interaction between nutrients and physiological (including cellular) processes.
Pre req: Not open to students with credit for 210. GE nat sci bio course.

2295 Careers in Nutrition U 1
Exploration of careers in nutrition/dietetics through self-assessment, employer presentations; professional readings; internship and job search strategies.
Pre req: Not open to students with credit for 295.

2310 Fundamentals of Nutrition U 3
Nutrient and energy needs of the human biological system throughout the life cycle including energy balance with consideration of socio-psychological factors.
Pre req: Biology 1113 (113) or 1101 (101), or equiv; and Chem 1210 (101 or 121) and 1220 (102 or 122). Not open to students with credit for 310. This course is available for EM credit.

2334Fundamentals of Food U 3
Scientific principles of food components, of major food groups and their interactions, with reference to nutritional properties, food preparation, food chemistry, optimum quality, microbiological safety and preservation of nutrients.
Pre req: 2210 (210) or 2310 (310), and premaj, major, or minor in the following: Human Nutrition, Animal Science, Medical Dietetics, or Family and Consumer Science Education. Not open to students with credit for 314.

2450 Foodservice Sanitation and Safety U 1
Organization of a facility to ensure safe and sanitary foodservice program. Includes National Restaurant Association's ServSafe Sanitation Certification program and Ohio Department of Health Certification in Food Protection.
Pre req: Not open to students with credit for 450.

3313 Food in Different Cultures U 2
Food practices of selected peoples of the world with consideration of the existing social, cultural, and economic conditions. Class content through lecture, discussion, and guest speakers.
Pre req: 2310 (310); or 2210 (210), and major in FCSEd. Not open to students with credit for 313.
Topics in global nutrition with critical appraisal of research basis and alternative viewpoints. Current issues include research and evaluation, major global nutrition issues (obesity, food insecurity, malnutrition, bioengineering, vegetarianism). Prereq: 2310 (310); or AnimSci 3130 (330); or HumnNtr 2210 (210) and major in FCSEs. Not open to students with credit for 415.

NUTRITION ACROSS THE LIFE SPAN 3506 U 3
Nutrition issues during major life stages from pre-pregnancy through the dying elderly. Prereq: 2310 (310) or AnimSci 3130. Not open to students with credit for 505.

PUBLIC HEALTH NUTRITION 3704 U 2
Review of evidence base for public health nutrition including examination of food assistance and education programs; Description of public health nutrition efforts; Investigation of practices aimed at empowering the public to choose healthy foods. Prereq: 2310 (310). Not open to students with credit for 704.

RESEARCH METHODS IN NUTRITION 3780H U 1
Development of hypotheses and choosing appropriate methods to test them. Work with advisor to write Honors research proposal. Prereq: Honors standing.

UNDERGRADUATE RESEARCH IN HUMAN NUTRITION 3998 U+ ½ – 6
Undergraduate research in areas of study related to human nutrition and the instructor’s research agenda. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 12 completions. This course is graded S/U.

UNDERGRADUATE HONORS RESEARCH IN HUMAN NUTRITION 3998H U+ ½ – 6
Undergraduate honors research in areas of study related to human nutrition and the instructor’s research agenda. Prereq: Honors standing and written permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

PROFESSIONAL EXPERIENCE IN HUMAN NUTRITION 4189 U 1 – 3
Supervised pre-planned employment experience with approved biomedical or medical professional. Prereq: Jr standing and HumnNtr major. Not open to students with credit for 589. This course is graded S/U.

INDIVIDUAL STUDIES 4193 U 1 – 6
Problems in various phases of human nutrition chosen for advanced undergraduate individual study. Prereq: Permission of instructor. Not open to students with 10 qtr cr hrs or 6 completions. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

GROUP STUDIES 4194 U 1 – 3
Selected topics for advanced undergraduate study in human nutrition. Repeatable to a maximum of 6 cr hrs or 6 completions.

NUTRITION EDUCATION AND BEHAVIOR CHANGE 4504 U 3
Contemporary theories and models of health education and behavior change related to individuals, groups and communities and applied to field of nutrition. Review of effective communication techniques with individuals and groups. Prereq: 2310 (310), and HumnNtr major or minor, or MedDiet major. Not open to students with credit for 504.

DIETETICS SEMINAR 4596 U 1
Advanced professional development issues in dietetics: Leadership, marketing, research, continuing education, licensure, and preparation for dietetic internship/graduate education. Prereq: 2295 (295) and Sr standing in Dietetics. Not open to students with credit for 596.

MACRONUTRIENTS 4609 U 3
Application of biochemistry and physiology to the regulation of carbohydrate, lipid, and protein during fed, fasted and exercise states; nutrient digestion, absorption, metabolism, excretion, requirements, and interactions. Prereq: C- or above in 2310 (310) or AnimSci 3130 (330); and Biochem 2210 (211 and 212) and Chem 231 (231), or Biochem 4511 (511), or MollBoc 3311 (311) and 3312 (312); and EEOB 2520 (232), or Physio 3101 (311) and 3102 (312), or 3200.

MICRONUTRIENTS AND PHYTOCHEMICALS 4610 U 3
Application of biochemistry and physiology to understanding micronutrients, including structure, digestion, absorption, metabolism, excretion, requirements, sources, and interactions of vitamins, phytochemicals, water, electrolytes, and minerals. Prereq: 4609 (610) and C- or higher in 2310; and HumnNtr, MedDiet, AnimSci, or HNPEs major.

MEDICAL NUTRITION THERAPY I 5611 U 3
The role of medical nutrition therapy in the treatment of established chronic diseases with emphasis on the biochemical and physiological rationale for dietary modifications. Prereq: 4609 (610), and Human Nutrition or Medical Dietetics major; or Grad standing. Not open to students with credit for 611.

MEDICAL NUTRITION THERAPY II 5612 U 2
The role of medical nutrition therapy in the treatment of established disease with emphasis on the biochemical and physiological rationale for dietary modifications. Prereq: 5611 (611), and Human Nutrition or Medical Dietetics major; or Grad standing. Not open to students with credit for 612.

MEDICAL NUTRITION THERAPY II LAB 5622 U 1
Laboratory and practical application of the nutrition care process through assessment, management and treatment of various disease states. Concur: 5612, and enrollment in DPD.

NUTRITION AND PHYSICAL PERFORMANCE 5705 U 2
Integration of nutrition, exercise physiology, and biochemistry. Use of nutrients as fuel, interaction between nutrients and exercise performance, assessment of energy expenditure and nutritional status, interactions among diet, exercise and health. Prereq: 4609 (610). Not open to students with credit for 705.

INDIVIDUAL STUDIES 7193 G 1 – 6
Problems in various phases of human nutrition chosen for intermediate level graduate individual study. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

GROUP STUDIES 7194 G 1 – 3
Selected topics for intermediate graduate study in human nutrition. Prereq: Open to students who meet department’s stated prerequisites. Repeatable to a maximum of 6 cr hrs or 6 completions.

FOOD AND NUTRITIONAL TOXICOLOGY 7620 G 2
Overview of absorption, metabolism and excretion of xenobiotics, allergenic and toxic constituents, role of diet in mutagenesis and carcinogenesis, food processing induced toxins and procedures, laws and regulation of safety assessment of foods. Prereq: 4609; and 7761 and 7762, or AnimSci 7761 and 7762, or FdScTe 7761 and 7762; and 6 cr hrs at the grad level in Physiol; or permission of instructor. Not open to students with credit for 830.09, AnimSci 830.09, FdScTe 7762, or 830.09.

MACRONUTRIENT METABOLISM 7761 G 4
In-depth treatment of digestion, absorption, transport, and utilization of dietary carbohydrates and fat for energy production and fat deposition in humans and other higher animals. Prereq: 2310 (310) or AnimSci 3130 (330), and Biochem 4511 (511). Not open to students with credit for 761 and 762, AnimSci 761 and 762, or FdScTe 761 and 762. Cross-listed in AnimSci.

VITAMIN AND MINERAL METABOLISM 7762 G 4
Biochemical functions, absorptions, transport, utilization, interactions and nutritional requirements of selective vitamins and minerals in higher vertebrates and humans. Prereq: Credit in Biochem and Physiol. Not open to students with credit for AnimSci, FdScTe, or HumnNtr 763. Cross-listed in AnimSci.

NUTRITION RESEARCH DESIGN 7789 G 1
Aspects of research design, including both ethical considerations as well as how to select appropriate experimental models. Prereq: Grad standing. Cross-listed in AnimSci.

ADVANCED COMMUNITY AND INTERNATIONAL NUTRITION 7804 G 3
Current issues in community and international nutrition. Prereq: 3704 (704), or permission of instructor. Not open to students with credit for 804.

ADVANCED NUTRITION EDUCATION 7806 G 3
Discussion of principles of nutrition education and behavior change target audience will be discussed. Course will focus on concepts and methods from related disciplines such as behavioral medicine, psychology, sociology, and education. Prereq: Not open to students with credit for 806.

PHYTOCHEMICALS IN HUMAN HEALTH: CROPS TO THE CLINIC 7830 G 3
Covers the function and control of phytochemicals in plants, the function of phytochemicals in human health, delivery of phytochemicals through foods in the diet, strategies when designing studies examining foods for health, and policy and sustainability considerations. Prereq: Biochem 4511 (511) or 5613 (613), or equiv; or permission of instructor. Not open to students with credit for FdScTe 7810. Cross-listed in FdScTe, HCS, BSGP, and PubHepl.

ORAL RESEARCH COMMUNICATION 7899 G 1
Critical analysis of the scientific literature and demonstration of effective oral presentation skills tailored to the target audience with use of information technologies as needed. Prereq: Grad standing. Cross-listed in AnimSci.

RESEARCH: THESIS 7999 G ½ – 6
Research for masters thesis. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

INDIVIDUAL STUDIES 8193 G 1 – 6
Problems in various phases of human nutrition chosen for advanced level graduate individual study. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.
8194 Group Studies G 1 - 3
Selected topics for advanced graduate study in human nutrition. Repeatable to a maximum of 6 cr hrs or 6 completions.

8801 Macronutrients- Lipids and Energy Balance G 3
Discussion of lipids as storage molecules used for energy and to modulate metabolism and influence energy balance conditions such as obesity, cachexia, weight loss and weight gain. Prereq: 7761 (761), AnimSci 7761 (761), or FdScTe 761. Not open to students with credit for 830.01, AnimSci 830.01, or FdScTe 830.01. Cross-listed in AnimSci.

8802 Advanced Macronutrient Metabolism G 3
Comparative study of the regulation of micronutrient status and its influence on physiological and molecular events including nuclear receptor activity and transcription. Prereq: 7761 (761), AnimSci 7761 (761), or FdScTe 761. Not open to students with credit for 830.02, or AnimSci 830.02, or FdScTe 830.02. Cross-listed in AnimSci.

8833 Diet, Nutrition and Cancer G 3
Epidemiological, clinical and basic perspective of how diet and nutrition practices. Prereq: 7761 (761), AnimSci 7761 (761), or FdScTe 761. Not open to students with credit for 830.12, AnimSci 830.12, or FdScTe 830.12. Cross-listed in AnimSci.

8834 Comprehensive Approach to Food Safety G 2
A comprehensive overview of food safety challenges and solutions as experienced through the food chain from farm to consumers. Demonstration of food safety system from cellular aspects though public policy. Prereq: Micro 509, or equiv. Not open to students with credit for 830.10, AnimSci 830.10, or FdScTe 830.10. Cross-listed in AnimSci.

8835 Grantmanship G 1
Capstone course for the OSUN PhD program will train students on grantmanship skills. Prereq: Grad standing. Cross-listed in AnimSci.

8836 Advanced Nutritional Genomics G 3
The primary goal of the course is to stimulate critical thinking and discussion among graduate students about current research findings in the areas of genomics, proteomics and metabolomics as they apply to studies in the nutritional sciences. Prereq: 7761 or AnimSci or FdScTe 7761, and HumNtr or AnimSci 7762. Cross-listed in AnimSci.

8888 OSUN Research Seminar G 1
Recent advances in nutrition science are presented by locally, nationally and internationally recognized scientists. Prereq: Grad standing. Repeatable to a maximum of 5 cr hrs. This course is graded S/U. Cross-listed in AnimSci.

8998 Graduate Research G 1 - 15
Graduate research in areas of study related to human nutrition and the instructor's research agenda. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

8999 Research: Dissertation G 1 - 15
Research for dissertation. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Human Nutrition 277

2000 Introduction to ISE U 1½
Broad overview of the field of Industrial and Systems Engineering with a focus on independent research and professional writing and presenting skill development. Prereq: Soph standing. Not open to students with credit for 500 or IndEng 500.

2010 Systems Modeling U 3
Mathematical modeling of mechanical, social, and biological systems, with applications; use of modeling software. Prereq: CSE 1222 and Differential Equations. Concur: Linear Algebra, and Soph standing in Engineering or NMS.

2040 Engineering Economics U 2
Economic analysis of engineering project alternatives. Cash flow modeling; time value of money; techniques for comparing projects; influence of taxes, depreciation, and inflation. Prereq: Soph standing in Engineering. Not open to students with credit for 504 or IndEng 504.

2193 Individual Studies in Integrated Systems Engineering U 1 - 4
Special topics of general interest to engineering students. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

2194 Group Studies in Integrated Systems Engineering U 1 - 4
Special topics of general interest to students enrolled in Integrated Systems Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

2400 Design of Work: Methods and Measurement U 2
Introduces students to tools and techniques used in work methods design and productivity improvement, including operation analysis, motion study, value engineering, predetermined time systems, time study, line balancing. Prereq: Soph standing, and enrollment in Industrial and Systems Engineering major or Engineering Physics major. Not open to students with credit for 540 or IndEng 531.

2500 Introduction to Manufacturing Engineering U 3
Fundamentals of common manufacturing processes, materials and tooling; relationship of product design to required processing sequences and steps, attributes of manufacturing systems. Prereq: Not open to students with credit for 350 or IndEng 311.

3193 Individual Studies in Integrated Systems Engineering U 1 - 4
Special topics of general interest to students in Integrated Systems Engineering and related fields. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

3194 Group Studies in Integrated Systems Engineering U 1 - 4
Special topics of general interest to students enrolled in Integrated Systems Engineering and related fields. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

3200 Linear and Integer Programming U 3
Introduction to formulation, solution and analysis of continuous and discrete linear models to optimize the design of production and service systems and other engineering applications. Prereq: Math 2153 or 2173, and 2568 or 2174; and CSE 2231, and major in ISE or major in Eng. Phys. Not open to students with credit for 520 or IndEng 521.

3210 Nonlinear and Dynamic Optimization U 3
Introduction to nonlinear, dynamic, and network optimization models and solution techniques. Prereq: Math 520, Math 2174 (660 or 571), or IndEng 522, and major in ISE, or permission of instructor. Not open to students with credit for 521 or IndEng 523.

3230 Systems Modeling and Optimization for Analytics U 3
Introduction to formulation, solution and analysis of continuous and discrete linear and nonlinear models to optimize systems using data-driven techniques. Prereq: Math 1152, 2568, and CSE 2231. Not open to ISE majors or to students with credit for 3200 or 3210.

3400 Production Planning and Facilities Design U 4
Introduction to production systems control: deterministic and stochastic, static and dynamic, single-stage and multi-stage inventory control, NRP systems, just-in-time, scheduling. Facility and machine location models, storage models (warehouse, ASRS), simple layout models, systematic layout planning with applications in manufacturing, health care, service and logistics. Prereq: Math 2153 or 2173, and 2568 or 2174; and Stat 3470, and major in ISE or major in Eng. Phys. Not open to students with credit for 541, IndEng 532, 533, or 542.

3410 Facilities Planning U 3
Principles and methods for design and analysis of facility layouts; defining requirements, facility location, process and schedule design, activity relationships, material handling, personnel requirements. Prereq: 2000, 2500, or equiv. Not open to students with credit for 542 or IndEng 532.

3500 Process Engineering for Machining Operations U 3
Introduction to the machines, tooling, set-ups, processing sequences, processing times, metrology, and safety issues for traditional and selected non-traditional metal cutting operations. Prereq: 2500, and enrollment in ISE major.
278 Industrial and Systems Engineering

3600 Workplace Ergonomics: Analysis and Design of Physical Work Systems
U  3
Explores physiological and biomechanical principles used to analyze and design work systems (tasks, tools, equipment) so people can perform their jobs more effectively and safely. Prereq: Stat 3470, or equiv, and Jr or Sr standing in ISE major; or permission of instructor. Not open to students with credit for 560 or IndEng 503.

3700 Cognitive Engineering Systems
U  3
Human-centered design of cognitive tools and work systems. Human-computer interaction; decision making; human error; computer-supported distributed work; design of decision support systems. Prereq: Jr standing, and admission to the ISE or Eng. Phys. major. Not open to students with credit for 670, IndEng 570, or 670.

3800 Engineering Project Management
U  3
Project management for engineers, including project life cycle, planning, optimization models, management of change and scheduling and budgeting. Prereq: Jr standing, and major in ISE or Engineering Physics; or permission of ISE Academic Advisor. Not open to students with credit for 681.

3990.01 Foundations of Production System Design
U  3
Overview of core Industrial Engineering subjects, relating them to the tools of Six Sigma and essential sub-systems that comprise the Toyota Production System. Prereq: 2010 (500), Math 2174, 2177, 2568, or 4568 (568 or 571), and Statistics 3450, 3460, or 3470 (428).

3990.02 Applications of Design of Experiments in Manufacturing
U  3
Applies fundamentals of design of experiments to manufacturing processes. Prereq: 350 and Stat 428, or equiv. Not open to students with credit for 5200 or 4120.

3990.03 Engineering Optimization
U  2
Introduces a variety of applications and models for optimization within an engineering context. Prereq: 520 and 521.

4100 Stochastic Modeling and Simulation
U  4
Methods for stochastic process and discrete event simulation modeling and system design and decision-making using simulation tools. Prereq: Stat 3470 or equiv, and enrollment in Industrial & Systems Engineering major; or permission of instructor. Not open to students with credit for 501.

4120 Quality and Reliability Engineering
U  3
Techniques associated with the Total Quality Management and Lean Six Sigma as well as the foundations of reliability engineering. Prereq: Stat 3470, and enrollment in ISE major or EngPhys major. Not open to students with credit for 510 and 610, or IndEng 509 or 610.

4193 Individual Studies in Integrated Systems Engineering
U  1 - 4
Special topics of general interest to undergraduate students in Integrated Systems Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

4194 Group Studies in Integrated Systems Engineering
U  1 - 4
Special topics of general interest to undergraduate students in Integrated Systems Engineering and related fields. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

4500 Manufacturing Process Engineering
U  3
A thorough quantitative understanding of contemporary manufacturing processes; exposure to laboratory exercises and computer simulations in major manufacturing processes; design for manufacturing and assembly. Prereq: Option 1: MechEng 3670. Prereq or concord. MechEng 4510, Or Option 2: MechEng 2020 or 2040, and WateEng 4201 or MechEng 3500; or permission of instructor. Not open to students with credit for 350 or IndEng 311.

4891 Colloquia, Workshops, and Seminars in Integrated Systems Engineering
U  1 - 4
Special colloquia, workshops or seminars of general interest to students in Integrated Systems Engineering and related fields. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

4900 Capstone Design
U  4
In-depth systems design project for industrial engineering. Exploration and selection of design alternatives; justification, recommendation, and presentation of problems and potential solutions. Prereq: Completion of required ISE core curriculum, with up to one such course taken concurrently, and enrollment in ISE major. Not open to students with credit for 680.02.

4998 Undergraduate Research in Integrated Systems Engineering
U  1 - 4
Opportunity for undergraduates to conduct research in Integrated Systems Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

4999 Undergraduate Research for Thesis
U  1 - 4
Opportunity for undergraduates to conduct research in Integrated Systems Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

4999H Honors Undergraduate Research for Thesis
U  1 - 4
Opportunity for Honors undergraduates to conduct research in Integrated Systems Engineering. Prereq: Honors standing in the College of Engineering. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

5043 Power Systems - Analysis and Operation
U  3
Power systems analysis and operations, including steady-state analysis, state estimation, and economic operation. Prereq: 3410, and ECE major; or Sr standing and ISE major; and Math 2568; or Grad standing in engineering or biological sciences or math and physical sciences. Cross-listed in ECE.

5110 Design of Engineering Experiments
U  3
Plan and analyze experiments relevant to system design. Also, students will learn regression and alternative approaches for on-hand data analysis. Prereq: 4210; or Stat 3470 or equiv, and Grad standing. Not open to students with credit for 610 or IndEng 610.

5193 Individual Studies in Integrated Systems Engineering
U  1 - 4
Special topics of general interest to graduate students in Integrated Systems Engineering. Prereq: Enroll in department BS/MS program, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

5194 Group Studies in Integrated Systems Engineering
U  1 - 4
Special topics of general interest to undergraduate and graduate students in Integrated Systems Engineering and related fields. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

5200 Linear Optimization
U  3
Introduction to the linear optimization and applications. Topics include model formulation, solution methods, polyhedral and duality theory, sensitivity analysis, and software usage. Prereq: Math 2174, 2415, 2568, or 4568, and permission of instructor; or Grad standing. Not open to students with credit for 720 or IndEng 702.

5201 Theory of Linear Optimization
U  3
Introduction to linear optimization with an emphasis on theory. Topics include model formulation, solution methods, polyhedral and duality theory, sensitivity analysis, and software. Prereq: Math 2174, 2415, 2568, or 4568, and permission of instructor; or Grad standing. Not open to students with credit for 5200 (720).

5220 Complementarity Theory & Applications
U  3
Describes complementarity models and their solution techniques. It includes optimality conditions, equilibria, mathematical programs with equilibrium constraints and equilibrium problems with equilibrium constraints. Prereq: 3200, or permission of instructor.

5350 Probabilistic Models and Methods in Operations Research
U  3
Introduces probabilistic modeling techniques in operations research like Markov Chains, Poisson Processes, and Markov Decision Processes. Modeling, theory, and applications are discussed. Prereq: 3200 and Stat 3470; or permission of instructor. Not open to students with credit for 7300.

5400 Design and Analysis of Lean and Flexible Manufacturing Systems
U  3
Quantitative methods for design of cellular, hybrid cellular and virtual cellular manufacturing systems with extensions of the Toyota Production System for job shops. Prereq: 3200, 3400, and Stat 3470. Not open to students with credit for 748.

5410 Quantitative Models in Production and Distribution Logistics
U  3
Introduction to quantitative models in supply chain management and logistics including: location analysis, inventory management, vehicle routing, coordination, risk pooling, reverse logistics. Prereq: 3210 or 3300. Not open to students with credit for 742.

5450 Industrial Ecology
U  3
Introduction to the status of resources, principles and methods of life cycle assessment, environmentally conscious product and facility design, production and recycling methods. Prereq: Sr or Grad standing in Engineering. Not open to students with credit for 754.
5463 Manufacturing of Energy Systems U G 3
Teaches the design, manufacture and integration of conventional and renewable energy systems including their environmental impact.
Prereq: Sr standing in ISE, or Grad standing; or permission of instructor. Not open to students with credit for 5194 (Aer12, Shivpuri).

5501 Fundamentals of Solid State Processing U G 3
Application of basic principles of heat transfer, tribology, and elastic/plastic deformation for metallic solids to manufacturing processes.
Prereq: MechEng 2010, 2020, and 2040, or equiv, and Sr or Grad standing in Engineering. This course is available for EM credit.

5502 Molten Metal Processing U G 3
An advanced class in application of thermodynamics, kinetics, and macro-transport phenomena to primary metals production, refining, and solidification processing.
Prereq: MatSci 2251 or 3151; or Grad standing; or permission of instructor. Not open to students with credit for 651.02, MatSci 667, or 668. Cross-listed in MatSci 5451.

5503 Manufacturing Processes and Simulation U G 3
An introduction to theory and simulation of different manufacturing processes. Learn to apply numerical methods to manufacturing processes such as machining, hot embossing, and injection molding.
Prereq: Jr or Grad standing in Engineering, or permission of instructor.

5530 Fundamentals of Tool Engineering U G 3
Basic form, function, mechanical elements, common materials, thermal considerations and economic analysis in the design of workholding fixtures and jigs, dies/molds, and cutting tools.
Prereq: MechEng 2010 and 2020, or 2040, or Grad standing. Not open to students with credit for 650.02, IndEng 622, or MechEng 622.

5540 Polymer Processing Fundamentals U G 3
Applies fundamentals of transport phenomena and polymer constitutive equations to the analysis of manufacturing of plastic components.
Prereq: 550, 617, or MechEng 2020, or equiv, and MechEng 3670, or equiv. Prereq or concur: MechEng 4510, or equiv. Not open to students with credit for 618 or 751.02.

5550 Principles of Precision Engineering U G 3
Principles of precision engineering with focus on design and performance of precision machinery, machine tool metrology, and precision manufacturing processes.
Prereq: MechEng 2010 and MechEng 2020; or MechEng 2040. Not open to students with credit for 752.01.

5555 Manufacturing Processes and Machine Tools U G 3
Focuses on machining processes: cutting, grinding and milling. It includes descriptive and analytical treatment of machining processes, equipment, computer control and integrated systems.
Prereq: Jr, Sr, or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 651.01 or IndEng 811.

5600 Principles of Occupational Biomechanics and Ergonomics U G 3
Introduction to anatomical, physiological, and biomechanical bases of physical ergonomics; workplace assessment techniques; biomechanical modeling; bioinstrumentation; preparation for advanced topics and research.
Prereq: Grad standing. Not open to students with credit for 660.

5610 Ergonomics in the Product Design Process U G 3
Provides students with an understanding of where and how ergonomic principles are incorporated into the design and evaluation of consumer products.
Prereq: 3610 and 3700 or equiv. Not open to students with credit for 769.

5620 Risk Assessment Tools for Occupational Musculoskeletal Disorders U G 3
Provides students with an understanding and working knowledge of tools used to assess risk of occupationally related musculoskeletal disorders.
Prereq: 3610 or equiv. Not open to students with credit for 761.01 or 761.02.

5630 What Every Engineer and Designer Should Know about Human Factors Engineering U G 3
Provides critical knowledge for all engineers who will design equipment, products, or systems used by people; learn how human capabilities and limitations impact design success.
Prereq: Not open to students in Industrial and Systems Engineering.

5640 Occupational Safety: Analysis and Design of Work Environments U G 3
Introduction to workplace hazards and controls for engineers and others who design workplaces, equipment, tools, and processes.
Prereq: Enrolled in a major in the College of Engineering, or Construction Systems Management; or Grad standing. Not open to students with credit for 664 or 665, or to pre-majors.

5682 Fundamentals of Product Design Engineering U G 4
Fundamentals of the product design process, from concept creation to final implementation, including product architecture and design for manufacture and assembly.
Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 682, IndEng 682, or MechEng 5682 (682). Cross-listed in MechEng 5682.

5700 Introduction to Cognitive Systems Engineering U G 3
Human-centered design of consumer products, web sites and complex sociotechnical systems. Topics include human-computer interaction and the design of decision support and distributed work systems.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 3700 (770).

5705 Cognitive Engineering Systems: Distributed and Cooperative Work U G 3
Provides key concepts for the design and assessment of computer supported collaborative and distributed work systems.
Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 771. Repeatable to a maximum of 8 cr hrs or 4 completions.

5710 Behind Human Error: Safety and Complex Systems U G 3
Covers how complex systems fail and the human contribution to success and failure by studying actual disasters in diverse fields.
Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 876.

5720 Human Systems Integration U G 3
Concepts and methods for considering the human as part of the design and operation of any system, especially large scale systems and enterprises.
Prereq: Sr or Grad standing, or permission of instructor.

5730 Information Analysis and Synthesis U G 3
Professional information analysis in engineering, intelligence/security, business, and health care that identifies the factors that make the analytical process shallow or rigorous.
Prereq: Sr or Grad standing, or permission of instructor.

5740 Cognitive Engineering Systems: Human-Centered Automation U G 3
Provides key concepts to make autonomous systems, robots, and artificially intelligent systems work with responsible people.
Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 771.01. Repeatable to a maximum of 8 cr hrs or 4 completions.

5760 Visual Analytics and Sensemaking U G 3
Students learn about information visualization techniques that help people analyze massive amounts of digital data to combat overload and aid sensemaking with applications in retail and financial decision making, logistics, information systems, manufacturing, healthcare, energy and smart grids, cybersecurity and social networks.
Prereq: Jr, Sr, or Grad standing. Not open to students with credit for 773.01.

5770 Cognitive Engineering Systems: Design and Evaluation U G 3
Evaluation of product and system design to assess usefulness and usability; advanced design concepts for consumer products, web sites, educational tools and information retrieval systems.
Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 772.

5800 Advanced Project Management U G 3
Advanced project management engineering techniques to implement and optimize project-driven change; communication and leadership strategies critical to successful optimization of a firm’s processes and systems.
Prereq: 3800, or permission of instructor.

5810 Lean Sigma Foundations U G 4
Comprehensive foundation course for the Green Belt Level Certificate (not certification) that is required to complete Green and Black Belt Certification.
Prereq: Stat 3470, and permission of instructor. Concur: 3210. Not open to students with credit for 685.

5811 Lean Sigma Certification Project (Part I) U G 3
Focuses on industry sponsored LeanSigma DMAIC Certification Projects. Project Selection, Definition and Measure are covered in this course.
Prereq: 5810, and Sr standing, and enrollment in Industrial and Systems Engineering, and permission of instructor. Not open to students with credit for 680.01.

5812 LeanSigma Certification Project II U G 3
Focuses on industry sponsored Lean Sigma DMAIC Certification Projects. Improve and Control are the phases covered in this course.
Prereq: 5810 and 5811, and permission of instructor. Not open to students with credit for 680.02.

5815 Integrated Lean Sigma Fundamentals U G 3
Fundamental overview of Integrated LeanSigma with focus on a case study based understanding of the DMAIC methodology. Yellow Belt level certificate upon completion of exam.
Prereq: Stat 3470 (427 and 428), or Grad standing, or permission of instructor. Not open to students with credit for 5810.

5820 Systems Thinking in Engineering and Design U G 3
Concepts and heuristics in systems thinking and complex systems analysis and how these concepts apply to engineering and design projects.
Prereq: Sr or Grad standing, or permission of instructor. Not open to students with credit for 688.

Industrial and Systems Engineering 279
Introduction to decision analysis, modern utility theory and risk modeling, Bayesian inference, value of information, multivariate decision modeling, and application to engineering decisions under uncertainty. 
PreReq: 3210 and Stat 3470. Not open to students with credit for 684.

Introduction to market engineering concepts and applications to contemporary market design problems such as resource allocation, information aggregation, and decentralized control. 
PreReq: Introductory microeconomics, calculus, and statistics or equiv, or permission of instructor. Not open to students with credit for 603 or 703.

Provides a comprehensive treatment of Resilience Engineering tools to measure, manage, and design complex systems to be resilient in the face of surprising disrupting events. 
PreReq: Sr or Grad standing, or permission of instructor.

Special topics of general interest to graduate students in Integrated Systems Engineering. 
PreReq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

Special topics of general interest to graduate students in Integrated Systems Engineering and related fields. 
PreReq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

Introduction to nonlinear optimization, covering applications, and theory dealing with convexity, optimality conditions, duality, as well as some specialized optimization problems and algorithms. 
PreReq: CSE 1222 or equiv, Calculus, Linear Algebra, and an undergraduate course in optimization; or permission of instructor. Not open to students with credit for 820.

Introduction to continuous and discrete network optimization. Topics include shortest path, maximum flow minimum cut, minimum cost network flows algorithms, network design, and algorithms. 

Examines the modeling, theory, and solution algorithms for stochastic optimization problems. 
PreReq: 5200, and Stat 3470 or ISE 7300; or permission of instructor.

Students learn how to collect data and perform input analysis, model systems using discrete-event simulation, and inform system design decision-making through defensible output analysis. 
PreReq: Stat 3470 or equiv, and Calculus-based Probability. Not open to students with credit for 730.

Provides foundational and advanced project management education in an interactive online learning environment as part of the Master of Global Engineering Leadership program. 
PreReq: 3800, enrollment in Master of Global Engineering Leadership program, and permission of instructor.

Weekly seminars of general interest to graduate students in Integrated Systems Engineering and related fields. 
PreReq: Grad standing in Engineering, or permission of instructor. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

Research for the Masters Thesis in Industrial and Systems Engineering. 
PreReq: Grad standing in the M.S. program in Industrial and Systems Engineering. Repeatable to a maximum of 50 or hrs or 10 completions. This course is graded S/U.

Advanced course on modeling, programming, and statistical analysis techniques in discrete event simulation. Topics include random variable generation, input/output analysis, variance reduction and simulation optimization. 
PreReq: Stat 3278 or equiv. Not open to students with credit for 701.

Advanced Quality Control and Improvement 
PreReq: Grad standing, or permission of instructor. Not open to students with credit for 4120 (510), 610, 611, 612, 613, or 614.

Advanced topics of general interest to graduate students in Integrated Systems Engineering. 
PreReq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is graded S/U.

Special topics of general interest to graduate students in Integrated Systems Engineering and related fields. 
PreReq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

Unconstrained and constrained nonlinear optimization, covering applications, theory dealing with convexity, optimality conditions, duality, and algorithms. 
PreReq: Calculus, linear algebra, computer programming, and an introductory optimization course, or permission of instructor. Not open to students with credit for both 820 and 821.

Introduction to decomposition-coordination methods. Topics include cutting-stock problems, column and row generation methods, and stochastic programming. 
PreReq: 5200. Not open to students with credit for 823.

Introduction to the theory and solution methods for optimization problems which contain integer variables. Topics include polyhedral theory, cutting planes, branch-and-bound. 
PreReq: Calculus, Linear Algebra, and Linear Programming. Not open to students with credit for 822.

Examines many basic operations research models from network theory, integer programming, queuing theory, inventory theory and nonlinear programming. Algorithmic concepts are discussed. 
PreReq: 5200. Not open to students with credit for 881.

Stochastic processes commonly used in Industrial and Systems Engineering, including renewal processes and continuous time Markov chains. 
PreReq: 5300 or equiv. Not open to students with credit for 830.

Survey of sequencing/scheduling problems encountered in management systems. Emphasis is given to those problems and solution methods found in the literature. 
PreReq: 5200, Calculus, and Linear Algebra. Not open to students with credit for 841.

Advanced readings course of papers on occupational epidemiology, physiology, work-related musculoskeletal disorders, pathophysiology, biomechanics, anthropometry, electromyography, imaging, and modeling as related to spine biomechanics. 
PreReq: 5600 (660), or permission of instructor. Repeatable to a maximum of 9 cr hrs.

Builds upon theoretical information developed in ISE 7610. Provides link between theory and laboratory measurement in assessment of biomechanical issues for occupational low back disorder. 
PreReq: 7610 or 7620 or 7630 or permission of instructor. Repeatable to a maximum of 9 cr hrs.

Advanced readings course of papers on occupational epidemiology, physiology, work-related musculoskeletal disorders, pathophysiology, biomechanics, anthropometry, electromyography, imaging, and modeling as related to spine biomechanics. 
PreReq: 5600 (660), or permission of instructor. Repeatable to a maximum of 9 cr hrs.

Builds upon theoretical information developed in ISE 7620. Provides link between theory and laboratory measurement in assessment of biomechanical issues for occupational upper extremity disorders. 
PreReq: 7610 or 7620 or 7630 or permission of instructor. Repeatable to a maximum of 9 cr hrs.

Advanced seminar on contemporary topics in ergonomics; topics include, but are not limited to work-related musculoskeletal disorders, back biomechanics, upper extremity biomechanics, anthropometry, electromyography. 
PreReq: 5660 (660), or permission of instructor. Repeatable to a maximum of 9 cr hrs.

Seminar on emerging themes about human-machine systems and how these relate to current societal issues. 
PreReq: Grad standing. Repeatable to a maximum of 15 cr hrs.
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<tr>
<th>Course Code</th>
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<tbody>
<tr>
<td>7710</td>
<td>Cognitive Systems Engineering Research Practicum</td>
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<tr>
<td>7720</td>
<td>Cognitive Systems Engineering: Models and Methods</td>
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<td>7799</td>
<td>Special Topics in Human Systems Integration</td>
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<td>7811</td>
<td>Interdepartmental Seminar</td>
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<td>7812</td>
<td>Interdepartmental Seminar for MBLE program</td>
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<tr>
<td>7881</td>
<td>Colloquia, Workshops, and Seminars in Integrated Systems Engineering</td>
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<td>8099</td>
<td>Special Topics in Systems Engineering</td>
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<td>8194</td>
<td>Group Studies in Integrated Systems Engineering</td>
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<td>8299</td>
<td>Special Topics in Optimization</td>
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<td>8399</td>
<td>Special Topics in Stochastic Modeling</td>
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<td>8499</td>
<td>Special Topics in Production/Manufacturing Systems</td>
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<td>8599</td>
<td>Special Topics in Manufacturing Processes</td>
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<td>8699</td>
<td>Special Topics in Physical Ergonomics</td>
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<td>8799</td>
<td>Special Topics in Cognitive Ergonomics</td>
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<td>8850</td>
<td>Practice in Operations Research</td>
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**Industrial and Systems Engineering**

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<tr>
<td>8899</td>
<td>Special Topics in Integrated Systems</td>
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<tr>
<td>8908</td>
<td>Research in Integrated Systems Engineering</td>
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<td>8999</td>
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**Internal Medicine**

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<td>6789</td>
<td>Free Radicals in Biomedicine</td>
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<tr>
<td>7000</td>
<td>Foundation in Medicine I</td>
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<td>7020</td>
<td>Foundations in Genetics I</td>
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<td>7040</td>
<td>Foundations in Genetic Counseling I</td>
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<td>7050</td>
<td>Foundations in Genetic Counseling II</td>
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<td>7080</td>
<td>Advanced Genetic Counseling I</td>
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<tr>
<td>7090</td>
<td>Advanced Genetic Counseling II</td>
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Additional notes:
- Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.
- Prereq: 7040. Repeatable to a maximum of 6 cr hrs.
- Prereq: 7020. One hour a week of this course will include a practice or case-based learning approach which will be in alignment with content delivered in IntMed 7020 & 7040.
- Prereq: 7000. Repeatable to a maximum of 6 cr hrs.
- Opportunity to conduct research in Integrated Systems Engineering.
- Normal human systems and pathophysiology needed for the practice of genetic counseling and working with a healthcare team. This course will cover cell biology, tumor biology, metabolism, musculoskeletal, skin, reproductive, and cardiovascular systems. One hour a week of this course will include a practice or case-based learning approach which will be in alignment with content delivered in IntMed 7020 & 7040.
- Opportunity to conduct dissertation research in Integrated Systems Engineering.
- Selected topics in systems engineering, of special interest to advanced graduate students in Industrial and Systems Engineering and related fields.
- Opportunity to conduct research in Integrated Systems Engineering.
- Opportunity to conduct dissertation research in Integrated Systems Engineering.
- Repeatable to a maximum of 16 cr hrs or 4 completions.
- Repeatable to a maximum of 50 cr hrs or 10 completions.
- This course is graded SU.
- Repeatable to a maximum of 16 cr hrs or 4 completions.
- Repeatable to a maximum of 50 cr hrs or 10 completions.
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- Repeatable to a maximum of 50 cr hrs or 10 completions.
- This course is graded SU.
282 Internal Medicine

7100.01 Advanced Clinical Skills: Reproductive Counseling G 1
Students will gain skills needed to provide reproductive genetic counseling. Aspects of discipline explored in the context of case preparation, med and fam hist analysis, risk assess and counseling, diag, offering appropriate testing options, interpreting results, explaining complex genetics concepts to patients, creating visual aids for counseling, and psychosocial assess. & counseling.

7100.02 Advanced Clinical Skills: Adult Medical Genetics Counseling G 1
Students will focus on the skills needed to provide adult genetic counseling services (cardiogenetics, neurogenetics, and medical genetics). Aspects of discipline explored in the context of case preparation, med and fam hist analysis, risk assess and counseling, differential diagnosis, offering appropriate testing options, interpreting results, explaining complex genetics concepts to patients, creating visual aids for counseling, and psychosocial assess. & counseling.

7100.03 Advanced Clinical Skills: Pediatric Counseling G 1
Students will gain skills needed to provide pediatric genetic counseling. Aspects of discipline explored in context of case prep, med and fam hist. analysis, risk assess. and counseling, differential diagnosis, offering appropriate testing options, interpreting results, explaining complex genetics concepts to patients, creating visual aids for counseling, and psychosocial assess. & counseling.

7100.04 Advanced Clinical Skills: Cancer Counseling G 1
Students will gain skills needed to provide cancer genetic counseling. Aspects of discipline explored in context of case prep, med and fam hist. analysis, risk assess. and counseling, differential diagnosis, offering appropriate testing options, interpreting results, explaining complex genetics concepts to patients, creating visual aids for counseling, and psychosocial assess. & counseling.

7189.01 Clinical Practicum I G 3
Students will observe and be introduced to content, skills, and resources utilized in genetic testing laboratories and counseling. Students will be placed in several different genetic testing laboratories and participate in laboratory activities to understand the techniques used in the laboratory setting. Students will participate in a clinical placement in a designated clinic for seven weeks. This course is graded S/U.

7189.02 Clinical Practicum II G 1½
Students will observe and begin to participate in clinical care. Placements will be 1-2 days per week. Prereq: 7189.01. This course is graded S/U.

7189.03 Clinical Practicum III G 1½
Students will gain practical experience by providing genetic counseling services in a clinical placement 2-3 days per week. They will apply content learned in other courses and will work to achieve goals based on Practiced Based Competencies determined by the American Board of Genetic Counseling. This course is graded S/U.

7189.04 Summer Clinical Practicum IV G 5
Students will gain practical experience by providing genetic counseling services in a five day a week, six week long clinical placement. They will apply content learned in other courses and will work to achieve comprehensive cases towards their ABGC clinical log book. This course is graded S/U.

7189.05 Summer Clinical Practicum II G 5
Students will gain practical experience by providing genetic counseling services in a five day a week, six week long clinical placement. They will apply content learned in other courses and will work to achieve comprehensive cases towards their ABGC clinical log book. This course is graded S/U.

7193.01 Individual Studies: Allergy/Immunology G 1 - 18
All months, 1 or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Allergy/Immunology. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

7193.02 Individual Studies: Cardiology G 1 - 18
All months, one or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Cardiology. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

7193.03 Individual Studies: Dermatology G 1 - 18
All months, one or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Dermatology. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

7193.04 Individual Studies: Endocrinology G 1 - 18
All months, 1 or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Endocrinology. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

7193.05 Individual Studies: Gastroenterology G 1 - 18
All months, 1 or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Gastroenterology. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

7193.06 Individual Studies: Genetics G 1 - 18
All months, one or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Genetics. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

7193.07 Individual Studies: Hematology G 1 - 18
All months, one or more months to be elected. Research on a minor problem under faculty supervision in the following specialties of medicine: Hematology. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

7193.08 Individual Studies: Infectious Disease G 1 - 18
All months, one or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Infectious Diseases. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

7193.09 Individual Studies: Pulmonary Diseases/Allergy/Critical Care and Sleep Medicine G 1 - 4
All months, 1 or more months to be elected. Research on a minor problem under faculty supervision in the following specialties of medicine: Pulmonary Diseases (PACCS). Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7193.10 Individual Studies: Renal Disease G 1 - 18
All months, 1 or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Renal Diseases. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

7193.11 Individual Studies: Rheumatology G 1 - 18
All months, one or more months to be elected. Research on a focused problem under faculty supervision in the following specialties of medicine: Rheumatology. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

7430 Introduction to Global Health Research Methods and Design G 3
Examination of quantitative, qualitative and mixed method approaches for the study of global health issues. Prereq: Grad student enrolled in the Graduate Interdisciplinary Specialization in Global Health (GISGH) program, or permission of instructor. Not open to students with credit for 796. Cross-listed in Nursing.

7780 Research Methods G 2
Develop skills to conduct genetic research studies; including choosing research mentors, writing human research protocols, obtaining informed consent, developing research projects, study design, the scientific method, the basics in obtaining research funding, and presentation of research in the form of abstracts and posters.

7790 Introduction to Applied Gerontology G M 2
Provides a foundation for the further study of aging and development of improved aging services. Physiological, cognitive, and social dimensions of aging are considered. Prereq: Not open to students with credit for 790. This course is graded S/U.

7795 Issues and Trends in Aging G M 2
Study of national, state and local policy issues related to the older population. Problem-based approach is used to assess impact on current and future practices. Prereq: Not open to students with credit for 795. This course is graded S/U.

7881 Interdepartmental Seminar G 1 - 3
Interdepartmental Seminars. Sp Sem. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

7999.01 Thesis I G 3
Students will implement their IRB-approved graduate level research project developed in IntMed 7998 under the supervision of a thesis advisory committee. Prereq: 7998. This course is graded S/U.

7999.02 Thesis II G 4
Students will implement IRB approved graduate level research project developed in IntMed 7998. Prereq: 7998. This course is graded S/U.

8050 Current Technologies G 2
Through clinical cases, laboratory reports, and in-class exercises, we will investigate the techniques utilized in clinical diagnostic testing and screening to identify alterations in the genome and the bioinformatics resources used to interpret them.

8891.01 Cancer Biology and Host/Pathogen Science G 2
Study of national, state and local policy issues related to the older population. Problem-based approach is used to assess impact on current and future practices. Prereq: Not open to students with credit for 795. This course is graded S/U.

8891.02 Seminar Allergy/Immunology G 1
Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Au Sem. Repeatable.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>8891.02</td>
<td>Seminar Cardiology</td>
<td>G 1 - 3</td>
<td>Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Prereq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8891.03</td>
<td>Seminar: Dermatology</td>
<td>G 1 - 12</td>
<td>Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Prereq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8891.04</td>
<td>Seminar: Endocrinology</td>
<td>G 1 - 3</td>
<td>Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Prereq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8891.05</td>
<td>Seminar: Gastroenterology</td>
<td>G 1 - 3</td>
<td>Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Prereq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8891.06</td>
<td>Seminar: Genetics</td>
<td>G 1 - 3</td>
<td>Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Prereq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8891.07</td>
<td>Seminar: Hematology/Oncology</td>
<td>G 1 - 3</td>
<td>Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Prereq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8891.08</td>
<td>Seminar: Infectious Disease</td>
<td>G 1 - 3</td>
<td>Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Prereq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8891.09</td>
<td>Seminar: Pulmonary Disease, Allergy, Critical Care and Sleep Medicine</td>
<td>G 1 - 4</td>
<td>Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Prereq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8891.10</td>
<td>Seminar: Renal Disease</td>
<td>G 1 - 3</td>
<td>Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Prereq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8891.11</td>
<td>Seminar: Rheumatology</td>
<td>G 1 - 3</td>
<td>Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Prereq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8891.12</td>
<td>Seminar: General Medicine</td>
<td>G 1 - 3</td>
<td>Discussion of pertinent literature and research projects in various subspecialty areas with emphasis on basic science concepts. Prereq: Permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8999</td>
<td>Research</td>
<td>G 1 - 25</td>
<td>Research for thesis or dissertation purposes only. Repeatable to a maximum of 25 cr hrs or 25 completions. This course is graded S/U.</td>
</tr>
</tbody>
</table>

**International Studies**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>Introduction to Africa</td>
<td>U 3</td>
<td>Interdepartmental survey of the land, people, history, politics, social institutions, economic development, literature and the arts. Prereq: Not open to students with credit for 250. GE soc sci orgs and polities and diversity global studies course.</td>
</tr>
<tr>
<td>2050</td>
<td>Introduction to China and Japan</td>
<td>U 3</td>
<td>Multidisciplinary survey of contemporary Asian civilizations: their geographical and racial backgrounds, historical and cultural heritages, social organizations, economic and political problems and international relations. Prereq: Not open to students with credit for 235. GE soc sci orgs and polities and diversity global studies course.</td>
</tr>
<tr>
<td>2051</td>
<td>Introduction to Southeast Asia</td>
<td>U 3</td>
<td>Interdisciplinary survey of Southeast Asia: geographical and historical background, linguistic and cultural heritage, and contemporary political and economic development. Prereq: Not open to students with credit for 255.</td>
</tr>
<tr>
<td>2100</td>
<td>Introduction to Latin America</td>
<td>U 3</td>
<td>Interdepartmental survey of Latin American societies, anthropology, economics, history, literature, geography, and agriculture. Prereq: Not open to students with credit for 240. GE soc sci human, nat, and econ resources and diversity global studies course.</td>
</tr>
</tbody>
</table>

**Internal Medicine**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
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<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>2100H</td>
<td>Introduction to Latin America</td>
<td>U 3</td>
<td>Multidisciplinary survey of Latin American societies, anthropology, economics, history, literature, geography, and agriculture. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 240H. GE soc sci human, nat, and econ resources and diversity global studies course.</td>
</tr>
<tr>
<td>2194</td>
<td>Group Studies</td>
<td>U 1 - 3</td>
<td>Groups of students are offered the opportunity to pursue the interdepartmental study of special topics. Prereq: Permission of instructor. Not open to students with 15 qtr hrs of 294. Repeatable to a maximum of 9 or 9 completions.</td>
</tr>
<tr>
<td>2200</td>
<td>Introduction to the Modern Middle East</td>
<td>U 3</td>
<td>Interdepartmental survey of the land, people, history, politics, religions, philosophy, social institutions, economic development, literature, and the arts. Prereq: Not open to students with credit for 245. GE soc sci orgs and polities and diversity global studies course.</td>
</tr>
<tr>
<td>2250</td>
<td>Russia: From Communism to Capitalism</td>
<td>U 3</td>
<td>Survey of the birth, growth, and death of the communist Soviet Union and of the cultural, social, economic, and political trajectory of its successor, Russia. Prereq: Not open to students with credit for 230 or 2250H (230H). GE soc sci orgs and polities and diversity global studies course.</td>
</tr>
<tr>
<td>2250H</td>
<td>Russia: From Communism to Capitalism</td>
<td>U 3</td>
<td>Survey of the birth, growth, and death of the communist Soviet Union, and of the cultural, economic, social, and political trajectory of its successor, Russia. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 230H or 2250 (230). GE soc sci orgs and polities and diversity global studies course.</td>
</tr>
<tr>
<td>2251</td>
<td>Introduction to Eastern Europe Since World War II</td>
<td>U 3</td>
<td>Survey of the land, people, history, politics, social institutions, literature, and arts of Eastern Europe since World War II. Prereq: Not open to students with credit for 231. GE soc sci orgs and polities and diversity global studies course.</td>
</tr>
<tr>
<td>2500</td>
<td>Introduction to Development Studies</td>
<td>U 3</td>
<td>Examines theories of political economy and development, as well as the historical geography of global capitalism and contemporary issues in international economic development. Prereq: Not open to students with credit for 215H. GE soc sci human, nat, and econ resources and diversity global studies.</td>
</tr>
<tr>
<td>2500H</td>
<td>Introduction to Development Studies</td>
<td>U 3</td>
<td>Examines theories of political economy and development, as well as the historical geography of global capitalism and contemporary issues in international economic development. Prereq: Honors standing. Not open to students with credit for 215H. GE soc sci human, nat, and econ resources and diversity global studies.</td>
</tr>
<tr>
<td>2580</td>
<td>Feast or Famine: the Global Business of Food</td>
<td>U 3</td>
<td>Global and regional trends in food consumption and production are surveyed. Trade, technological change, and other responses to food scarcity are analyzed. Prereq: Not open to students with credit for 2580 (280) or AEDEcon 2580 (280) or 335. GE soc sci human, nat, and econ resources and diversity global studies course. Cross-listed in AEDEcon 2580.</td>
</tr>
<tr>
<td>2797.01</td>
<td>Study at a Foreign Institution</td>
<td>U 1 - 15</td>
<td>Deals with the history, culture, geography, and society of the country hosting the study abroad program. Repeatable to a maximum of 30 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>2797.02</td>
<td>Study Abroad: Contemporary Uganda</td>
<td>U 3</td>
<td>Enhancing the study of the history, culture, geography and society of Uganda by visiting the country. GE education abroad course.</td>
</tr>
<tr>
<td>2800</td>
<td>Introduction to Peace Studies</td>
<td>U 3</td>
<td>The meanings of peace and peacelessness in today's world, varied approaches to peace, contributions of many disciplines and professionals, and the significance of peoples' movements. Prereq: Not open to students with credit for 201. GE soc sci orgs and polities and diversity global studies course.</td>
</tr>
<tr>
<td>2800H</td>
<td>Introduction to Peace Studies</td>
<td>U 3</td>
<td>The meaning of peace and peacelessness in today's world, varied approaches to peace, contributions of many disciplines and professionals, and the significance of peoples' movements. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 201. GE soc sci orgs and polities and diversity global studies course.</td>
</tr>
<tr>
<td>3350</td>
<td>Introduction to Western Europe</td>
<td>U 3</td>
<td>Presents an introductory overview of the historical background to modern Western Europe. It surveys the development of society &amp; politics, as well as the evolution of art, architecture &amp; music from the 11th Century to the outbreak of WWII. Prereq: Not open to students with credit for 210. GE historical study and soc sci human, nat, and econ resources and diversity global studies course.</td>
</tr>
</tbody>
</table>
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3400  The Analysis and Display of Data  U  3
Introduction to the analysis of data. Topics include sampling, data collection, probability, inference, random variables, display of data, correlation, and analysis of variance. This course does not count toward a course elective for Econ majors.
Prereq: Not open to students with credit for Econ 4400 (444), 5410 (641), 5420 (642), 3400 (443), Stat 1430 (133), 1450 (145), 2450 (245) or AEDEcon 2005 (205). GE data ana course. Cross-listed in Econ.

3450  Human Rights: An Introduction  U  3
Provides an interdisciplinary introduction to the conceptual history as well as the practice of human rights. It traces the evolution of the idea of human rights, its adoption in international and domestic covenants, its role in domestic and international political disputes and its non-adoption by governments and civil society. Its essentially contested nature is also discussed.

3700  Introduction to Intelligence  U  3
Comprehensive introduction to the gathering, analysis, and use of military and political intelligence in a number of countries.
Prereq: Not open to students with credit for 350H.

3700H  Introduction to Intelligence  U  3
Comprehensive introduction to the gathering, analysis, and use of military and political intelligence in a number of countries.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 350H.

3701  Introduction to Homeland Security  U  3
Comprehensive overview of U.S. homeland security. Threats from natural disasters, terrorism, and other domestic and external sources will be studied, as will programs and technologies involved in disaster prevention and response.
Preq: Soph standing or higher, or permission of instructor. Not open to students with credit for 300.

3797  Four week Global Map Programs  U  1
Course deals with global issues from the perspective of both the host country and the US. Repeatable to a maximum of 2 cr hrs.

3850  Introduction to Globalization  U  3
Analysis of globalization in its various aspects, economic, political, environmental and technological, as well as of its extent and desirability.
Preq: Soph standing or above, or permission of instructor. Not open to students with credit for 356. GE soc sci indivs and groups and diversity global studies course.

4000  Comparative Ethnic Systems States and Identity  U  3
Comparative study of ethnic systems on five continents, with analysis of patterns of identity politics, through case studies of ancient, modern and newer states.
Preq: Soph standing, or permission of instructor.

4100  Impunity, Corruption & Crime in Contemporary Latin America  U  3
Explores recent trends in crime and corruption in Latin America. Readings are drawn from political science, political sociology, criminology and legal studies, to analyze different theoretical explanations of the causes of corruption.
Preq: Soph standing, or permission of instructor.

4195  Selected Problems in International Studies  U  3
Class discussions, with several guest speakers, informal conferences, and a reading and research program arranged to meet the special needs of those enrolled. Repeatable to a maximum of 9 or hrs.

4195H  Selected Problems in International Studies  U  3
Class discussions, with several guest speakers, informal conferences, reading and research program arranged to meet the special needs of those enrolled. Honors section available to students enrolled in honors program or by permission of instructor.
Preq: Honors standing, or permission of instructor. Repeatable to a maximum of 9 or hrs.

4200  Living Jerusalem: Ethnography and Bridge Blogging in Disputed Territory  U  3
In this experimental class, you will meet Israeli and Palestinian scholars and students in video conferences and blogs as you engage in ethnographic, historical, political & cultural analyses.
Preq: Soph standing or above. Not open to students with credit for 420E.

4242  Incomplete Democracies: the (Un)Rule of Law in Latin America  U  3
Explores various forms of violence including electoral violence and political assassination, organized crime, police brutality, and other human rights abuses in Latin America.
Preq: Soph standing or above. Not open to students with credit for 542 or PolSci 4242. Cross-listed in PolSci 4242.

4250  Comparative Communism: China and Russia  U  3
Seeks to understand the different trajectories of the world’s two great communist powers of the 20th century, China and the Soviet Union.
Preq: Soph standing, or permission of instructor. Not open to students with credit for 530.

4251  Organized Crime and Corruption in Contemporary Europe  U  3
Organized crime and corruption in Post-Communist Europe. Trafficking in drugs, weapons, organs, people and nuclear materials will be explored.
Preq: Soph standing or higher, or permission of instructor. Not open to students with credit for 533.

4252  The Taliban Struggle for Power in Modern Afghanistan  U  3
Explores how Afghanistan’s pattern of historical development led to the emergence of the Taliban, how the Taliban governed the country and how their propagation of Islam made it a central actor in the global “war on terror.”

4253  Central Asia in World Affairs  U  3
Survey of a region of the world in a key geo-strategic position between Russia, China, Southern Asia and the Middle East and with extensive natural resources that make its economic and political development important to the world’s major powers.

4254  Nationalism in Post-Communist Russia: The Chechen War  U  3
An intensive case study of post-independence nation building, this course is designed to introduce students to the role of nationalism and associated ethnic- and religious-identity politics in post-Soviet Russia and their relation to the Chechen War.

4320  Energy, the Environment, and the Economy  U  3
Examines the economic implications of climate change and climate change policies for society, including discussion of major state, federal, and international legislation.
Preq: AEDEcon 2001 (200) or Econ 2001 (200). Not open to students with credit for 565 or AEDEcon 4320 (565). Cross-listed in AEDEcon.

4320E  Energy, the Environment, and the Economy  U  3
Understand the role of energy in the economy and the environment. Explore the economics of clean, renewable energy, and understand the different policies for pollution control.
Preq: AEDEcon 2001 (200), or Econ 2001, 2001.01, 2001.02 or 2001.03H (200). Not open to students with credit for 4320 (565), AEDEcon 4320 (565) or 4320E. Cross-listed in AEDEcon.

4400  Advanced Data Analysis for Research  U  3
Focuses on how to perform statistical data analysis for research, formulate a hypothesis, assemble relative data, and apply appropriate statistical techniques to analyze international issues. Proper methods to draw inferences will be discussed.
Preq: 3400 (443) or Econ 3400 (443).

4451  The Immigration Controversy Through Film  U  3
Examines the controversial phenomenon of immigration through the medium of film. Throughout the semester, we will examine the politics of migration through scholarly materials focusing on concepts like globalization, citizenship, and identity in order and delve into the latest policy developments in the realm of immigration regulation and border enforcement.

4515  Ethnicity, Development, and the State in Sub-Saharan Africa  U  3
Takes a theoretical and comparative historical approach to analyzing problems of development and ethnic conflict in Sub-Saharan Africa.
Preq: Soph standing or above. Not open to students with credit for 515 or AfrAmASt 4515 (515). Cross-listed in AfrAmASt 4515 (515).

4532  Food Security and Globalization  U  3
Examination of the causes and solutions for food insecurity. Global and local factors that affect access to food are also considered.
Preq: AEDEcon 2001 (200) or Econ 2001 (200); or permission of instructor. Not open to students with credit for 434 or 532; or AEDEcon 4532 (532) or 434. Cross-listed in AEDEcon 4532.

4553  International Economic Development  U  3
Study of the growth and diversification of developing economies and the causes of poverty and inequality. Analyze the impacts of human capital formation, markets and public policy on development.
Preq: AEDEcon 2001 (200) or Econ 2001 (200). Not open to students with credit for 435, 535, AEDEcon 4536 (536), or 453. Cross-listed in AEDEcon.

4554  Economic Development of Sub-Saharan Africa  U  3
Issues shaping economic development and stagnation in contemporary Africa such as population growth, agricultural development, industrialization, trade, structural adjustment and environmental issues.
Preq: AEDEcon 2001 or (200) or Econ 2001 (200). Not open to students with credit for 436, 536, AEDEcon 4536, or 4536 (536). Cross-listed in AEDEcon.

4557  Middle Eastern Economic Development  U  3
Introduction to current economic issues facing Middle Eastern countries, and the similarities and differences in their growth, inflation, unemployment, fiscal and monetary policy, imports, exports, foreign debt and exchange rate policies.
Preq: AEDEcon 2001 (200), or Econ 2001 (200) and 2002 (201), or equiv. Not open to students with credit for 437, 537, Econ 4537 (537), AEDEcon 4537 (537), or 437. Cross-listed in AEDEcon and Econ.

4558  Latin American Economic Development  U  3
Public policy and other factors influencing economic growth in Latin America are examined.
Preq: AEDEcon 2001 (200) or Econ 2001 (200), or equiv. Not open to students with credit for 438, 538, AEDEcon 4538 (538), or 438. Cross-listed in AEDEcon.
<table>
<thead>
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<tbody>
<tr>
<td>4539</td>
<td>China's Economic Reforms and Globalization</td>
<td>U 3</td>
<td>An introductory survey course of economic reforms and globalization in China with emphasis on the country's economic and social transformation, and its integration into the global economy. Prereq: AED Econ 2001 (200) or Econ 2001 (200), or permission of instructor. Not open to students with credit for 439, 539, AED Econ 4539 (539), or 439. Cross-listed in ADEcon.</td>
</tr>
<tr>
<td>4540</td>
<td>International Commerce and the World Economy</td>
<td>U 3</td>
<td>Application of trade theory and policies to world trade that impacts global business. Prereq: ADE Econ 2001 (200), 2001H (200H), Econ 2001 (200), or 2001H (200H), or permission of instructor. Not open to students with credit for 540 or ADE Econ 4540 (540). Cross-listed in ADE Econ.</td>
</tr>
<tr>
<td>4550</td>
<td>Bioterrorism: An Overview</td>
<td>U 3</td>
<td>A broad awareness course on the bioterrorism threat to our food supply, crops, animal and public health, and bioterrorist organizations. Prereq: Jr or Sr standing. Not open to students with credit for 455 or Plnt Pth 4550 (455). Cross-listed in Plnt Pth.</td>
</tr>
<tr>
<td>4560</td>
<td>Cooperation and Conflict in the Global Economy</td>
<td>U 3</td>
<td>The economic, social, and political bases for, and responses to, increasing global economic integration. Prereq: Econ 2001 (200) and 2002 (201), or 400, or equiv. Not open to students with credit for 556 or Econ 4560 (556). Cross-listed in Econ.</td>
</tr>
<tr>
<td>4560H</td>
<td>Cooperation and Conflict in the Global Economy</td>
<td>U 3</td>
<td>The economic, social, and political bases for, and responses to, increasing global economics integration. Available to students enrolled in an honors program. Prereq: Honors standing, and Econ 200 and 201, or 400, or equiv; or permission of instructor. Not open to students with credit for 556, 556H, Econ 4560 (556), or 4560H (556H). Cross-listed in Econ.</td>
</tr>
<tr>
<td>4597.01</td>
<td>Food, Population, and the Environment</td>
<td>U 3</td>
<td>Issues related to world-wide population increases, food production, and associated environmental stress; policy options for lessening these concerns, especially in low-income countries. Prereq: Jr or Sr standing. Not open to students with credit for 597.01, 4597.01H (597.01H), ADE Econ 4597.01 (597.01), or ADE Econ 4597.01H (597.01H). GE cross-disciplinary seminar course. Cross-listed in ADE Econ.</td>
</tr>
<tr>
<td>4597.01H</td>
<td>Food, Population, and the Environment</td>
<td>U 3</td>
<td>Issues related to world-wide population increases, food production, and associated environmental stress; policy options for lessening these concerns, especially in low-income countries. Prereq: Honors and Sr standing, or permission of dept. or instructor. Not open to students with credit for 597.01H, 4597.01H (597.01H), ADE Econ 4597.01H (597.01H), or ADE Econ 4597.01 (597.01). GE cross-disciplinary seminar course. Cross-listed in ADE Econ.</td>
</tr>
<tr>
<td>4597.02</td>
<td>Antarctic Marine Ecology and Policy</td>
<td>U 3</td>
<td>Historical and contemporary evaluation of Antarctic resource management and its scientific basis. Prereq: Sr standing. Not open to students with credit for 597.02, 4597.02H, EEOB 597.02, ENR 4957.02 (597.02), or 4957.02H. GE cross-disciplinary seminar course. Cross-listed in ENR.</td>
</tr>
<tr>
<td>4597.02H</td>
<td>Antarctic Marine Ecology and Policy</td>
<td>U 3</td>
<td>Historical and contemporary evaluation of Antarctic resource management and its scientific basis. Prereq: Honors and Sr standing, or permission of instructor. Not open to students with credit for 597.02, 597.02H, EEOB 597.02, 597.02H, ENR 4957.02 (597.02), or 4957.02H. GE cross-disciplinary seminar course. Cross-listed in ENR.</td>
</tr>
<tr>
<td>4661</td>
<td>The City and Culture</td>
<td>U 3</td>
<td>Introduction to the comparative and cross-cultural study of cities, urban culture, and urbanism. Prereq: One course in Comp Std or Int Stds, or Grad standing, or permission of instructor. Not open to students with credit for 511 or Comp Std 4661 (511). Cross-listed in Comp Std.</td>
</tr>
<tr>
<td>4700</td>
<td>Terror and Terrorism</td>
<td>U 3</td>
<td>Focus on the origins, evolution and place of terrorism in the modern world and the ideology, motivation, and methods of a number of terrorist groups. Prereq: Not open to students with credit for 553.</td>
</tr>
<tr>
<td>4700H</td>
<td>Terror and Terrorism</td>
<td>U 3</td>
<td>Focus on the origins, evolution and place of terrorism in the modern world and the ideology, motivation, and methods of a number of terrorist groups. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 553 or 553H.</td>
</tr>
<tr>
<td>4701</td>
<td>The Development and Control of Weapons of Mass Destruction</td>
<td>U 3</td>
<td>Offers students an overview of the issues relating to atomic, biological, and chemical weapons, commonly referred to as weapons of mass destruction (WMD). Prereq: Not open to students with credit for 555.</td>
</tr>
<tr>
<td>4703</td>
<td>Science, Technology and the Cold War</td>
<td>U 3</td>
<td>Explores how science and technology, especially computer science and arms race technologies, influenced the global conflict between America and the Soviet Union. Prereq: Not open to students with credit for 554.</td>
</tr>
<tr>
<td>4704</td>
<td>A Global War on Terror? America's Response to the 9/11 Attacks</td>
<td>U 3</td>
<td>Explores the domestic and international impacts of the 9/11 terrorist attacks against the United States. Four different but interrelated wars will be studied: the war against the Taliban in Afghanistan and Pakistan, the war in Iraq, the global war on terror, and the war on the home front-curtailment of civil liberties, militarization of U.S. society, domestic terrorism. Prereq: Soph standing or above.</td>
</tr>
<tr>
<td>4708</td>
<td>Cultural Diplomacy</td>
<td>U 3</td>
<td>Cultural Diplomacy is the exchange of information, ideas and values among nations and peoples. Public and private mechanisms for these exchanges are explored. Prereq: Soph standing or above, or permission of instructor. Not open to students with credit for 550.</td>
</tr>
<tr>
<td>4801</td>
<td>Model United Nations</td>
<td>U 3</td>
<td>Interactive diplomatic simulation of the political processes of the UN system focusing on selected global problems; involves class discussion, group projects, and significant student participation. Prereq: Not open to students with credit for 552.</td>
</tr>
<tr>
<td>4802</td>
<td>Problems and Prospects for Peace</td>
<td>U 3</td>
<td>Integrated seminar focusing on problems encountered with peace strategies and both short- and long-term prospects for peaceful change. Prereq: Soph standing, or permission of instructor.</td>
</tr>
<tr>
<td>4803</td>
<td>Intervening for Peace: Peacekeeping and Collective Security</td>
<td>U 3</td>
<td>Exploration of the theory and practice of international peacekeeping and collective security. Prereq: Not open to students with credit for 551.</td>
</tr>
<tr>
<td>4804</td>
<td>Applied Nonviolence I: Methods</td>
<td>U 3</td>
<td>Provides an introduction to the strategies and methods of pursuing peace and social justice through nonviolence. Through a combination of reading, discussion, and practical experiments participants will develop a sound understanding of nonviolence theory and practice. Prereq: 2800.</td>
</tr>
<tr>
<td>4805</td>
<td>Applied Nonviolence II: Experiment</td>
<td>U 3</td>
<td>Applies the knowledge acquired from Applied Nonviolence I and is intended to develop and test the skills necessary to becoming a professional nonviolent activist. Prereq: 4804.</td>
</tr>
<tr>
<td>4850</td>
<td>Understanding the Global Information Society</td>
<td>U 3</td>
<td>Invites students to think critically about the global networks that are shaping the new knowledge creation &amp; sharing processes. To monitor news, investigate web resources &amp; gather information for assignments, report &amp; case study analysis. Prereq: Soph standing, or permission of instructor.</td>
</tr>
<tr>
<td>4851</td>
<td>Music in Disputed Territories: Cultural Dimensions of Globalization</td>
<td>U 3</td>
<td>Examines the role that music plays in forging new identities and in crossing political boundaries in disputed territory. We will explore music in the context of performances in daily life, religious ritual, and cultural and political events. Prereq: Soph standing, or permission of instructor.</td>
</tr>
<tr>
<td>4852</td>
<td>Research in Globalization</td>
<td>U 3</td>
<td>Explores aspects of globalization through the process of research, hypothesis construction, data gathering and analysis and preparing a finished research product. Prereq: 3850 (356) and Comp Std 3360 (357), or permission of instructor. Not open to students with credit for 557.</td>
</tr>
<tr>
<td>4873</td>
<td>Contemporary Religious Movements in Global Context</td>
<td>U 3</td>
<td>Examination of contemporary religious movements within the context of larger political, cultural, and economic processes, including post-colonialism, modernization, and globalization. Prereq: Course work in Comp Std or Int Stds, or Grad standing, or permission of instructor. Not open to students with credit for 523 or Comp Std 523. Cross-listed in Comp Std.</td>
</tr>
<tr>
<td>4999</td>
<td>Thesis Research</td>
<td>U 1 - 3</td>
<td>Undergraduate research or creative activities in variable topics. Prereq: Regular faculty mentor, and permission of department. Repeatable to a maximum of 9 hrs or 9 completions. This course is graded S/U.</td>
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</tbody>
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International Studies 285
286  International Studies

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>U</th>
<th>Credits</th>
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<tbody>
<tr>
<td>4999H</td>
<td>Thesis Research</td>
<td>U</td>
<td>1 - 3</td>
</tr>
<tr>
<td>5050</td>
<td>Two Koreas: Political Economy of Regional Rivalry</td>
<td>U G</td>
<td>3</td>
</tr>
<tr>
<td>5051</td>
<td>East Asia in the Post-Cold War Era: Issues in Regional Security</td>
<td>U G</td>
<td>3</td>
</tr>
<tr>
<td>5191</td>
<td>Student Intern Program in International Studies</td>
<td>U G</td>
<td>3 - 9</td>
</tr>
<tr>
<td>5193</td>
<td>Individual Studies</td>
<td>U G</td>
<td>1 - 6</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies</td>
<td>U G</td>
<td>1 - 3</td>
</tr>
<tr>
<td>5195</td>
<td>Selected Problems in International Studies</td>
<td>U G</td>
<td>3</td>
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<tr>
<td>5616</td>
<td>Challenges to Childhood: An International Perspective</td>
<td>U G</td>
<td>3</td>
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<tr>
<td>5640</td>
<td>Globalization and Latin America: Multi-Disciplinary Approaches</td>
<td>U G</td>
<td>3</td>
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<tr>
<td>5645</td>
<td>Contemporary Issues in the Middle East</td>
<td>U G</td>
<td>3</td>
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<tr>
<td>5700</td>
<td>Rebuilding Failed and Weak States</td>
<td>U G</td>
<td>3</td>
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<tr>
<td>5701</td>
<td>Intelligence and National Security in a Changing World</td>
<td>U G</td>
<td>3</td>
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<tr>
<td>5701E</td>
<td>Intelligence and National Security in a Changing World</td>
<td>U G</td>
<td>3</td>
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<tr>
<td>5702</td>
<td>Research on Organized Violence</td>
<td>U G</td>
<td>3</td>
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<tr>
<td>5703</td>
<td>Thinking And Writing: A Practicum for Intelligence</td>
<td>U G</td>
<td>3</td>
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<tr>
<td>5797</td>
<td>Study at a Foreign Institution</td>
<td>U G</td>
<td>1 - 18</td>
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<tr>
<td>5800</td>
<td>International Law</td>
<td>U G</td>
<td>3</td>
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<tr>
<td>5801</td>
<td>Children and War</td>
<td>U G</td>
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### Italian

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<tr>
<th>Code</th>
<th>Title</th>
<th>U</th>
<th>Credits</th>
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<tbody>
<tr>
<td>1101.01</td>
<td>Italian I</td>
<td>U</td>
<td>4</td>
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<tr>
<td>1101.02</td>
<td>Italian I Hybrid</td>
<td>U</td>
<td>4</td>
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<tr>
<td>1102.01</td>
<td>Italian II</td>
<td>U</td>
<td>4</td>
</tr>
<tr>
<td>1102.02</td>
<td>Italian II Hybrid</td>
<td>U</td>
<td>4</td>
</tr>
<tr>
<td>1103.01</td>
<td>Italian III</td>
<td>U</td>
<td>4</td>
</tr>
<tr>
<td>1103.02</td>
<td>Italian III Hybrid</td>
<td>U</td>
<td>4</td>
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</tbody>
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**Prerequisites:**
- GPA 3.0 or above, and Jr, Sr, or Grad standing. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.
- Designed to give students an opportunity to pursue a special course of study not otherwise available to them in course form. Prereq: Permission of instructor. Not open to students with credit for 694. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.
- Designed to give groups of students an opportunity to pursue special studies not otherwise offered. Prereq: Permission of instructor. Not open to students with credit for 694. Repeatable to a maximum of 9 cr hrs or 9 completions.
- Class Discussions, with several guest speakers, informal conferences, and a reading and research program arranged to meet the special needs of those enrolled. Counts against credits IntStds major can receive for 419. Prereq: Jr or Sr standing. Repeatable to a maximum of 9 cr hrs.
- Requires extensive research. Designed to provide high-level US policymakers with both raw information & detailed analysis on international events. Requires extensive research.
- Course will focus on the nature of North and South Korean regional rivalry and its global impacts. Security issues include North Korean nuclear threat, military alliances, & reunification prospects. Prereq: Soph standing, or permission of instructor.
- Become familiar with and to analyze East Asian regional security and economic issues in the post-Cold War era. Looking at the region as an international subsystem, the course focuses on the regional level and examines its global consequences. Prereq: Soph standing, or permission of instructor.
- Opportunity to gain knowledge of the policy process in a local, national, international or government agency. Prereq: GPA 3.0 or above, and Jr, Sr, or Grad standing. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.
- Designed to give students an opportunity to pursue a special course of study not otherwise available to them in course form. Prereq: Permission of instructor. Not open to students with credit for 694. Repeatable to a maximum of 9 cr hrs or 9 completions.
- Class Discussions, with several guest speakers, informal conferences, and a reading and research program arranged to meet the special needs of those enrolled. Counts against credits IntStds major can receive for 419. Prereq: Jr or Sr standing. Repeatable to a maximum of 9 cr hrs.
- Course will explore children's forced participation in war and its consequences and child poverty, labor, health, abuse, and victimization in international perspective. Prereq: Soph standing or above, or permission of instructor. Not open to students with credit for 616 or Social 5616 (616). Cross-listed in Sociol.
- Explores current debates on globalization in Latin America and recent and interrelated transformations in the economies, politics, and cultures of the region. Prereq: Jr standing or above. Not open to students with credit for 640 or Spanish 5640 (640). Cross-listed in Spanish.
- Intensive examination of contemporary issues in the Middle East by applying an interdisciplinary approach. Prereq: 2200 (245), or Jr standing. Not open to students with credit for 645 or NELC 5645 (645). Cross-listed in NELC.
- Tackles the question of how to design policies and programs to rebuild failed and weak states into functioning, if not vibrant democracies. Prereq: Soph standing or above, or permission of instructor. Not open to students with credit for PubAffs 5700 (570) or PubAffs 5700 (570). Cross-listed in PubAffs.
- An in-depth look at US intelligence practices, effectiveness & impact on policymaking; examines the role of secret activities in a democracy; derives heavily into current events from an intelligence perspective; looks at new intelligence challenges. Prereq: 3700 or 3700H (350 or 350H), or permission of instructor.
- An in-depth look at US intelligence practices, effectiveness and impact on policymaking; examines the role of secret activities in a democracy; derives heavily into current events from an intelligence perspective; looks at new intelligence challenges. Prereq: Honors standing, and 3700 (350) or 3700H (350H); or permission of instructor.
- Introduces students to the process of independent research through an in-depth examination of the Troubles in Northern Ireland.
Fictions of Italy: Medieval and Renaissance Literature  U  3
Introduction to social-cultural trends in Italy as reflected in literary texts and other materials from the beginnings to the Renaissance. Taught in English.
Prereq: Not open to students with credit for 151. GE lit and diversity global studies course.

Fictions of Italy: Modern and Contemporary Literature  U  3
Introduction to social-cultural trends in Italy as reflected in literary texts and other materials from the Renaissance to the present.
Prereq: Not open to students with credit for 152. GE lit and diversity global studies course.

Introduction to Italian Cinema  U  3
Survey of the Italian cinema from the beginnings to today, with special emphasis on neorealism. Taught in English.
Prereq: Not open to students with credit for 221. GE VPA and diversity global studies course.

Dante in Translation  U  3
Study of Dante's Divine Comedy with a focus on the Inferno. Students will explore the historical, religious, philosophical and literary world that the poem engages.
Prereq: English 1110 (110, 110.01, 110.02, or 110.03). Not open to students with credit for 251. GE lit course.

Mafia Movies  U  3
Examines Italian and American mafia movies made from 1905 to the present day and traces the history of the Italian and Italian American Mafias. Taught in English.
Prereq: English 1110 (110, 110.01, 110.02, or 110.03). Not open to students with credit for 251. GE lit course.

Contemporary Italian Society  U  3
Exploration of a variety of contemporary Italian society and culture while developing language skills. Special focus on reading skills. Not open to native speakers of Italian.
Prereq: A grade of C- or above in 1103, 1104.30 (104), or 5101; or permission of instructor. Not open to students with credit for 202. FL Admis Cond course.

Individual Studies  U  1 - 9
Individual studies.
Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs or 9 completions.

Group Studies  U  1 - 9
Group studies.
Repeatable to a maximum of 9 cr hrs or 9 completions.

Business Italian  U  3
Four-skill study and practice of general business Italian; introduction to current Italian commerce, business practices, terminology, business-related communication skills. Not open to native speakers of Italian.
Prereq: 2102 (202), or permission of instructor. Not open to students with credit for 206. FL Admis Cond course.

Styles and Stylistics  U  3
Development of writing skills in various contexts such as advertisements, poems, letters, film critiques and research papers. Not open to native speakers of Italian.
Prereq: 2102, or permission of instructor, FL Admis Cond course.

Italian Culture Through the Ages  U  3
An overview of Italian cultural history from the Medieval period to today; develops language skills through discussion of readings and film. Not open to native speakers of Italian.
Prereq: 2102 (202), or permission of instructor. Not open to students with credit for 420. FL Admis Cond course.

Reading Italy: Italian Literature and Culture  U  3
An exploration of the culture and history of different periods through selected works of Italian literature. Not open to native speakers of Italian.
Prereq: 2102 (202), or permission of instructor. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.

Modern Italian Media  U  3
Development of language skills using Italian media sources such as soap operas, internet resources, films, newspapers/magazines, etc. Not open to native speakers of Italian.
Prereq: 2102 (202), or permission of instructor. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.

The Regions of Italy  U  3
Development of language skills while studying the histories and cultures of a variety of regions of Italy. Not open to native speakers of Italian.
Prereq: 2102 (202), or permission of instructor. Not open to students with credit for 425. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.

Post-Unification Italy  U  3
An exploration of the cultural history of Italy from unification to the present day. Develops language skills through discussing visual media, literature, pop culture. Not open to native speakers of Italian.
Prereq: 2102 (202). FL Admis Cond course.

The Italian Language through Time  U  3
Development of language skills while studying the evolution of Italian from its Latin origins. Not open to native speakers of Italian.
Prereq: 2102 (202), or permission of instructor. Not open to students with credit for 423. FL Admis Cond course.

The Languages of Italy  U  3
Development of language skills while studying the structures and uses of modern Italian and the languages spoken in Italy today. Not open to native speakers of Italian.
Prereq: 2102 (202), or permission of instructor. FL Admis Cond course.

The Sounds of Italian  U  3
An introduction to Italian phonetics and phonology. Special focus on pronunciation. Not open to native speakers of Italian.
Prereq: 2102 (202), or permission of instructor. Not open to students with credit for 402.

CLLC Radio  U  3
Student partners prepare 3 target language broadcasts, each 1 hour in length. Broadcasts stream live over the internet, then become podcast for public use. Student "DJ's" conduct target language research on radio broadcast history and at least 15 thematic topics and related music that interests them. Students choose their music and content with approval and guidelines, then produce scripts.
Prereq: Permission of instructor.

Italy Abroad  U  1 - 9
Study abroad experience focusing on one of a variety of topics, such as urban life and contemporary society for students with no background in Italian.
Prereq: Not open to native speakers of Italian. Repeatable to a maximum of 9 cr hrs or 9 completions.

The Italian City  U  3
Study of contemporary Italian society and culture (particularly urban life) in Italy. Closed to native speakers of this language.
Prereq: One 3000-level course or permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. FL Admis Cond course.

Experience Italy  U  3
Study abroad experience that is the continuation of any one of the following courses: 3320, 3321, 3322, 3323, 3324, 3331, 4423, 4424, 4425. Students must enroll in the course that accompanies this study abroad experience. Not open to native speakers of Italian.
Prereq: 3320, 3321, 3322, 3323, 3331, 4423, 4424, or 4425. Repeatable to a maximum of 9 cr hrs or 3 completions. FL Admis Cond course.

Italian Cinema  U  3
Examination of Italian cinema from Neorealism to the present. Discussion of contemporary society and culture with a brief introduction to film theory. Not open students who are native speakers of Italian.
Prereq: One course at the 3000 (400) level or above, or permission of the instructor. Not open to students with credit for 613. FL Admis Cond course.

Survey of Italian Literature  U  3
Overview of selected works of Italian literature from the origins to today. Special focus on the cultural and historical contexts of the text studied. Not open to native speakers of Italian.
Prereq: One course taken at the 3000 (400) level or above, or permission of instructor. Not open to students with credit for 614. FL Admis Cond course.

Italian Identities  U  3
Examination of the experiences and perspectives of Italians (including emigrants) through reading, film, and discussion. Topics could include popular culture, Italian Americans, and immigration in Italy. Not open to native speakers of Italian.
Prereq: One course taken at the 3000 (400) level or above, or permission of instructor. Not open to students with credit for 615. FL Admis Cond course.

Italian Theater Workshop  U  3
The study, adaptation and presentation of a play in Italian. Not open to native speakers of Italian.
Prereq: Two 3000 (400) level courses, or permission of instructor. Not open to students with credit for 450 or 3225. FL Admis Cond course.

Structures of the Italian Language  U  3
Introduction to the basic concepts of Italian linguistics; improve and refine understanding of grammar; focus on several advanced-level structures. Not open to native speakers of Italian.
Prereq: One course taken at the 3000 (400) level or above, or permission of instructor. Not open to students with credit for 601. FL Admis Cond course.

Italian Translating  U  3
Translation from Italian to English and English to Italian of texts from diverse sources; analysis of prose styles and conventions in the two languages. Not open to native speakers of Italian.
Prereq: One course taken at the 3000 (400) level, or permission of instructor. Not open to students with credit for 602. FL Admis Cond course.

Undergraduate Research  U  1 - 3
Undergraduate research or creative activities in variable topics.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions.
4998H  Honors Research  U  1 - 3
A program of individual study for undergraduate honors students; includes individual conferences and reports.
Prereq: Honors standing, CPRH 3.5 or above in Italian, Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions.

4999  Undergraduate Thesis  U  3
Undergraduate thesis. Topics vary.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs.

4999H  Honors Thesis  U  3
Undergraduate Honors Thesis. Topics vary.
Prereq: Honors standing and permission of instructor. Repeatable to a maximum of 15 cr hrs.

5051  Latin and the Romance Languages  U G  3
Examines the socio-historical factors and the linguistic processes that contributed to the formation of the Romance languages and to their divergences. Course taught in English.
Prereq: Equivalent of 1103 in Italian, French, Spanish, Portuguese, Romanian, or Latin, or permission of instructor. Not open to students with credit for 692, French 692, RomLing 5051 (692), or Clas 5051. Cross-listed in Clas and RomLing.

5101  Italian for Speakers of Other Romance Languages  U G  5
Covers the same material in Italian 1101, 1102, and 1103 and is designed for students with a knowledge of a Romance language or Latin. Not open to native speakers of Italian.
Prereq: French 1102, Spanish 1102, Portuguese 1102, or Latin 1102, or permission of instructor. GE for lang course. FL Admis Cond course.

5193  Individual Studies  U G  1 - 9
Individual Studies
Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs or 9 completions.

5194  Group Studies  U G  1 - 9
Group Studies
Prereq: Written permission of department. Repeatable to a maximum of 9 cr hrs or 9 completions.

5331  History of the Italian Language  U G  3
Introduction to basic concepts of historical linguistics; exploration of the major factors of change in the history of the Italian language.
Prereq: Two Italian courses at the 3000-level or above; or Doctoral or MA Candidate; or qualified Undergraduates, and permission of instructor. Not open to students with credit for 711. FL Admis Cond course.

5797  Study at a Foreign Institution  U G  1 - 9
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.
Repeatable to a maximum of 9 cr hrs or 9 completions. FL Admis Cond course.

5890  Italian Seminar  U G  1 - 6
Colloquia, workshops, and departmental seminars.
Prereq: MA and PhD candidates; qualified undergraduates with permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. FL Admis Cond course.

6193  Graduate Independent Studies  G  1 - 15
Graduate Independent studies.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.

6194  Graduate Group Studies  G  1 - 15
Graduate group studies.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.

7301  Teaching French and Italian at the College Level  G  3
Methods and techniques for teaching French and Italian at the college level. For students enrolled in this course, the minimum number of credit hours required for graduation is increased by 3 hrs.
Prereq: Teaching associate in the Dept of French and Italian, or permission of instructor. Not open to students with credit for 801 or French 801. Cross-listed in French 7301.

8193  Individual Studies  G  1 - 9
Individual Studies.
Prereq: MA and PhD candidates; qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions.

8194  Graduate Group Studies  G  1 - 9
Graduate group studies.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions.

8221  Studies in Italian Literature; Author  G  3
Focus on one author from any time period.
Prereq: Doctoral or MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

8222  Studies in Italian Literature; Genre  G  3
Focus on one genre from one or several time periods.
Prereq: Doctoral or MA candidates or, qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

8223  Studies in Italian Literature; Theme  G  3
Focus on one theme from one or several time periods.
Prereq: Doctoral or MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

8224  Studies in Italian Literature; Place  G  3
Focus on the interactions between geography and literature.
Prereq: Doctoral or MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

8231  Dante Studies  G  3
Focus on variable selection of Dante's work, from early works to the Commedia, as well as cultural contexts. Attention also to the practice of Dante criticism.
Prereq: Doctoral and MA candidates, and qualified undergraduates with permission of instructor. FL Admis Cond course.

8232  Love and Religion in the Middle Ages  G  3
Focus on secular and/or spiritual love in the Middle Ages. Content varies and can include poetry, devotional prose, medical texts.
Prereq: Doctoral and MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 6 cr hrs. FL Admis Cond course.

8233  Boccaccio and the Art of the Short Story  G  3
Intensive study of Boccaccio's Decameron with comparison to sources as well as later works such as The Canterbury Tales and The Heptameron.
Prereq: Doctoral and MA candidates, or qualified undergraduates with permission of instructor. Not open to students with credit for 622. FL Admis Cond course.

8234  Realism and Idealism in the Renaissance  G  3
Focus on some of the dominant intellectual currents of the Renaissance, from Machiavelli's pragmatism to neo-Platonic discourse from Petrarch through Castiglione. Content varies.
Prereq: Doctoral and MA candidates, or qualified undergraduates with permission of instructor. Not open to students with credit for 622 and 625. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

8235  The Renaissance Body  G  3
Focus on the notions of the body as a form of beauty, as a vehicle of the divine, and as sinful, in literature and the arts in the Renaissance.
Prereq: Doctoral and MA candidates or, qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

8241  Italian Opera  G  3
Italian Opera in historical context. Effects of such historical movements as the Renaissance, the risorgimento, and realismo on Italian opera as a literary form.
Prereq: Doctoral and MA candidate, or qualified undergraduates with permission of instructor. FL Admis Cond course.

8242  Studies in Italian Culture: Gender and Genre  G  3
Examines representations of gender in film, literature, poetry or other media. May focus on one period/issue or address a center or longer time period.
Prereq: Doctoral and MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

8243  Studies in Italian Cinema  G  3
Detailed exploration and analysis of selected topics in Italian cinema.
Prereq: Doctoral and MA Candidates or, qualified undergraduates with permission of instructor. FL Admis Cond course.

8244  Studies in Italian Culture: Italy at War  G  3
Detailed analysis of either flemic or literary representations of periods of strife in modern Italian culture.
Prereq: Doctoral or MA candidates or, qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

8245  Italian Pop Culture  G  3
Exploration of new media, popular television, film, music, literature or other visual or performing arts.
Prereq: Doctoral or MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

8246  Studies in Italian Culture: Migrating Italy  G  3
In-depth exploration of Italian literature, film and culture of immigration and emigration. Primary texts may include novels, travel logs/journals, films, documentaries, newspaper articles, and propaganda material.
Prereq: Doctoral or MA candidates, or qualified undergraduates with permission of instructor. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.

8303  Teaching Apprenticeship  G  3
Apprenticeship for advanced doctoral students to work with faculty members on the design and teaching of upper-level Italian language, literature, and culture courses.
Prereq: Two years previous teaching experience, and permission of instructor and Graduate Studies Chair. Repeatable to a maximum of 6 cr hrs.
Examination of the sounds of Italian and the phonological structure of the language, as well as the study of Italian morphology, syntax and semantics. Prereq: Doctoral or MA candidate, or qualified undergraduates with permission of instructor. Not open to students with credit for 730. FL Admis Cond course.

The history and study of dialects; the analysis of the structure of a variety of dialect groups and dialects; examination of the relationship between dialect and language. Prereq: Doctoral or MA candidates, or qualified undergraduates with permission of instructor. Not open to students with credit for 730. FL Admis Cond course.

The role of class, gender, age, and immigration, in the development and use of the Italian language; the relationship between language and identity in Italy. Prereq: Doctoral or MA candidates, or qualified undergraduates with permission of instructor. Not open to students with credit for 730. FL Admis Cond course.

Focus on one broad area of critical theory in French and Italian studies each time offered; students read major theorists and write research papers using one or more of critical approaches studied. Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs. Cross-listed in French.


Two or more departments present colocia on subjects of mutual interest; topics to be announced. Repeatable with permission from the department. Prereq: Grad standing. Repeatable to a maximum of 6 cr hrs or 2 completions.

Faculty-led workshop in which PhD candidates meet weekly to discuss and critique their current dissertation research. Required each semester for PhD candidates, including the semester in which they defend the dissertation. Prereq: Doct standing in French or Italian. Repeatable to a maximum of 9 completions.

Pre-candidacy research and examination preparation for advanced graduate students. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

Research for dissertation. Prereq: Candidacy exams completed. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

Standard Japanese at the elementary level, with emphasis on building & applying basic language knowledge in doing things in Japanese: exercises in oral interactions & interactions involving text; introduction to the Japanese writing system. Not open to native speakers of this language through regular course enrollment or EM credits, or to students with 3 or more years of study in this language. Prereq: Not open to students with credit for 1101.02 (101.02) or 4 credits of 1101.51 (101.51). This course is available for EM credit. GE for lang course. FL Admis Cond course.

Standard Japanese at the elementary level, with emphasis on building & applying basic language knowledge in doing things in Japanese: exercises in oral interactions & interactions involving text; introduction to the Japanese writing system. Not open to native speakers of this language through regular course enrollment or EM credits, or to students with 3 or more years of study in this language. Prereq: Not open to students with credit for 1102.01 or 1102.02, or 4 credits of 1102.51. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Japanese at elem level, emphasis on building & applying basic lang knowledge in doing things in Japanese; exercises in oral interactions; introduction to the writing system. Progress is seq from 1 cr hr to next with prof at 80% req'd for advance. Prereq: Not open to students with credit for 1101.01, 1101.02 (101.02), or 4 credits of 1101.51; or to native speakers of this language through regular course enrollment or EM credit; or to students with 3 or more years of study of this language in high school, except by permission of dept. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Continuation of Japanese 1101. Sp Sem. Prereq: 1101.01 or 1101.02 or 4 credits of 1101.51. Not open to students with credit for 1102.02 (102.02) or with 4 credits of 1102.51 (103.51); or to native speakers of this language through regular course enrollment or EM unit. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Continuation of 1101.01, 1101.02, or 4 credits of 1101.51. Summer Intensive. Admission to SPEAC program is required for registration and complete 4 credits during the second 3.5 weeks of the Summer Session. Prereq: 1101.01 or 1101.02 or 4 cr hrs of 1101.51; and application and admission to SPEAC program. Not open to students with credit for 1102.01 or 4 credits of 1102.51, 102.02, or 103.02; or to native speakers of this language through regular course enrollment or EM credit. GE for lang course. FL Admis Cond course.

Continuation of 1101.01. Bridge course for students transitioning from the quarter to semester system. Prereq: 102.01, or permission of instructor. Not open to students with credit for 1102.01, 1102.02, or 4 credits of 1102.51; or to native speakers of this language, to students with EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GE for lang course. FL Admis Cond course.

Continuation of 1101.01. Bridge course for students transitioning from the quarter to semester system. Prereq: 101.01, or permission of instructor. Not open to students with credit for 1101.01, 1101.02, or 1101.51; or to native speakers of this language or to students with credit for 1102 through regular course enrollment or EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GE for lang course. FL Admis Cond course.

Continuation of 1101.01, 1101.02, or 4 credits of 1101.51. Individualized. Students complete from 1 to 4 units during the semester. Progress is sequential from one unit to the next with proficiency at the level of 80% required for advancement. Prereq: 1101.01 or 1101.02 or 4 units of 1101.51. Advancement to the first credit in this course in the same semester as the completion of the 4th credit for 1101.51 requires registration for both courses, with permission of instructor. Not open to students with credit for 1101.01, 1101.02, or 4 credits of 1101.51, or 102.01, or 103.01; or to native speakers of this language through regular course enrollment or EM credits. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Continuation of 1102.01, 1102.02, or 4 credits of 1102.51. Expanding oral and written communicative strategy building. Students must complete 4 units during the semester. Not open to native speakers of this language through regular course enrollment or EM credit. Au Sem. Prereq: 1102.01, 1102.02, or 4 units of 1102.51. Not open to students with credit for 1103.04, 4 credit of 1103.51, or 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Continuation of 1102.01, 1102.02, or 4 credits of 1102.51, and expanding oral and written communication. Intensive. Students must complete 4 cr hrs during the first 3.5 weeks of the Summer Session. Not open to native speakers of this language through regular course enrollment or EM credit. Su Sem. Prereq: 1102.01 or 1102.02, or 4 sem cr hrs of 1102.51; and application and admission to SPEAC program. Not open to students with credit for 1103.04, 4 sem cr hrs of 1103.51, or 104. GE for lang course. FL Admis Cond course.

Continuation of 1102.01, 1102.02, or 4 credits of 1102.51. Individualized. Students complete from 1 to 4 units during the semester. Progress is sequential from one unit to the next with proficiency at the level of 80% required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1102.01 or 1102.02, or 4 units of 1102.51. Advancement to the first credit in this course in the same semester as the completion of the 4th credit for 1102.51 requires registration for both courses, with permission of instructor. Not open to students with credit for 1103.04, 4 credit of 1103.51, or 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Continuation of 1102.01, 1102.02, or 4 credits of 1102.51. Expanding oral and written communication. Intensive. Students must register for both courses, with permission of instructor. Not open to students with credit for 1103.04, 4 credit of 1103.51, or 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Continuation of 1103.01, 1103.02, or 4 credits of 1103.51. Expanding oral and written communication. Intensive. Students must register for both courses, with permission of instructor. Not open to students with credit for 1103.04, 4 credit of 1103.51, or 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Continuation of 1103.01, 1103.02, or 4 credits of 1103.51. Expanding oral and written communication. Intensive. Students must register for both courses, with permission of instructor. Not open to students with credit for 1103.04, 4 credit of 1103.51, or 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Continuation of 1103.01, 1103.02, or 4 credits of 1103.51. Expanding oral and written communication. Intensive. Students must register for both courses, with permission of instructor. Not open to students with credit for 1103.04, 4 credit of 1103.51, or 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

Continuation of 1103.01, 1103.02, or 4 credits of 1103.51. Expanding oral and written communication. Intensive. Students must register for both courses, with permission of instructor. Not open to students with credit for 1103.04, 4 credit of 1103.51, or 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.
290  Japanese

2141  Intensive Level Two Japanese-Oral  
First course in the sequence of academic-year intensive Japanese courses; organized around a set of videotaped core conversations.
Au Sem. Prereq: 1102.01 or equivalent, and permission of instructor. Concur: 2151. Not open to students with credit for 1103, 2102, or 210. This course is available for EM credit. GE for language course. FL Admis Cond course.

2151  Intensive Level Two Japanese-Written  
Second course in the sequence of academic year intensive Japanese courses; organized around reading Japanese and a series of genre-specific samples of Japanese as it is written today.
Au Sem. Prereq: 1102.01 or equivalent, and permission of instructor. Concur: 2141. Not open to students with credit for 1103, 2102, or 211. This course is available for EM credit. FL Admis Cond course.

2231  Elements of Japanese Culture  
A survey of literature, art, religion, philosophy, film, and social institutions of the Japanese people from the earliest to the most recent times. Taught in English.
Prereq: Not open to students with credit for 231. GE cultures and ideas and diversity global studies course.

2451  Japanese Literature in Translation  
Representative masterpieces from Japan’s literary tradition: fiction, poetry, drama, prose. Taught in English.
Prereq: Not open to students with credit for 251. GE lit and diversity global studies course.

2452  Modern Japanese Literature in Translation  
Modern Japanese literature and media from late 19th century Western influences to contemporary writers; selected readings in English translation.
Prereq: Not open to students with credit for 252. GE lit and diversity global studies course.

4101  Level Three Japanese I  
Expansion of strategies for communication through oral and textual media.
Au Sem. Prereq: 2102.01 or 2102.02, or equivalent with permission of instructor. Not open to students with credit for 507 or 508. This course is available for EM credit. FL Admis Cond course.

4102  Level Three Japanese II  
Continuation of 4101; supplementary readings in short stories and standard reference works.
Sp Sem. Prereq: 4101, or equivalent with permission of instructor. Not open to students with credit for 508 or 509. This course is available for EM credit. FL Admis Cond course.

4102.01  Level Three Japanese II: Bridge  
Continuation of 4101. Bridge course designed for students who completed 508, but not 509 (in quarter system) and wish to go on to 4102. Also designed for students who completed only part of Intensive Level Three Japanese.
Au Sem. Prereq: 508, but not beyond, or a portion of Intensive Level Three Japanese. FL Admis Cond course.

4142  Intensive Level Three-Japanese-Oral  
Third course in the sequence of academic-year intermediate intensive Japanese courses; organized around a set of videotaped core conversations.
Sp Sem. Prereq: 1102.01, and permission of instructor; or 2141 with 2151 and permission of instructor. Concur: 4152. Not open to students with credit for 2102.01, 310, or 510. This course is available for EM credit. FL Admis Cond course.

4152  Intensive Level Three-Japanese-Written  
Fourth course in the sequence of academic-year intensive Japanese courses; organized around reading a set of genre-specific samples of Japanese as it is written today; integrated with 4142 in structure and vocabulary.
Au Sem. Prereq: 2101, and permission of instructor; or 2141 with 2151 and permission of instructor. Concur: 4142. Not open to students with credit for 4102, 311, or 511. This course is available for EM credit. FL Admis Cond course.

4193  Individual Studies  
Directed study to meet individual research needs of students in Japanese studies. Not a substitute for regular language courses.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

4194  Group Studies  
Group investigation of issues in Japanese studies. Varying topics.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

4400  Japanese Film and Visual Media  
An overview of Japanese cinema and visual media, with a focus on genre: canonical and popular works of anime, yakuza film, historical/samurai film, comedies, and documentaries.
Taught in English. No Japanese required.

4401  Japanese Literature and Film in Critical Perspective  
Prereq: 2491 or 2492, or equivalent; or permission of instructor. Not open to students with credit for 501.

4988  Undergraduate Research Project  
Focused research toward completion of an original project.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4998H  Honors Undergraduate Research Project  
Focused research toward completion of an original project.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4999  Undergraduate Research Thesis  
Focused research toward completion of an original thesis.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 2 completions. This course is graded S/U.

4999H  Honors Undergraduate Research Thesis  
Focused research toward completion of an original thesis.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 2 completions. This course is graded S/U.

5101.01  Level Four Japanese I: Classroom Track  
Continuation of 4102.01 or 4142/4152 with an increasing emphasis on presentation mode of communication. Students must complete 3 units during the semester.
Au Sem. Prereq: 4102 or 4142/4152. Not open to students with credit for 5101.02, or 611.01 and 610. FL Admis Cond course.

5101.02  Level Four Japanese I: Summer Intensive Track  
Continuation 4102.01 or 4142/4152; expansion of communicative strategies with increased emphasis on presentational mode of communication. Readings in various genres. Sum. Intensive. Must complete 3 credits during the first 3.5 weeks of the term.
Prereq: 4102, or 4142 and 4152; or permission of instructor; and application and admission to SPEAC program. Not open to students with credit for 5101.01, 610.02, or 611.02. FL Admis Cond course.

5102.01  Level Four Japanese II: Classroom Track  
Continuation of 5101.01 or 5101.02. Students must complete 3 units during the semester.
Sp Sem. Prereq: 5101.01 or 5101.02. Not open to students with credit for 5102.02, 611.01, or 612.01. FL Admis Cond course.

5102.02  Level Four Japanese II: Summer Intensive Track  
Continuation 5101.01 or 5101.02. Sum. Intensive. Students must register for the course at the beginning of the term and complete 3 credits during the second 3.5 weeks of the term.
Prereq: 5101.01, 5101.02, or permission of instructor; and application and admission to SPEAC program. Not open to students with credit for 5102.01, 611.02, or 612.02. FL Admis Cond course.

5103.01  Level Five Japanese I: Classroom Track  
Continuation of 5102.01 or 5102.02, with an increasing emphasis on presentation mode of communication. Classroom Track. Students must complete 3 units during the semester.
Au Sem. Prereq: 5102.01 or 5102.02. Not open to students with credit for 710.01 or 711.01. FL Admis Cond course.

5103.51  Level Five Japanese I: Individualized Track  
Continuation of 5102.01 or 5102.02, with an increasing emphasis on presentation mode of communication. Individualized Track. Students complete from 1 to 3 units during the semester.
Au Sem. Prereq: 5102.01 or 5102.02. Not open to students with credit for 710.01 or 711.01. FL Admis Cond course.

5104.01  Level Five Japanese II: Classroom Track  
Continuation of 5103.01. Classroom Track. Students must register for and complete 3 units during the semester.
Sp Sem. Prereq: 5103.01. Not open to students with credit for 5104.01, 711.01, or 712.01. FL Admis Cond course.

5104.51  Level Five Japanese II: Individualized Track  
Continuation of 5103.51. Individualized. Students must complete from 1 to 3 units during the semester.
Sp Sem. Prereq: 5102.01 or 5102.02. Not open to students with credit for 710.01 or 711.01. FL Admis Cond course.

5111  Classical Japanese I  
Develops familiarity with traditional Japanese and Western grammatical concepts, categories, functions, and reference tools for reading early Japanese, in close reading of selected primary texts and linguistic analysis.
Prereq: 4102, 4152 or equivalent; or permission of instructor. Not open to students with credit for 611. FL Admis Cond course.

5112  Classical Japanese II  
Advanced readings of premodern Japanese texts with attention to various problems of language history and literary genres.
Prereq: 5111, or permission of instructor. Repeatable to a maximum of 6 cr hrs.
5121 Kanbun U G 3
Introduces the basics of grammar of classical Japanese kanbun texts. Prereq: 5111 and 5112.

5194 Und/Grad Group Studies U G 1 - 3
Group investigation of issues in Japanese studies designed for a mix of undergraduate and graduate students. Varying topics. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

5271 The Japanese Religious Tradition U G 3
A survey of the Japanese religious tradition, including Shinto, Buddhism, Taoism, Neo-Confucianism, and folk religion from the 8th century B.C.E. to the present. Prereq: Permission of instructor. Not open to students with credit for 641 or CompStd 5871 (641). Cross-listed in CompStd 5871.

5311.51 Self-Monitoring Skill Development in Performance-Oriented Language Learning: Individualized U G 1 - 3
Develop self-monitoring skills as a way to enhance skill learning, especially in the context of intensive language study. Concur: 1101.02 and 1102.02; 1103.02 and 2102.02; or 5101.02 and 5102.02. Repeatable to a maximum of 9 cr hrs or 3 completions.

5315 Japanese Language: Structure, Culture, and Communication I U G 3
Critical and comprehensive survey of structural, cultural, and communicative aspects of the Japanese language. Taught in English. Prereq: 1101.01, 1101.02, or 4 units of 1101.51. Not open to students with credit for 515.

5316 Japanese Language: Structure, Culture, and Communication II U G 3
Critical and comprehensive survey of structural, cultural, and communicative aspects of the Japanese language. Prereq: 1103, 5315, or permission of instructor. Not open to students with credit for 516.

5380 Japanese Linguistics U G 3
Examination of the phonology, syntax, and lexicon of the Japanese language. Prereq: Permission of instructor. Not open to students with credit for 880.

5381 History of the Japanese Language U G 3
A survey of the development of the Japanese language from earliest times to the present. Prereq: Japanese Level III, or permission of instructor. Not open to students with credit for 681.

5400 Performance Traditions of Japan U G 3
Introduction to performance traditions of Japan; explores selected performing arts in their cultural contexts and examines patterns of emergence in modern times. Prereq: 2231, 2451, or 2452; or Chinese 2231 or 2451; or Korean 2231 or 2451; or EALL 1231; or permission of instructor. Not open to students with credit for 600.

5454 Japanese Literature: Classical Period U G 3
Survey of Japanese literature from the eighth to the twelfth century: myths, court poetry, tales, fiction, diaries, and miscellanies. Prereq: 2231, 2451, or 2452; or another Japanese literature course at the 2000 level or above; or permission of the instructor. Not open to students with credit for 654.

5455 Japanese Literature: Medieval and Edo Periods U G 3
Survey of Japanese literature from the thirteenth to the early nineteenth century: popular tales, poetry, drama, and the fiction of the merchant class. Prereq: 2231, 2451, 2452; or another Japanese literature course at the 2000 level or above, or permission of instructor. Not open to students with credit for 655.

5456 Japanese Literature: Modern Period U G 3
Advanced survey of Japanese poetry, fiction, drama and film from the 19th century to the present. Prereq: 2231, 2451, 2452, 5401, or another Japanese literature or culture course 2000 or above; or permission of instructor. Not open to students with credit for 656.

5798.01 Study Tour: Domestic U G 3 - 21
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Repeatable for different titled study tours only. Prereq: Permission of instructor. Repeatable to a maximum of 21 cr hrs or 7 completions.

5798.02 Study Tour: Foreign U G 8 - 21
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Repeatable for different titled study tours only. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 3 completions.

6193 Individual Studies G 1 - 3
Requires the use of Japanese sources and the completion of a paper reflecting the student's research. Not a substitute for regular language courses. Prereq: 4102 or 5112, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

6194 Group Studies G 1 - 3
Group investigation of issues in Japanese studies. Varying topics. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

6998 Research in Japanese: Project G 1 - 3
Research leading to the completion of a project other than a conventional MA thesis. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

6999 Research in Japanese: Thesis G 1 - 3
Research leading to the completion of an MA thesis. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

7382 Japanese Phonology G 3
An analysis of the phonological structure of Japanese from both synchronic and diachronic perspectives. Preqs: 6380 or 6381; or permission of instructor. Not open to students with credit for 782.

7384 Japanese Syntax G 3
Discussion of the grammatical structures of Japanese; presentation of syntactic rules. Preq: 6380. Not open to students with credit for 784.

7386 Japanese Pragmatics G 3
Discussion of pragmatic aspects of the Japanese language. Preq: 6380, or permission of instructor. Not open to students with credit for 786.

7387 Japanese Language Processing G 3
Discussion of various studies on and approaches to Japanese first and second language processing. Preq: 6380, or permission of instructor. Not open to students with credit for 787.

7388 Japanese Language Acquisition G 3
Discussion of Japanese language acquisition studies. Preq: 6380, or permission of instructor. Not open to students with credit for 788.

7451 Studies in Japanese Poetry G 3
Critical studies in Japanese poetry; survey of poetic forms, techniques, and aesthetics; concentration on a specific collection, poet, or coterie; topic varies. Preq: 5111 and 5454; or 5455 or 5456; or permission of instructor. Repeatable to a maximum of 9 cr hrs.

7452 Studies in Japanese Prose Literature G 3
History and critical study of Japanese narrative, including myths and monogatari from the 8th century to the present; topic varies. Preq: 5102.01 or 5111, or equivalent; or 5454, 5455, or 5456 or equivalent; or permission of instructor. Repeatable to a maximum of 9 cr hrs.

7453 Studies in Japanese Drama G 3
History and texts of Japan's dramatic literature; noh, kyougen, bunraku, kabuki, shingeki; topic varies. Preq: 5111 or 5112; 5454, 5455, or 5456; or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

7454 War Tales in the Japanese Tradition G 1 - 3
Introduction to texts and narrative traditions of selected war tales from medieval Japan. Intertextual relations with later genres of performance also explored. Content variable. Preq: 5111, 5112, 5400, 5454, 5455, 5456; or permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions.

7455 Tale of Genji G 3
Analysis of the 11th-century Tale of Genji (Genji monogatari), focusing on various aspects of its interpretation and its reception. Preq: 5111 and 5454; or 5455, 5456, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8387 Topics and Problems in Japanese Linguistics G 3
A detailed investigation of specific problems in the phonological, syntactical, and/or lexical analysis of the Japanese language. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

8470 Perspectives on Modern Japanese Stylistics G 3
Overview of the development of modern Japanese literary stylistics from the 19th c. to the present. Preq: 5102.01, 5111, or equivalent; or 5454, 5455, or 5456 or equivalent; or permission of instructor. Repeatable to a maximum of 9 cr hrs.

8477 Topics and Problems in Japanese Literature G 3
Readings in the major genres of Japanese literature with emphasis on analysis and critical evaluation. Varying topics. Preq: 5111 and 5454; or 5455, 5456, or permission of instructor. Repeatable to a maximum of 9 cr hrs.

8500 Japanese Bibliography and Research Methods G 3
Problems and procedures in the use of Japanese bibliographies and other reference materials, including electronic sources. Preq: 5102.1 or equivalent; or permission of instructor. Not open to students with credit for 800.
Jewish Studies

2194 Group Studies U 1 - 3
An investigation of a particular topic in Jewish Studies through readings, discussion and scheduled class meetings. The topic will vary from semester to semester and is based on emerging interests of students and faculty in Jewish Studies. Prereq: Permission of instructor.

2201 Introduction to Jewish Culture, Thought, and Practice U 3
An introduction to the historical, ideological, and cultural growth of Judaism examined from a variety of methodological perspectives. Prereq: Not open to students with credit for 201. GE cultures and ideas and diversity global studies course.

2205 Art and Ancient Judaism U 3
An exploration of the nature and function of art in ancient Judaism from the standpoint of history, cultural history, and material culture. Prereq: English 1110 (110). Not open to students with credit for Hebrew 2205 (345). GE VPA course. Cross-listed in Hebrew.

2209 The World of the Rabbis U 3
An examination of the origins, literature, and religious values of the movement of intellectuals who remade the culture of Judaism in the 2nd through 6th centuries. Prereq: English 1110 (110). Not open to students with credit for Hebrew 2209 (379). GE cultures and ideas course. Cross-listed in Hebrew.

2210 The Jewish Mystical Tradition U 3
The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience. Prereq: English 1110 (110). Not open to students with credit for 2210H, Hebrew 2210 (376), 2210H (376H), CompStd 2210 (376), or 2210H (376H). GE cultures and ideas and diversity global studies course. Cross-listed in CompStd and Hebrew.

2210H The Jewish Mystical Tradition U 3
The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience. Prereq: Honors standing, and English 1110 (110). Not open to students with credit for 2210, Hebrew 2210 (376), 2210H (376H), CompStd 2210 (376), or 2210H (376H). GE cultures and ideas and diversity global studies course. Cross-listed in CompStd and Hebrew.

2241 Yiddish Culture U 3
Introductory survey of political, social, ideological, and religious trends as reflected in Yiddish culture, especially folklore and literature. Prereq: Not open to students with credit for Yiddish 2241 (241). GE cultures and ideas and diversity global studies course. Cross-listed in Yiddish.

2242 Culture of Contemporary Israel U 3
An introduction to the culture of modern Israel: historical roots, socio-political institutions and developments, and literary and artistic creations reflecting the realities of contemporary Israeli society. Prereq: Not open to students with credit for 2242, Hebrew 2241 (241), or 2242H (241H). GE cultures and ideas and diversity global studies course. Cross-listed in Hebrew.

2242H Culture of Contemporary Israel U 3
An introduction to the culture of modern Israel: historical roots, socio-political institutions and developments, and literary and artistic creations reflecting the realities of contemporary Israeli society. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 2242, Hebrew 2241 (241), or 2242H (241H). GE cultures and ideas and diversity global studies course. Cross-listed in Hebrew.

2245 Israeli Film & Society U 3
A survey of Israeli films from 1948 to the present day, tracing the development of film production in Israel as well as the relationship between film and society. Prereq: English 1110 (110). Not open to students with credit for Hebrew 2245 (245). GE VPA course. Cross-listed in Hebrew.

2367 Jewish-American Voices in U.S. Literature U 3
Introduction to Jewish-American literature: development of expository writing and argumentation skills through systematic and critical reflection upon their own country from the perspective of an ethnic community. Prereq: English 1110 (110) or equiv. Not open to students with credit for Yiddish 2367 (367). GE writing and comm course: level 2 and cultures and ideas course. Cross-listed in Yiddish.

2450 Ancient and Medieval Jewish History, 300 BCE-1100 CE U 3
Introduction to the history of Jewish communities, religion, and culture in the Near East from the Greco-Roman period to the First Crusade. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 2450 (330.01), GE cultures and ideas and historical study and diversity global studies course. Cross-listed in History.

2451 Medieval and Early Modern Jewish History, 700-1700 CE U 3
Introduction to the history of Jewish communities, religion, and culture in Europe during the Medieval and Early Modern periods. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 2451 (330.01 and 330.02). GE historical study course. Cross-listed in History.

2452 Modern Jewish History 1700 - Present U 3
Study of the history of Jewish communities and Judaism from the early modern period to the early 21st century. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 2452 (330.02). GE historical study course. Cross-listed in History.

2453 History of Zionism and Modern Israel U 3
The history of Zionism movement and the modern state of Israel from beginnings to present. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 2453 (334). GE historical study course. Cross-listed in History.

2454 History of Anti-Semitism U 3
Study of the development of anti-Semitism, the history of anti-Semitic ideologies and practices, and different Jewish responses to anti-Semitism over time. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 2454 (333). GE historical study course. Cross-listed in History.

2455 Jews in American Film U 3
A study of how modern Jews appear in film compared with historical reality. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 2455 (332). GE historical study course. Cross-listed in History.

2475 History of the Holocaust U 3
Study of the state-sponsored murder of millions of Jews and non-Jews by the Nazis and their collaborators during World War II. Prereq or concur: English 1110.xx, or permission of instructor. Not open to students with credit for History 2475 (331). GE historical study course. Cross-listed in History.

2516 The Medieval Jewish Experience U 3
A survey of ten centuries of medieval Jewish culture from the rise of Islam to the death of Shabbetai Zvi, the false Messiah (1676). Prereq: Not open to students with credit for MedRen 2516 (Medieval 216) or Hebrew 2216 (216). GE cultures and ideas and diversity global studies course. Cross-listed in MedRen 2516 and Hebrew 2216.

2700 Biblical and Post-Biblical Hebrew Literature in Translation U 3
Reading and analysis of selected chapters from the Hebrew scriptures and post-biblical Hebrew writings representative of major historical, cultural, and literary trends. Prereq: English 1110 (110). Not open to students with credit for Hebrew 2700 (270), 2700H (370H), GE lit and diversity global studies course. Cross-listed in Hebrew.

2700H Biblical and Post-Biblical Hebrew Literature in Translation U 3
Reading and analysis of selected chapters from the Hebrew scriptures and post-biblical Hebrew writings representative of major historical, cultural, and literary trends. Prereq: Honors standing, and English 1110 (110); or permission of instructor. Not open to students with credit for Hebrew 2700 (270), 2700H (370H), GE lit and diversity global studies course. Cross-listed in Hebrew.

2701 Medieval Hebrew Literature in Translation U 3

2702 Modern Hebrew Literature in Translation U 3
A survey of major themes and topics in Modern Hebrew literature from the middle of the 19th century to the present. Prereq: English 1110 (110). Not open to students with credit for Hebrew 2702 (372), or 2702H (372H). GE lit and diversity global studies course. Cross-listed in Hebrew.
2702H  Modern Hebrew Literature in Translation  U  3
A survey of major themes and topics in Modern Hebrew literature from the middle of the 19th century to the present.
Prereq: Honors standing, and English 1110 (110); or permission of instructor. Not open to students with credit for JewishSt 2702, Hebrew 2702 (372), or 2702H (372H). GE lit and diversity global studies course. Cross-listed in Hebrew.

2703  Prophecy in the Bible and Post-Biblical Literature  U  3
The dynamics of Israelite prophecy and apocalyptic in the context of ancient Near Eastern culture.
Prereq: English 1110 (110). Not open to students with credit for Hebrew 2703 (373). GE lit and diversity global studies course. Cross-listed in Hebrew.

2704  Women in the Bible and Beyond  U  3
An examination of the social, legal, and religious position of women as they appear in the Hebrew Bible and the ways in which they have been represented and interpreted in later textual, visual, and audio sources.
Prereq: English 1110 (110). Not open to students with credit for Hebrew 2704 (374). GE lit and diversity global studies. Cross-listed in Hebrew.

2708  Biblical and Post-Biblical Wisdom Literature  U  3
An examination of the various ideas, themes, attitudes, implications, and genres of biblical and post-biblical wisdom literature.
Prereq: English 1110 (110). Not open to students with credit for Hebrew 2708 (378). GE lit and diversity global studies. Cross-listed in Hebrew.

3110  The Jewish Experience in Latin America  U  3
Introduction to issues in the history of Jews in Latin America, including the role of the region as a refuge from source of anti-Semitism.
Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for History 3110 (334.08). GE historical study course. Cross-listed in History.

3111  Introduction to Jewish Philosophy  U  3
A general introduction to major figures and trends in medieval, modern, and contemporary Jewish philosophy; emphasis on Philo, Saadia, Maimonides, Spinoza, Mendelssohn, and Buber.
Prereq: Not open to students with credit for Philos 3111 (321). Cross-listed in Philos.

3351  Judaism and Ethics  U  3
Examination of the relationships of ethics to religion in general and Judaism in particular, emphasizing the place of ethical reasoning within Judaism.
Prereq: Not open to students with credit for Philos 3351 (323). Cross-listed in Philos.

3371  Yiddish Literature in Translation  U  3
Reading, analysis, and discussion of representative works and of the development of major movements and genres in Yiddish literature.
Prereq: Not open to students with credit for Yiddish 3371 (371). GE lit and diversity global studies. Cross-listed in Yiddish.

3450  History of Ancient Israel (to 300 BCE)  U  3
Survey of the history and historiography of Israel from its origins to the advent of Hellenism.
Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for History 3450 (350.01). GE historical study course. Cross-listed in History.

3455  Jewish Life from the Renaissance to the Early Enlightenment  U  3
Life and thought of European and Mediterranean Jews in the early modern period.
Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for History 3455 (531.02 or 531.03). GE historical study course. Cross-listed in History.

3460  European Jewish History, 1789-1989  U  3
Study of European Jewish Communities from the French Revolution through the end of the Cold War.
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3460 (530.03). GE historical study course. Cross-listed in History.

3465  American Jewish History  U  3
Study of topics in American Jewish history from the colonial era to the present. Sometimes this course is offered in a distance-only format.
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3465 (530.04). GE historical study course. Cross-listed in History.

3470  Messiahs and Messianism in Jewish History  U  3
The history of Jewish messianic ideas and of Jewish messianic leadership from ancient to modern times.
Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for History 3470 (531.01). GE historical study course. Cross-listed in History.

3505  U.S. Diplomacy in the Middle East  U  3
Survey of U. S. foreign policy in the Middle East emphasizing the Cold War, Arab-Israeli conflict, Iran, and wars against Iraq. Sometimes this course is offered in a distance-only format.
Prereq: English 1110.xx, and any History 2000-level course; or permission of instructor. Not open to students with credit for History 3505. GE historical study and diversity global studies course. Cross-listed in History.

4191  Jewish Studies Internship  U  1 - 3
Community work with agencies and organizations serving the Jewish population. Evaluation of policy decisions from a Jewish perspective.
Prereq: 2221, and 9 sem cr hrs in JewishSt; or permission of instructor. Repeatable to a maximum of 3 cr hrs or 2 completions. This course is graded S/U.

4211  Art and Architecture of the Ancient Near East  U  3
A specialized study of the art and archeology of the Ancient Near East focusing on the cultures of the Mesopotamian valley and surrounding areas.
Prereq: HistArt 2001, or permission of instructor. Not open to students with credit for HistArt 4211 (561) or 661. Cross-listed in HistArt.

4459  Readings in Jewish History  U  3
Advanced readings on selected topics in Jewish History.
Prereq: English 1110.xx, and any History 3000-level course; or permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in History.

4475  Research Seminar in Jewish History  U  3
Advanced research and writing on selected topics in Jewish History.
Prereq: English 1110.xx, and any History 3000-level course; or permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in History.

4475E  Research Seminar in Jewish History  U  3
Advanced research and writing on selected topics in Jewish History.
Prereq: Honors standing, and English 1110.xx, and any 3000-level History course; or permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in History.

4475H  Research Seminar in Jewish History  U  3
Advanced research and writing on selected topics in Jewish History.
Prereq: Honors standing, and English 1110.xx, and any 3000-level History course; or permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in History.

4601  Modern Hebrew Short Story  U  3
Reading and discussion of masterpieces of modern Hebrew short stories in the 19th and 20th centuries.
Prereq: Hebrew 1103 (104), or permission of instructor. Not open to students with credit for Hebrew 4601 (421). Cross-listed in Hebrew.

4602  Modern Hebrew Poetry  U  3
Reading and discussion of masterpieces of modern Hebrew poetry in the 19th and 20th centuries.
Prereq: Hebrew 1103 (104), or permission of instructor. Not open to students with credit for Hebrew 4602 (422). Cross-listed in Hebrew.

4605  Readings in the Mishnah  U  3
Reading and discussion of the ideas and teachings of the Mishnah as they are reflected in the unique Mishnaic language.
Prereq: Hebrew 1103 (104), or permission of instructor. Not open to students with credit for Hebrew 4605 (425). Cross-listed in Hebrew.

4798  Study Tour  U  1 - 9
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.
Prereq: Permission of instructor (prerequisites may vary depending on the nature of the experience). Not open to student with credit for 498. Repeatable to a maximum of 9 hrs or 3 completions. This course is progress graded (S/U).

4798.02  History and Culture of Israel: Study Tour  U  3
Introduces the dynamics of the current Middle East peace process against the backdrop of the richness and diversity of contemporary Israeli society and culture. Students will read material pertaining to the Middle East peace process, attend and participate in lectures/discussions with instructors during May semester, and take part in a study tour of Israel through OSU OIA. GE education abroad course.

4999H  Thesis Research  U  1 - 3
A program of readings and empirical investigation of topics arranged on the basis of individual student interests. The course will entail individual conferences with faculty, reports, and honors thesis. An advanced independent study option.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

5101  Biblical Hebrew Grammar  U  3
Introduction to the phonology, morphology, and syntax of the Biblical Hebrew idiom.
Prereq: Hebrew 1103 (104), or permission of instructor. Not open to students with credit for Hebrew 5101 (601). Cross-listed in Hebrew.
294 Jewish Studies

5103 Grammar of Selected Ancient Near Eastern Languages U G 3
Fundamentals of grammar and reading in ancient Near Eastern languages (e.g., Egyptian, Coptic, Sumerian, Babylonian, Northwest Semitic dialects, Syriac). Knowledge of a Semitic language required.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in NELC.

5105 History of the Hebrew Language U G 3
Genealogical and typological relations within the Semitic family; a survey of Biblical, Mishnaic, and Modern Hebrew.
Prereq: Hebrew 1103 (104), or permission or instructor. Not open to students with credit for Hebrew 5105 (611). Cross-listed in Hebrew.

5111 Comparative Semitic Linguistics U G 3
An introduction to the study of comparative Semitic linguistics.
Prereq: Permission of instructor. Not open to students with credit for NELC 5111 (611). Cross-listed in NELC.

5130 Ugaritic U G 3
Introduction to the language and literature of Ugaritic; readings in the Ugaritic mythological literature.
Prereq: Permission of instructor. Not open to students with credit for NELC 5130 (630). Cross-listed in NELC.

5194 Group Studies U G 1 - 3
An investigation of a particular topic in Jewish Studies through readings, discussion and scheduled class meetings. The topic will vary from semester to semester and is based on emerging interests of students and faculty in Jewish Studies.
Prereq: 2201 or 2194, or permission of instructor. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.

5571 Canon and Communities in the Near East U G 3
Investigation of the process by which Near Eastern sacred texts (Bible, Quran, and others) become sacred and the interaction between texts and communities holding them sacred.
Prereq: Not open to students with credit for NELC 5571 (671). Cross-listed in NELC.

5601 Introduction to Hebrew Literary and Cultural Texts U G 3
Literary and cultural Hebrew texts from the biblical to the modern period; students will develop the ability to read critically and to build analyticay vocabulary. In Hebrew.
Prereq: Hebrew 2105, or permission of instructor. Not open to students with credit for Hebrew 5601 (620). Cross-listed in Hebrew.

5602 The Bible as Literature: Selected Readings U G 3
Critical study of basic issues in the language and analysis of biblical texts. In Hebrew.
Prereq: 4601, 4602, Hebrew 4601 (421), or Hebrew 4602 (422). Repeatable to a maximum of 12 cr hrs. Cross-listed in Hebrew.

5603 Readings in Rabbinic Literature U G 3
Study of selected texts and issues in Rabbinic literature, and discussions of the methods by which they are studied. In Hebrew.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in Hebrew.

5613 The American Jewish Experience: Life and Culture U G 3
An interdisciplinary approach to using history, literature, sociology, and the arts to investigate American Jewish life.
Prereq: 2201, or permission of instructor.

5641 Places in Ashkenaz U G 3
Jewish society of a specific place (e.g., Vienna, Amsterdam); tradition and modernity; assimilation and continuity; cultural, literary, and linguistic expression; arts and entertainment.
Prereq: Not open to students with credit for Yiddish 5641 (641). Repeatable to a maximum of 9 or hrs. Cross-listed in Yiddish.

5651 Modern Yiddish Prose U G 3
Reading and analysis of short stories and novels representative of major developments and trends in Yiddish prose of the 19th and 20th centuries.
Prereq: Yiddish 4402, or equiv. Not open to students with credit for Yiddish 5651 (651). Cross-listed in Yiddish.

5797 Study at a Foreign Institution U G 1 - 9
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State University Fees and any fees in excess of Ohio State tuition as well as all travel and subsistence costs.
Prereq: Written Permission of Melton Center Director. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is progress graded (S/U).

5801 Basic Bibliographic and Reference Tools in Hebraica, Judaica, and Semitics U G 3
A survey of tools which may be used in doing research at all levels in the study of Hebraica, Judaica, and Semitics.
Prereq: Not open to students with credit for Hebrew 5801 (680). Cross-listed in Hebrew.

5802 The Problem of Evil in Biblical and Post-Biblical Literature U G 3
Study of the vexing problem of evil; the seeming contradiction between tradition and experience; extensive readings and discussions of appropriate biblical and post-biblical literature. In English.
Prereq: Not open to students with credit for Hebrew 5802 (671). Cross-listed in Hebrew.

5806 Studies in Biblical Law U G 3
Examination of the various biblical corpora of laws within the context of a great body of legal collections which extended throughout the ancient Near East.
Prereq: Hebrew 2700H (370H), or Grad standing, or permission of instructor. Not open to students with credit for Hebrew 5806 (676). Cross-listed in Hebrew.

5870 Topics in Jewish Philosophy U G 3
An examination of a philosophical issue in Jewish thought or of the thought of a particular author; topics vary.
Prereq: Philos 3111 (321) or 3220 (302), or permission of instructor. Repeatable to a maximum of 8 cr hrs. Cross-listed in Philos.

7450 Studies in Jewish History G 1 - 6
An intensive study of selected issues in Jewish history; emphasis on problems posed by available source material and by current research in the area.
Prereq: Grad standing. Not open to students with credit for History 7450 (726). Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.

7601 Studies in Hebrew Poetry G 3
Advanced study of specific poetic periods, figures, and/or topics involving extensive readings and discussions of appropriate primary and secondary materials.
Repeatable to a maximum of 9 cr hrs. Cross-listed in Hebrew.

7602 Studies in Hebrew Prose G 3
Advanced study of specific periods, authors, and/or topics or prose writing, involving extensive readings and discussions of appropriate primary and secondary materials.
Repeatable to a maximum of 9 cr hrs. Cross-listed in Hebrew.

7891 Teaching Hebrew at the College Level G 3
Methods and techniques for teaching Hebrew at the college level.
Prereq: Not open to students with credit for Hebrew 7891 (801). Cross-listed in Hebrew.

8450 Seminar in Jewish History G 1 - 6
Graduate Research Seminar in Jewish History. Topics will vary.
Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.

8891 Seminar in Hebrew Studies G 3
Intensive investigation of a selected topic or problem in Hebrew linguistics, philology, literature, or literary culture.
Repeatable to a maximum of 12 cr hrs. Cross-listed in Hebrew.

Kinesiology

1263 Special Issues Affecting Contemporary Student-Athletes U 3
An exploration of current topics and problems concerning collegiate athletes and the decision-making skills needed to facilitate college adjustment.
Prereq: Fresh or Soph standing, or permission of instructor. Not open to students with credit for EduPAES 263. This course is graded S/U.

2221.01 Sports Officiating: Baseball U 1
Study of playing rules, rule interpretation, techniques, and mechanics of officiating interscholastic and intercollegiate baseball. Satisfactory evidence of playing skill in the elected athletic sport.
Prereq: Not open to students with credit for EduPAES 221.01.

2221.02 Sport Officiating: Basketball U 1
Study of playing rules, rule interpretation, techniques, and mechanics of officiating interscholastic and intercollegiate basketball. Satisfactory evidence of playing skill in the elected athletic sport is required.
Prereq: Not open to students with credit for EduPAES 221.02.

2221.04 Sports Officiating: Football U 1
Study of playing rules, rule interpretation, techniques, and mechanics of officiating interscholastic and intercollegiate football. Satisfactory evidence of playing skill in the elected athletic sport is required.
Prereq: Not open to students with credit for EduPAES 221.04.

2221.15 Sports Officiating: Softball U 1
Study of playing rules, rule interpretation, techniques, and mechanics of officiating interscholastic and intercollegiate softball. Satisfactory evidence of playing skill in the elected athletic sport required.
Prereq: Not open to students with credit for EduPAES 221.15.
3315 Positive Transitions for Intercollegiate Student-Athletes  U  2
Addresses transitional issues unique to intercollegiate student-athletes. Students will learn
appropriate development "Life Skills" needed to facilitate their personal and career adjustment.
Prereq: Jr or Sr standing; or instructor permission. Not open to students with credit for EduPAES 315. This course is graded S/U.

4998 Research: Kinesiology  U  1 - 12
Independent study related to research in Kinesiology: Health and Exercise Science, Physical Education, or Sport Industry.
Prereq: Open only to Kinesio majors, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

4998H Research: Honors in Kinesiology  U  2 - 3
A program of accelerated study for students with special aptitudes.
Prereq: Honors standing and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

5194 Group Studies: Kinesiology  U  G  1 - 15
Special Topics related to issues in Kinesiology.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions.

6100 Race, Gender and Culture in Sports  G  3
Provides students with knowledge, understanding, and experiences related to the following topics in sport: ethnicity and race, gender, culture, religion, and language, participation and socialization, social theories, and critical race and social justice theories.

6101 Ethics of Coaching  G  3
Examines ethical and moral issues that are central to coaching in contemporary sport setting and address the way in which we should treat human beings in sports settings. Issues such as fairness, equality, integrity, and sport's purpose will be discussed and questions of an ethical and moral nature.

6891 Kinesiology Graduate Core Course I  G  3
Introduction to graduate study in Kinesiology with an emphasis on becoming a successful doctoral student and scholar.
Prereq: Grad standing in Kinesiology, or permission of instructor.

6892 Kinesiology Graduate Core Course II  G  3
Advanced graduate study in Kinesiology including writing the thesis or dissertation.
Prereq: Doct standing in Kinesiology, or enrollment in MS, or permission of instructor.

7100 Mental Preparation and Performance in Sport  G  3
Examination of psychological theories and research related to mental preparation and performance in sport. An introduction to the field which will provide broad overview of the major topics in the area.

7102 Science of Physical Activity and Nutrition for Coaches  G  3
Examines the primary human physiological systems and their response to acute and chronic exercise stimuli, as well as the effects of training and physical activity on health, fitness and athletic performance. The role of nutrition in health and various sport types will be examined with a focus on mainstream current recommendations.

7103 Research Skills for Coaches  G  3
Students learn about research methods and design, and conduct mini-action research derived from their practice. Students develop skills in the questions they generate about their professional practice, and to engage in structured inquiry as a strategy for enhancing coaching environments.

7104 Proseminar for Coaches  G  3
This proseminar focuses on the development of knowledge, abilities, and dispositions necessary for effective, participative, and productive leadership in coaching settings. Topics covered in this course include leadership skills, interpersonal relationships, organizational membership, branding, the relationship between the sporting team and the community.

7999 Research: Thesis  G  1 - 6
Provides graduate students with the opportunity to develop and conduct basic and applied kinesiology research required for the completion of a thesis.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

8189 Practicum in Kinesiology  G  1 - 6
Practicum study hours in Kinesiology
Prereq: Admission to Kinesiology graduate program, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

Kinesiology: Health and Exercise Science

2360 Kinesiology  U  4
The mechanics of the musculoskeletal system, both in vitro and in vivo, as they relate to the generation and maintenance of human movement.
Prereq: Not open to students with credit for EduPAES 360 and 361.

3193 Independent Study: Health and Exercise Science  U  1 - 12
Independent study in Health and Exercise Science.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

3209 Orientation to Exercise Science  U  1
The purpose of this course is to introduce HES majors to the depth and breadth of careers in exercise science and to develop professional and research qualifications and experiences that will foster success now and after graduation.
Prereq: Admission to Exercise Science Education Major. Not open to students with credit for EduPAES 209.

3414 Applied Exercise Physiology  U  4
Examines the primary human physiological systems and their response to acute and chronic exercise stimuli.
Prereq: Physio 3101 and 3102; or 3202; or permission of instructor. Not open to students with credit for EduPAES 414 or 514.

4490 Graded Exercise Testing  U  1
Practical experiences in the development of aerobic training programs and fitness evaluation for a variety of adult and youth populations.
Prereq: 5661.01 and 5665, or EduPAES 5661.01 and 5665, and proof of CPR First/AID certification; or permission of instructor. Not open to students with credit for EduPAES 400.10.

4525 Promoting Behavior Change in Sport, Leisure, & Exercise  U  3
This course introduces students to theories, mediators, and behavior change strategies applied to sport, leisure, and exercise settings and provides knowledge and opportunities to develop skills to promote adoption and adherence to physical activity.
Prereq: Admission to major (Exercise Science Education, Sport Industry, Human Nutrition). Not open to students with credit for EduPAES 525.

5191 Internship: Health and Exercise Science  U  G  12
Prepares students to assume career-related responsibilities in Health and Exercise Science by providing a practical extended experience under the supervision of an exercise science professional.
Prereq: 4490 or EduPAES 4490, and enrollment in Exercise Science Education major; or enrollment in master's program in Kinesiology, Health & Exercise Science concentration. This course is graded S/U.

5194 Group Studies: Health and Exercise Science  U  G  1 - 12
Group study in HES.
Prereq: Open only to Exercise Science Education majors; permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

5491 Body Composition Evaluation  U  G  1
Practical experience in the assessment and interpretation of body composition for a variety of adult, youth and special populations.
Prereq: Jr standing, and proof of CPR First/AID certification. Not open to students with credit for EduPAES 490.11.

5492 Muscular Strength and Anaerobic Power Testing  U  G  1
Includes practical experiences in the understanding and application of muscular strength and anaerobic power testing. Experience in explanation, motivation of clients and evaluation of the results with application will be included.
Prereq: Jr standing, and proof of CPR First/AID certification. Not open to students with credit for EduPAES 490.12.

5493 Fitness Program Development and Evaluation: Older Adults  U  G  1
Includes practical experiences with facilitated understanding in the assessment, development, delivery and evaluation in the area of individualized fitness and wellness programs.
Prereq: Jr standing, and proof of CPR First/AID certification. Not open to students with credit for EduPAES 490.13.

5500 Science of Physical Activity for Health Care Professionals  U  G  4
Examines the primary human physiological systems and their response to acute and chronic exercise stimuli, as well as the effects of training and physical activity on health, fitness and human performance.
Prereq: Jr standing or above. Not open to students with credit for EduPAES 500.

5650 Health Program Planning  U  G  3
The social, epidemiologic, behavioral and educational foundations of health promotion will be reviewed. Skills in: needs assessment, program planning, and program implementation will be developed.
Prereq: Not open to students with credit for EduPAES 652.

5650 Worksite Health Promotion  U  G  3
Effective health promotion practice at the workplace. Skills: health needs assessment, health program decision-making, reviewing educational / health behavior literature, health behavior program planning, implementation, and evaluation.
Prereq: Not open to students with credit for EduPAES 652.
### Kinesiology: Health and Exercise Science

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<td>5681.03</td>
<td>Advanced Labs in Exercise Physiology</td>
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<td>5685</td>
<td>Adult Exercise Programming-Implementation</td>
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<td>5686</td>
<td>Advanced Exercise Training and Evaluation for Prevention and Rehabilitation</td>
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<td>5703</td>
<td>Health Behavior Theory</td>
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<td>Health Program Evaluation</td>
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<td>7713</td>
<td>Foundations of Physical Activity Behavior</td>
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<td>8802</td>
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### Kinesiology: Physical Education

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<td>1208</td>
<td>Orientation to Sport and Leisure Studies</td>
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<td>2201</td>
<td>Concepts of Fitness and Wellness</td>
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<td>2262</td>
<td>Coaching the Young Athlete</td>
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<td>2620.04</td>
<td>Coaching: Football</td>
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<td>2620.08</td>
<td>Coaching: Soccer</td>
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<tr>
<td>2620.14</td>
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This field experience develops knowledge of elementary learners, schools, curriculum, pedagogy, pedagogical content knowledge, and assessment.
Concur: 3740. Admission to PETE undergraduate major or permission of the instructor. Not open to students with credit for EduPAES 689.01.

Advanced independent study in physical education.
Prereq: Enrollment in Physical Education, Sport & Physical Activity major, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

Prepares students to teach racquet sports in educational settings.
Prereq: Admission into PETE Major strand. Not open to students with credit for EduPAES 302.
Prepares students to teach court games in educational settings.
Prereq: Admission into PETE strand, PAS strand, coaching education minor, or physical activity specialist minor. Not open to students with credit for EduPAES 305.

An indepth analysis of the content and instruction of an lower elementary school Physical Education curriculum. Students will develop skills and knowledge in developmentally appropriate content in elementary physical education.
Prereq: Admission to a Physical Education teacher Education major. Not open to students with credit for EduPAES 520.

An indepth analysis of the content and instruction of the upper elementary school physical education curriculum. Students will develop skills and knowledge in developmentally appropriate content in elementary physical education.
Prereq: Admission to the Physical Education Teacher Education major.

Provides pedagogical content knowledge in physical education at the elementary school level, and provide the opportunity to apply this knowledge in an elementary school environment.
Prereq: Admission to PETE undergraduate major, or permission of instructor. Concur: 3189. Not open to students with credit for EduPAES 740.

This field experience develops knowledge of secondary learners, schools, curriculum, pedagogy, pedagogical content knowledge, and assessment.
Concur: 4741. Admission to PETE undergraduate major or permission of the instructor. Not open to students with credit for EduPAES 689.02.

An advanced field experience designed to give practice in teaching K-12 health education in schools.
Prereq: Admission to PETE undergraduate major or GPA 2.75 or above. Concur: 4780. Not open to students with credit for EduPAES 786.

Observation, participation, and responsible teaching in an elementary school setting.
Prereq: Admission to PETE undergraduate major and GPA 2.75 or above. Concur: 4780. Not open to students with credit for EduPAES 786.

Observation, analysis, and teaching in a public secondary school; dual and three-way conferences with supervisor and cooperating teacher.
Prereq: Admitted to PETE undergraduate major and GPA 2.75 or above. Concur: 4780. Not open to students with credit for EduPAES 787.

Directed coaching experience.
Prereq or concour: 4463, and admission to Kinesiology major or Coaching Education minor; or permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.

This course is designed to introduce students to effective coaching strategies and practices.
Prereq: Enrollment in undergraduate Physical Activity Specialist Strand. Not open to students with credit for EduPAES 643.

The purpose of this course is to provide pedagogy and pedagogical content knowledge in physical education at the secondary school.
Prereq: Admission to PETE undergraduate major or permission of instructor. Not open to students with credit for EduPAES 741.

Methods for the teaching of comprehensive school health education (CSHE) in elementary, middle, and high schools. It is required for the teacher licensure program in health education teachers.

Seminar designed to connect students’ school-based internship experiences with pedagogical knowledge through discussions and reflections about teaching physical education.
Prereq: admission to PETE undergrad major and GPA 2.75 or above. Concur: 4191.01 and 4191.02. Not open to students with credit for EduPAES 780.

Group study in Physical Education.
Prereq: Open only to Physical Education, Sport & Physical Activity majors, and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

Provides students with the knowledge and skills required to successfully conduct a qualitative analysis of skills and instructional tasks and develop teaching progressions.
Prereq: Not open to students with credit for EduPAES 521.

Introduction to adapted physical activity across school, community, and clinical settings.
Prereq: Major in the College of EHE, or permission of instructor. Not open to students with credit for EduPAES 544.

Overview of sport for individuals with disabilities with emphasis given to physiological, psychological, and socio-cultural perspectives.
Prereq: Admission into an undergraduate or graduate major in EHE or coaching minor; or interdisciplinary disability studies minor and graduate specialization; or permission of instructor. Not open to students with credit for EduPAES 657.

Considerations related to the physical, motor and fitness needs of individuals with severe physical impairments within a physical activity context.
Prereq: Ugrad or Grad standing in EHE, or permission of instructor.

Examines the role of physical education within the social, historical, and philosophical foundations of education in the United States. We examine curriculum as a mechanism for the operationalization of different educational values and philosophies both as a theoretical exercise and as practice.
Prereq: 2601 or EduPAES 2601, or Grad standing.

Provides students with knowledge, understanding, and experience related to various socio-cultural issues within the physical education setting.
Prereq: Admission to PESPA major, PE graduate program, or permission of instructor. Not open to students with credit for EduPAES 795.

Prereq: Not open to students with credit for EduPAES 794 or 851.

Designed for students to develop research skills in the context of completing research projects.
Prereq: Doctoral standing in Kinesiology. Repeatable to a maximum of 15 cr hrs.

Enhances the preparation of students to teach health and fitness courses at the college level.
Prereq: Admission to PTE or PA Grad program, or permission of instructor. Not open to students with credit for EduPAES 686.

Provides students with a basis for understanding three decades of research in this area. The student will develop competencies as a consumer of educational research and practice as a teacher educator.
Prereq: Admission to PETE or PA Grad program, or permission of instructor. Not open to students with credit for EduPAES 868.

This professionally focused course examines contemporary issues in curriculum and instruction in physical education. The course is designed to be flexible and the content changes to reflect the current changes in the field of physical education.
Repeatable to a maximum of 15 cr hrs.
1102 First Aid and CPR
U 2
Necessary skills to sustain life, reduce pain, and minimize consequences of injury/injury during an emergency. Course is designed to lead to Certification. Lab fees required.
Prereq: Not open to students with credit for EduPAES 102.

1103 Introduction to Health and Wellness in American Society
U 2
A study of student health problems; designed to foster understandings and attitudes needed for intelligent decision-making related to present and future health needs. Prereq: Not open to students with credit for EduPAES 103.

1122 Techniques in Cardiopulmonary Resuscitation
U 1
Development of skills for situations requiring cardiopulmonary resuscitation measures. Completion designed to lead to certification in CPR/Automatic External Defibrillator (AED). All materials provided. Lab fees required.
Prereq: Not open to students with credit for EduPAES 122.

1137 Sport for the Spectator
U 2
The study of various popular spectator sports including football, basketball, baseball, golf, tennis, ice hockey and others. Prereq: Not open to students with credit for EduPAES 137.

1139.01 Introductory Program of Outdoor Pursuits: Scuba II
U 1
Introduction to fresh water diving. Student responsible for travel and activity costs. Student must provide wetsuit (rentals may be available). Prereq: 1179 or EduPAES 1179, or equiv, and permission of instructor. Not open to students with credit for EduPAES 139.01. This course is graded S/U.

1139.02 Introductory Program of Outdoor Pursuits: Whitewater Rafting
U 1
Introduction to basic whitewater rafting, including: river reading, paddling techniques, equipment, trip planning, and safety. Student must provide sleeping bag and appropriate clothing for river conditions. Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.02. This course is graded S/U.

1139.03 Introductory Program of Outdoor Pursuits: Backpacking I
U 1
Introduction to basic backpacking techniques, equipment, wilderness travel, emergency procedures, and environmental awareness. Travel and subsistence costs for activities will be borne by the student. Student must provide sleeping bag and hiking boots. Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.03. This course is graded S/U.

1139.04 Introductory Program of Outdoor Pursuits: Winter Backpacking
U 1
Designed for the experienced backpacker and covers winter camping, clothing, travel techniques, and advanced first aid. Student must provide sleeping bag and hiking boots. Prereq: 1139.03 or EduPAES 1139.03, or equiv, and permission of instructor. Not open to students with credit for EduPAES 139.05 or 140.03. This course is graded S/U.

1139.05 Introductory Program of Outdoor Pursuits: Skiing I
U 1
Beginning skills and knowledge needed for outdoor skiing. Students must provide equipment. Prereq: Permission of instructor. This course is graded S/U.

1139.06 Introductory Program of Outdoor Pursuits: Caving I
U 1
Introduction to basic caving techniques, equipment, trip planning, and safety; cave related ecology, flora, and fauna will also be emphasized. Travel and subsistence costs for activities will be borne by the student. Student must provide sleeping bag. Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.07. This course is graded S/U.

1139.07 Introductory Program of Outdoor Pursuits: Experimental Sections
U 1
Activities will be announced and publicized whenever an experimental section is deemed worthy of trial. Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.07. This course is graded S/U.

1139.08 Introductory Program of Outdoor Pursuits: Fly Fishing
U 1
Introduction to basic materials and methods of fly fishing including choosing and using proper equipment suited for fly fishing in ponds, lakes and rivers in the Midwest. Prereq: Permission of instructor. This course is graded S/U.

1139.09 Introductory Program of Outdoor Pursuits: Canoeing
U 1
Introduction to basic canoeing techniques, equipment, trip planning, and safety; canoe related ecology, flora, and fauna will also be emphasized. Travel and subsistence costs for activities will be borne by the student. Prereq: Not open to students with credit for EduPAES 1140.05, EduPAES 1140.05, or 139.10. This course is graded S/U.

1139.10 Introductory Program of Outdoor Pursuits: Lightweight Backpacking
U 1
Advanced backpacking activities including navigation, rope handling skills, and survival techniques. Students must provide sleeping bag and hiking boots. Prereq: 1139.03 or EduPAES 1139.03, or equiv, and permission of instructor. Not open to students with credit for EduPAES 1140.05, EduPAES 1140.05, or 139.10. This course is graded S/U.

1139.11 Introductory Program of Outdoor Pursuits: Rock Climbing
U 1
Basic rock climbing techniques, rope handling, and safety systems will be covered. Must be in good physical condition. Travel and subsistence costs for activities will be borne by the student. Prereq: Not open to students with credit for EduPAES 139.11. This course is graded S/U.

1139.12 Introductory Program of Outdoor Pursuits: Orienteering
U 1
The sport of orienteering involving compass skills, map reading, and cross-country travel; cross-country racing in its competitive form. Travel, transportation and subsistence costs for activities will be borne by the student. Compass required. Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.13. This course is graded S/U.

1139.13 Introductory Program of Outdoor Pursuits: Skydiving
U 1
Introduction to skydiving including techniques, safe practice and strategies. Students will have the opportunity to skydive; however, it is not required to pass the course. Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.14. This course is graded S/U.

1139.14 Introductory Program of Outdoor Pursuits: Hot Air Ballooning
U 1
Introduction to hot air ballooning. Covers history, design, structure, and flight procedures of the modern balloon. Students crew flights and act as balloon chasers. Prereq: Not open to students with credit for EduPAES 139.19. This course is graded S/U.

1139.15 Introductory Program of Outdoor Pursuits: Introduction to Small Boat Sailing
U 1
Introduction to small boat sailing will cover information needed to select, assemble, and safely use equipment. Travel and subsistence costs for activities will be borne by the student. Only very basic skills will be taught. Prereq: Permission of instructor. Not open to students with credit for EduPAES 139.19. This course is graded S/U.
Introductory Program of Outdoor Pursuits: Conditioning Activities: Kickboxing

Outdoor Pursuits Program: Experimental Sections
Conditioning Activities: Jogging
Conditioning Activities: Cardio Exercise Training
Lifetime Fitness Programs: Jogging
Conditioning Activities: Circuit Training
Basketball Women
Lifetime Fitness Programs: Cardio Equipment Training
Wall Climbing
Conditioning Activities: Strength Training
Basketball Men
Principles of Fitness and Wellness
Bowling II

Conditioning Activities: Circuit Training
Students will participate in circuit training which combines strength and cardiovascular endurance activities.
Concur: 1147. Not open to students with credit for 1148.02, 1148.03, 1148.04, 1148.05, 1148.06, 1148.07, or 1148.08; or EduPAES 1148.02, 1148.03, 1148.04, 1148.05, 1148.06, 1148.07, 1148.08 or 148.01.

Conditioning Activities: Jogging
Students will participate in a progressive jogging program in which they will jog from 1-3.5 miles.
Concur: 1147. Not open to students with credit for 1148.01, 1148.03, 1148.04, 1148.05, 1148.06, 1148.07, or 1148.08; or EduPAES 1148.01, 1148.03, 1148.04, 1148.05, 1148.06, 1148.07, 1148.08 or 148.02.

Conditioning Activities: Swimming
Students will participate in a progressive swim conditioning program that culminates in an end-of-the-semester class swim meet.
Concur: 1147. Not open to students with credit for 1148.01, 1148.02, 1148.04, 1148.05, 1148.06, 1148.07, or 1148.08; or EduPAES 1148.01, 1148.02, 1148.04, 1148.05, 1148.06, 1148.07, 1148.08, or 148.03.

Conditioning Activities: Strength Training
Students will participate in a progressive strength and endurance training program using weight machines, free weights, and other strength equipment.
Concur: 1147. Not open to students with credit for 1148.01, 1148.02, 1148.03, 1148.05, 1148.06, 1148.07, or 1148.08; or EduPAES 1148.01, 1148.02, 1148.03, 1148.05, 1148.06, 1148.07, 1148.08, or 148.04.

Conditioning Activities: Cardio Exercise Training
Students will participate in a progressive cardiovascular exercise training program that will utilize popular stationary equipment including treadmills, elliptical machines, cycles, and rowing machines.
Concur: 1147. Not open to students with credit for 1148.01, 1148.02, 1148.03, 1148.04, 1148.05, 1148.06, 1148.07, or 1148.08; or EduPAES 1148.01, 1148.02, 1148.03, 1148.04, 1148.06, 1148.07, 1148.08, or 148.05.

Conditioning Activities: Group Fitness
Students will participate in a progressive aerobic program that will include: step, body sculpting, cardio dance, HIIT (high intensity interval training) and boot camp style training.
Concur: 1147. Not open to students with credit for 1148.01, 1148.02, 1148.03, 1148.04, 1148.05, 1148.07, or 1148.08; or EduPAES 1148.01, 1148.02, 1148.03, 1148.04, 1148.05, 1148.07, 1148.08, or 148.06.

Conditioning Activities: Pilates
Students will participate in a progressive exercise program that utilizes pilates.
Concur: 1147. Not open to students with credit for 1148.01, 1148.02, 1148.03, 1148.04, 1148.05, 1148.06, 1148.08; or EduPAES 1148.01, 1148.02, 1148.03, 1148.04, 1148.05, 1148.06, 1148.08, or 148.06.

Conditioning Activities: Kickboxing
Students will participate in a progressive kickboxing program that utilizes kickboxing.
Concur: 1147. Not open to students with credit for 1148.01, 1148.02, 1148.03, 1148.04, 1148.05, 1148.06, or 148.07; or EduPAES 1148.01, 1148.02, 1148.03, 1148.04, 1148.05, 1148.06, 1148.07, or 148.06.

Lifetime Fitness Programs: Circuit Training
Students will participate in circuit training which combines strength and cardiovascular endurance activities.
Prereq: 1147 and 1148, or EduPAES 1147 and 1148. Not open to students with credit for 1148.01, or EduPAES 1148.01 or 149.01.

Lifetime Fitness Programs: Jogging
Students will participate in a progressive jogging program in which they will jog from 1-3.5 miles.
Prereq: 1147 and 1148, or EduPAES 1147 and 1148. Not open to students with credit for 1148.02, or EduPAES 1148.02 or 149.02.

Lifetime Fitness Programs: Swimming
Students will participate in a progressive swim conditioning program that culminates into an end-of-the-semester class swim meet.
Prereq: 1147 and 1148, or EduPAES 1147 and 1148. Not open to students with credit for 1148.03, or EduPAES 1148.03 or 149.03.

Lifetime Fitness Programs: Strength Training
Students will participate in a progressive strength and endurance training program using weight machines and free weights.
Prereq: 1147 and 1148, or EduPAES 1147 and 1148. Not open to students with credit for 1148.04, or EduPAES 1148.04 or 149.04.

Lifetime Fitness Programs: Cardio Equipment Training
Students will participate in a progressive cardiovascular exercise training program that will utilize popular stationary equipment including treadmills, elliptical machines, cycles, and rowing machines.
Prereq: 1147 and 1148, or EduPAES 1147 and 1148. Not open to students with credit for 1148.05, or EduPAES 1148.05 or 149.05.
300  Kinesiology: Sport, Fitness, and Health Program

1149.06 Lifetime Fitness Programs: Group Fitness  
Students will participate in a progressive aerobics program that will include step, body sculpting, cardio dance, HIIT (high intensity interval training) and boot camp style training. Prereq: 1147 and 1148, or EduPAES 1147 and 1148. Not open to students with credit for EduPAES 1148.06 or EduPAES 1148.06 or 149.06.

1149.07 Lifetime Fitness Programs: Pilates  
Students will participate in a progressive exercise program that utilizes pilates. Prereq: 1147 and 1148, or EduPAES 1147 and 1148.

1149.08 Lifetime Fitness Programs: Kickboxing  
Students will participate in a progressive exercise program that utilizes kickboxing. Prereq: 1147 and 1148, or EduPAES 1147 and 1148.

1150.01 Lifetime Fitness and Wellness Strength Training  
On course that promotes principles of fitness and wellness over the lifespan. Prereq: Not open to students with credit for 1147, 1148.04 or 1149.04 1150.02, or EduPAES 1147, 1148.04, 1149.04, 1150.01, 1150.02 or 150.

1150.02 Lifetime Fitness and Wellness Cardiovascular Exercise Training  
On course that promotes principles of fitness and wellness over the lifespan. Prereq: Not open to students with credit for 1147, 1148.05 or 1149.05, 1150.01, or EduPAES 1147, 1148.05, 1149.05, 1150.01 or 150.

1151 Advanced Strength and Conditioning  
Strength and power training; advanced anaerobic and speed conditioning. Prereq: 1148.04 or 1149.04, or EduPAES 1148.04 or 1149.04, or equiv. Repeatable to a maximum of 2 cr hrs or 3 completions.

1152.01 Social Dance I Women  
Introduction to basic steps and variations of selected dances such as the foxtrot, waltz, and swing. Limited to women only. Prereq: Not open to students with credit for 1152.01 or EduPAES 1152.01 (152.01).

1152.02 Social Dance I Men  
Introduction to basic steps and variations of selected dances such as the foxtrot, waltz, and swing. Limited to men only. Prereq: Not open to students with credit for 1152.01 or EduPAES 1152.01 (152.01).

1152.03 Social Dance II Women  
Continuation of 1152.01 with emphasis on style and technique; introduction to additional social dance contents. Limited to women only. Prereq: 1152.01, or EduPAES 1152.01 (152.01). Not open to students with credit for 1152.04, or EduPAES 1152.04 (152.04). Repeatable to a maximum of 3 cr hrs.

1152.04 Social Dance II Men  
Continuation of 1152.02 with emphasis on style and technique; introduction to additional social dance contents. Limited to men only. Prereq: 1152.02 or EduPAES 1152.02. Not open to students with credit for 1152.03, or EduPAES 1152.03 (152.03).

1152.07 Line Dancing  
To provide the student with basic skill level and knowledge of line dancing. Principles, techniques, safe practices and various types of line dances will be taught throughout the course. Prereq: 1152.03 or EduPAES 1152.03.

1153.01 Recreational Dance: Folk and Square Dance I  
Introduction to basic folk and square dance steps and patterns. Prereq: Not open to students with credit for EduPAES 1153.01.

1154.01 Fencing I  
Basic skills and knowledge needed for foil fencing. Prereq: Not open to students with credit for EduPAES 1154.01.

1154.02 Fencing II  
Continuation of 1154.01 with emphasis on the bout. Prereq: 1154.01, or EduPAES 1154.01 or equiv. Repeatable to a maximum of 2 or 3 hrs or 3 completions.

1155.01 Physical Fitness Training for the ROTC: Army  
Designed to allow ROTC student to demonstrate improvement in overall physical conditioning, body composition, and general health. Prereq: Must be enrolled in Army ROTC. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

1155.02 Physical Fitness Training for the ROTC: Navy  
Designed to allow ROTC student to demonstrate improvement in overall physical conditioning, body composition, and general health. Prereq: Must be enrolled in Navy ROTC. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

1156 Flag Football  
Fundamental skills of flag football. Prereq: Not open to students with credit for EduPAES 1156.03.

1157.01 Golf I  
Introductory skills and knowledge preparatory to course play with emphasis on driving, putting, and chipping. Prereq: Not open to students with credit for EduPAES 1157.01.

1157.02 Golf II  
Continuation of 1157.01 with emphasis on introduction to course play. Prereq: 1157.01, or EduPAES 1157.01 or equiv. Repeatable to a maximum of 3 cr hrs.

1157.03 Play Golf America University: Golf For Business and Life  
This course is offered in conjunction with the Professional Golf Association and focuses on the fundamental skills of golf and the role golf plays in the world of business. Prereq: Not open to students with credit for EduPAES 1157.01.

1158.01 Tumbling I  
Introduction to basic through advanced-basics tumbling skills. Prereq: Not open to students with credit for EduPAES 1158.01.

1158.02 Tumbling II  
Introduction to advanced-basics through intermediate tumbling skills. Prereq: 1158.01, or EduPAES 1158.01 or equiv. Repeatable to a maximum of 3 or hrs.

1161.01 Horseback Riding: Western Style I  
Student will safely halter, lead, groom, saddle, bridle, ride at a walk and jog/canter in the Western riding discipline. Prereq: Travel and stable costs are responsibility of the student. Not open to students with credit for EduPAES 1161.01. This course is graded S/U.

1161.02 Horseback Riding: Western Style II  
Student will effectively troubleshoot equipment, walk, jog, or trot without breaking gait, halts on command; learn to canter/lope, and good seat and control. Prereq: 1161.01, EduPAES 1161.01, or prior experience; travel and stable costs (rental of horse and equipment) for activities must be borne by the student. Not open to students with credit for EduPAES 1161.02. This course is graded S/U.

1161.03 Horseback Riding: Western Style III  
Student will refine level I and II skills, effectively execute patterns and transitions; identify and explain bits, clean equipment, identify concentrates and roughages (feeding). Prereq: 1161.02, EduPAES 1161.02, or equiv; travel and stable costs (rental of horse and equipment) for activities must be borne by the student. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

1161.05 Horseback Riding: English Style I  
Student will safely halter, lead, groom, saddle, bridle, ride at a walk and jog/canter in the English riding discipline. Prereq: Travel and stable costs are responsibility of the student. Not open to students with credit for EduPAES 1161.05. This course is graded S/U.

1161.06 Horseback Riding: English Style II  
Student will effectively access equipment; walk, jog, or trot without breaking gait, halts on command; learn to canter/lope, and good seat and control. Prereq: Travel and stable costs are responsibility of the student. Not open to students with credit for EduPAES 1161.06. This course is graded S/U.

1161.07 Horseback Riding: English Style III  
Student will refine level I and II skills, effectively execute patterns and transitions; identify and explain bits, clean equipment, be able to explain feeding basics. Prereq: 1161.06, or EduPAES 1161.06 or equiv; travel and stable costs (rental of horse and equipment) for activities must be borne by the student. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

1162.01 Ice Skating I  
Fundamentals of balance, movement, and safety on the ice; forward, backward, and stopping. Guidance in choice, use and care of equipment. Prereq: Students must provide skates (rentals available). Not open to students with credit for EduPAES 1162.01.

1162.02 Ice Skating II  
Elementary skating with emphasis on correct technique for basic skills. Prereq: 1162.01 or EduPAES 1162.01; or ability to skate forward, backward, and stop with no balance problems. Students must provide skates (rentals available). Students must provide skates (rentals available). Repeatable to a maximum of 3 or hrs.

1163.01 Figure Skating I  
Figure skating skills and techniques including the elements of free skating and compulsory figures. Prereq: 1162.02, or EduPAES 1162.02 or equiv; students must provide own skates (rentals available). Not open to students with credit for EduPAES 163.01.

1163.02 Figure Skating II  
Intermediate and advanced freestyle; intermediate: all single jumps, basic spins, and advanced footwork; advanced: jump combinations, spin combinations, and double jumps. Prereq: 1163.01, or EduPAES 1163.01 or equiv; students must provide own skates (rentals available). Repeatable to a maximum of 3 or hrs.
Kinesiology: Sport, Fitness, and Health Program

1163.03  Competitive Figure Skating  U  1  
Introductory skills and techniques of competitive figure skating. Students must provide hockey skates (rentals available). Prereq: 1163.02, or EduPAES 1163.02 or equiv. Not open to students with credit for EduPAES 163.05.

1164.01  Ice Hockey I  U  1  
Introductory skills and techniques of ice hockey. Students must provide hockey skates (rentals available). Prereq: 1162.02, or EduPAES 1162.02 or equiv. Not open to students with credit for EduPAES 164.01.

1164.02  Ice Hockey II  U  1  
Intermediate-advanced play. Students must provide hockey skates (rentals available). Prereq: 1164.01, or EduPAES 1164.01, or previous playing experience. Repeatable to a maximum of 3 cr hrs.

1169.01  Martial Arts Forms: Aikido  U  1  
Introduction to a harmonizing martial art, designed to increase physical and mental centeredness; to improve grace, balance, awareness, and general movement abilities; to aid in self defense. Prereq: Not open to students with credit for EduPAES 169.01.

1169.02  Martial Arts Forms: Judo I  U  1  
Introductory skills and knowledge essential in throwing techniques and mat work of Judo. Prereq: Not open to students with credit for 1169.04, EduPAES 1169.04 or 169.04.

1169.03  Martial Arts Forms: Judo II  U  1  
Intermediate skills and techniques of Judo as well as an introduction to the skills involved in competitive Judo. Prereq: 1169.02, or EduPAES 1169.02, or equiv. Repeatable to a maximum of 3 cr hrs.

1169.04  Martial Arts Forms: Karate I  U  1  
Introduction to the fundamental forms and techniques of Karate. Prereq: Not open to students with credit for EduPAES 169.07.

1169.05  Martial Arts Forms: Karate II  U  1  
The refinement of basic forms and techniques and the introduction of advanced forms; more emphasis on free fighting. Prereq: 1169.04 or EduPAES 1169.04, or equiv. Repeatable to a maximum of 3 cr hrs.

1169.06  Martial Arts Forms: Shuai Chiao  U  1  
Introduction to the various forms and techniques of Shuai Chiao-Chinese wrestling, a combination of Karate and Judo. Prereq: Not open to students with credit for EduPAES 169.10.

1169.07  Martial Arts Forms: Tae Kwon Do I  U  1  
Beginning course in the Korean martial art form; includes etiquette, basic blocking, thrusting and kicking techniques, and self defense. Prereq: Not open to students with credit for EduPAES 169.13.

1169.08  Martial Arts Forms: Tae Kwon Do II  U  1  
Continuation of Tae Kwon Do I, refinement of technique and form; introduction of intermediate forms and skills and conditioning techniques. Prereq: 1169.07 or EduPAES 1169.07, or equiv. Repeatable to a maximum of 3 cr hrs.

1169.09  Martial Arts Forms: T'ai Chi Ch'uan I  U  1  
An introduction to T'ai Chi Ch'uan with emphasis on an exploration of body/mind awareness. Prereq: Not open to students with credit for EduPAES 169.16.

1169.10  Martial Arts Forms: T'ai Chi Ch'uan II  U  1  
Intermediate forms and techniques of T'ai Chi Ch'uan and experience in joint hands operation as well as in combat T'ai Chi Ch'uan. Prereq: 1169.09 or EduPAES 1169.09. Repeatable to a maximum of 3 cr hrs.

1170.01  Racquetball I  U  1  
Beginning skills and knowledge for students with no prior experience in racquetball. Prereq: Not open to students with credit for EduPAES 170.01.

1170.02  Racquetball II  U  1  
Continuation of 1170.01 with emphasis on strategy and the playing of singles. Prereq: 1170.01 or EduPAES 1170.01. Repeatable to a maximum of 3 cr hrs.

1171.01  Rifle I  U  1  
Introduction to target shooting techniques in the prone and standing positions. Prereq: Not open to students with credit for EduPAES 171.01.

1171.02  Rifle II  U  1  
A continuation of 1171.01 stressing the other shooting positions. Prereq: 1171.01 or EduPAES 1171.01. Repeatable to a maximum of 3 cr hrs.

1172.01  Self Defense Women  U  1  
Skills and understandings essential to defend oneself against an aggressor with emphasis on avoiding attack. Prereq: Limited to women only. Not open to students with credit for EduPAES 172.01.

1172.02  Self Defense Men  U  1  
Skills and understandings essential to defend oneself against an aggressor with emphasis on avoiding attack. Prereq: Limited to men only. Not open to students with credit for EduPAES 172.02.

1174  Soccer  U  1  
Techniques and knowledge essential for playing soccer. Prereq: Not open to students with credit for EduPAES 174.

1175.01  Softball: Slow Pitch I  U  1  
Skills and knowledge necessary for playing softball. Prereq: Not open to students with credit for EduPAES 175.01.

1175.02  Softball: Slow Pitch II  U  1  
Skills and knowledge necessary for playing softball. Prereq: 1175.01 or EduPAES 1175.01. Repeatable to a maximum of 3 cr hrs.

1176.01  Swimming I  U  1  
Beginning swimming. Open only to non-swimmers and students with no deep water experience. Prereq: Students must provide bathing suit. Not open to students with credit for EduPAES 176.01.

1176.02  Swimming II  U  1  
Elementary swimming skills for those who can swim in deep water but no farther than 2 pool lengths (50 yards). Repeatable to a maximum of 3 cr hrs.

1178.03  Swimming III  U  1  
Intermediate skills for those who can swim at least 100 yards using the front crawl and at least 2 other strokes. Student must provide bathing suit. Repeatable to a maximum of 3 cr hrs.

1179  Skin and Scuba Diving  U  2  
Skills and knowledge essential for safe diving and preparation for open water checkout dives. Student must be able to swim 25-mile in 10 min. Student must provide bathing suit and bear cost of required special scuba medical exam. Prereq: Not open to students with credit for EduPAES 179.

1182.01  Water Safety Instructor  U  1  
Designed to lead to certification as an American Red Cross Water Safety Instructor. Prereq: Student must provide bathing suit. Not open to students with credit for EduPAES 182.01.

1182.02  Lifeguard Training  U  1  
Designed to lead to ARC Lifeguard Training and CPR for the Professional Rescue certification. Students must provide bathing suit. Prereq: 1178.03 or EduPAES 1178.03.

1185.01  Table Tennis I  U  1  
Beginning skills and knowledge essential for playing table tennis with emphasis on the use of backspin and topspin in the singles game. Prereq: Not open to students with credit for EduPAES 185.01.

1185.02  Table Tennis II  U  1  
Continuation of 1185.01 with emphasis on advanced strokes and their application in the playing of singles and doubles. Prereq: 1185.01 or EduPAES 1185.01. Repeatable to a maximum of 3 cr hrs.

1188.01  Tennis I  U  1  
Skills and knowledge essential in playing tennis. Beginning skills; forehand, backhand, and serve-singles play. Prereq: Student must provide racket and 6 balls. Not open to students with credit for EduPAES 188.01.

1188.02  Tennis II  U  1  
Skills and knowledge essential in playing tennis. Elementary skills; introduction to doubles play. Prereq: 1188.01 or EduPAES 1188.01; students must provide racket and 6 balls. Repeatable to a maximum of 3 cr hrs.

1191.01  Volleyball I  U  1  
Introduction to power volleyball. Prereq: Not open to students with credit for EduPAES 191.01.

1191.02  Volleyball II  U  1  
Continuation of power volleyball fundamental skill perfection and game strategies woven to produce an intermediate playing experience. Prereq: 1191.01 or EduPAES 1191.01. Repeatable to a maximum of 3 cr hrs.

1194  Group Studies: Sport, Fitness and Health Program  U  1 - 4  
For groups of students who wish to pursue special studies in sport, fitness and/or health. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.
302  Kinesiology: Sport, Fitness, and Health Program

1195.01  Yoga I  U  1
Introduction to fundamental techniques and basic yogic principles of pranayama (breath control), asana (posture), relaxation, and meditation; emphasis on major postures.
Prereq: Not open to students with credit for EduPAES 195.01. This course is graded S/U.

1195.02  Yoga II  U  1
Asanas (postures) at the intermediate level of Hatha yoga are introduced; continued
development and practice of relaxation and meditative techniques; further exploration of yogic philosophy.
Prereq: 1195.01 or EduPAES 1195.01. Repeatable to a maximum of 3 cr hrs.

1195.03  Yoga III  U  1
This course will allow students to explore the theory behind the practice of yoga. In addition to its meditative benefits.
Repeatable to a maximum of 3 cr hrs.

1196.01  Varsity Squads: Basketball  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity basketball squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.02  Varsity Squads: Baseball  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity baseball squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.03  Varsity Squads: Cross Country  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity cross country squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.04  Varsity Squads: Fencing  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity fencing squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.05  Varsity Squads: Field Hockey  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity field hockey squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.06  Varsity Squads: Football  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity football squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.07  Varsity Squads: Golf  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity golf squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.08  Varsity Squads: Gymnastics  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity gymnastics squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.09  Varsity Squads: Ice Hockey  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity ice hockey squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.10  Varsity Squads: Lacrosse  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity lacrosse squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.11  Varsity Squads: Pistol  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity pistol squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.12  Varsity Squads: Rifley  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity rifley squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.13  Varsity Squads: Soccer  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity soccer squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.14  Varsity Squads: Softball  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity softball squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.15  Varsity Squads: Swimming  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity swimming squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.16  Varsity Squads: Swimming (Synchronized)  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity swimming (synchronized) squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.17  Varsity Squads: Tennis  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity tennis squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.18  Varsity Squads: Track and Field  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity track and field squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.19  Varsity Squads: Volleyball  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity volleyball squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.20  Varsity Squads: Wrestling  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity wrestling squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.21  Varsity Squads: Rowing  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity rowing squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1196.22  Varsity Squads: Diving  U  2
Participation as a player on an OSU varsity squad.
Prereq: Must be a member of the OSU varsity diving squad. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

1197  Competitive Club Sports  U  1
Participation as a member of a competitive club sport team.
Prereq: Soph standing, and a member of an OSU club sport. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

2250  Cancer Prevention  U  2
Discussion of the latest findings on avoiding cancer through lifestyle choices and assessment of one's family health history.
Prereq: Not open to students with credit for EduPAES 250.

3193  Independent Study: Sport, Fitness and Health Program  U  1 - 12
Independent study in Sport, Fitness and Health.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

3312  Issues in Alcohol/Drug Use and Abuse  U  2
Provides an understanding of the dynamics of substance abuse.
Prereq: Not open to students with credit for EduPAES 312.

3314  AIDS Awareness  U  2
A review of the physiological, psychological, social, legal, and moral issues surrounding the disease AIDS with emphasis placed on responsible decision making about one's lifestyle.
Prereq: Not open to students with credit for EduPAES 314.

Kinesiology: Sport Industry, Sport Management

2210  History of Sport in 19th Century America  U  3
Explores intersection between sport and society in 19th century America. Emphasis on modernity; race, class, gender & ethnicity; rise of the city; religious, intellectual and scientific thought.
Prereq: Not open to students with credit for EduPAES 210. GE historical study course.

2211  History of Sport in 20th Century America  U  3
Explores intersection between sport and society in 20th century America. Emphasis on consumerism; race, class, gender & ethnicity; mass media; sport in a global world.
Prereq: Not open to students with credit for EduPAES 211. GE historical study course.

2260  Sport in Contemporary America  U  3
Examination of intersection of sport and society in contemporary America.
Prereq: Not open to students with credit for EduPAES 280.

3189  Field Experience: Sport Industry  U  3
Orientation to and professional experience in sports industry.
Prereq: Enrollment in Sport Industry major. Not open to students with credit for EduPAES 289.03.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Notes/Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>3193</td>
<td>Independent Study: Sport Industry</td>
<td>U</td>
<td>1 - 12</td>
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<tr>
<td></td>
<td>Independent study in Sport Industry.</td>
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<td>Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.</td>
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<tr>
<td>3208</td>
<td>The Sport Industry</td>
<td>U</td>
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<td>4191</td>
<td>Internship: Sport Industry</td>
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<td>Directed and supervised experience in a Sport Industry setting. Prereq: 3189 or EduPAES 2189.21. Not open to students with credit for EduPAES 489.05 or 589.03. This course is graded S/U.</td>
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<tr>
<td>4245</td>
<td>Leadership &amp; Programming in Sports Industry</td>
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<td></td>
<td>Methods of leadership and programming in sport industry organizations. Prereq: Major in Sport Industry or minor in Coaching Education. Not open to students with credit for both EduPAES 245 and 545.</td>
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<tr>
<td>4411</td>
<td>College Sport</td>
<td>U</td>
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<td></td>
<td>Historical development of college sport; influence of race, class and gender; mass media; consumer society; place of college sport in American higher education and culture. Prereq: Not open to students with credit for EduPAES 411.</td>
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<tr>
<td>4509</td>
<td>Sport Marketing and Promotion</td>
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<td></td>
<td>Issues related to the marketing and promotion of sport. Prereq: Major in Sport Industry or minor in Coaching Education. Not open to students with credit for EduPAES 509.</td>
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<tr>
<td>4607</td>
<td>Legal Aspects of Sport</td>
<td>U</td>
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<td>Introduction to the American legal system and major cases/laws which make up sports law. Prereq: Not open to students with credit for EduPAES 607.</td>
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<td>4615</td>
<td>Sport and Social Values</td>
<td>U</td>
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<td>Role of social values play in sport, with emphasis on civic virtue; fair play and social justice; violence/abuses in sport. Prereq: Not open to students with credit for EduPAES 815.</td>
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<tr>
<td>4900</td>
<td>Researching in Sports Industry</td>
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<td>Upper-level undergraduate class on various aspects of sport industry research methods that gives a general introduction to social research methods and will cover four broad topics: the foundations of sport industry research, research design, data collection, and data analysis. Prereq: Jr. or Sr. standing.</td>
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<tr>
<td>5610</td>
<td>Women's Sport History</td>
<td>U</td>
<td>3</td>
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<td></td>
<td>Examines development of women's sport from primitive cultures to contemporary society. Prereq: Jr. standing or above. Not open to students with credit for EduPAES 610.</td>
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<td>5611</td>
<td>Premodern Sport</td>
<td>U</td>
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<td>Examination of sport from antiquity until 19th century. Prereq: Jr. standing or above. Not open to students with credit for EduPAES 611.</td>
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<tr>
<td>5614</td>
<td>Sport and Sexuality</td>
<td>U</td>
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<td>How conceptualization of sexuality shape and are shaped by sport. Prereq: Jr. standing or above. Not open to students with credit for EduPAES 614.</td>
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<tr>
<td>5626</td>
<td>Sport and Popular Culture</td>
<td>U</td>
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<td></td>
<td>Examines popular culture's influence on sport and sport as expression of popular culture. Prereq: Jr. standing or above. Not open to students with credit for both EduPAES 626.01 and 626.02.</td>
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<td>5630</td>
<td>Recreational Sport Leadership</td>
<td>U</td>
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<td>A study of current issues, management techniques, and programming concepts associated with the administration of campus recreation programs. Prereq: Jr. standing or above. Not open to students with credit for EduPAES 630.</td>
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<tr>
<td>5690</td>
<td>Cultural Theories of Sport</td>
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<td>Focuses on various cultural theories of sport to explore the intersection between sport and society. Prereq: Jr. standing. Not open to students with credit for EduPAES 690.</td>
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<tr>
<td>6189</td>
<td>Practicum: Sport Management</td>
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<td>Opportunity to put professional theory and research into practice under supervision in University, school and agency settings. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.</td>
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<tr>
<td>6191</td>
<td>Master's Internship/Practicum: Sport Management</td>
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<td>3 - 8</td>
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<td>Full-time professional development experience at an approved sport worksite setting. Opportunity to apply theory and skills learned in class under direction of on-site supervisor. Prereq: Permission of instructor. This course is graded S/U.</td>
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<tr>
<td>6730</td>
<td>Financing Sport Operations</td>
<td>G</td>
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<td></td>
<td>Examines the application of basic concepts of public and private sector financing to collegiate and professional sport organizations. Prereq: Grad standing. Not open to students with credit for EduPAES 733.</td>
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<tr>
<td>6807</td>
<td>Sport Law</td>
<td>G</td>
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<td>Study of legal issues affecting the delivery of sport services; focus on liability in sport activities. Prereq: Grad standing. Not open to students with credit for EduPAES 807.</td>
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<tr>
<td>6808</td>
<td>Management of Sport Delivery Systems</td>
<td>G</td>
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<td>Application of contemporary management theories and techniques in the structures and processes of sport delivery systems. Prereq: Grad standing.</td>
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<tr>
<td>6809</td>
<td>Sport Marketing</td>
<td>G</td>
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<td></td>
<td>Examination and utilization of basic marketing principles in the areas of sport (collegiate and professional) recreation. Prereq: Grad standing. Not open to students with credit for EduPAES 809.</td>
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<tr>
<td>6837</td>
<td>Event and Facility Management for Sport Managers</td>
<td>G</td>
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<td>Examines the principles and practices of planning and managing sport events and facilities. Prereq: Not open to students with credit for EduPAES 837.</td>
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<tr>
<td>6842</td>
<td>Business of College Sports</td>
<td>G</td>
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<td>Provides business analysis of intercollegiate athletics, including an in depth look at OSU athletic program; develop understanding or college sports administration, educational, business missions. Prereq: Sport Management major, and Grad standing; or permission of Instructor. Not open to students with credit for EduPAES 842 or BusMHR 870. Cross-listed in BusMHR 7605.</td>
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<tr>
<td>7711</td>
<td>American Sports History</td>
<td>G</td>
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<td></td>
<td>Examines intersection of sport and society in America. Investigates influence of city, modernization, race, class, gender, consumer society, media on sport, economic structure and relationship to mass media; the nature and problems of professional athletes. Prereq: Grad standing. Not open to students with credit for EduPAES 839.</td>
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<td>7744</td>
<td>Sexuality and Education</td>
<td>G</td>
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<td>Examination of the role that sexuality plays in the US educational system. Prereq: Not open to students with credit for EduPAES 744. Cross-listed in EduTL 7000.</td>
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<tr>
<td>7839</td>
<td>Professional Sport From the Civil War to the Present</td>
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<td>Examination of the development of professional sport; its economic structure and relationship to mass media; the nature and problems of professional athletes. Prereq: Grad standing. Not open to students with credit for EduPAES 839.</td>
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<tr>
<td>7850</td>
<td>Role of Sport in Society</td>
<td>G</td>
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<td></td>
<td>Significance of sport to individuals and groups in society. Prereq: Grad standing. Not open to students with credit for EduPAES 850.</td>
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<td>7852</td>
<td>Sport Philosophy and Ethics</td>
<td>G</td>
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<td>Examination philosophical and ethical issues in sports. Prereq: Grad standing. Not open to students with credit for EduPAES 852 or 730.</td>
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<tr>
<td>7897</td>
<td>Colloquium in Sport Management</td>
<td>G</td>
<td>3</td>
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<td></td>
<td>Current research in Sport Management. Prereq: Sport Management major, and Grad standing; or permission of Instructor. Repeatable to a maximum of 15 or hrs.</td>
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<td>7906</td>
<td>Understanding Sport Consumers: Theoretical Perspectives</td>
<td>G</td>
<td>3</td>
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<td>Acquaints students with issues related to sport consumers' behaviors by discussing pertinent theories and implications to sport consumer behavior. Prereq: Grad standing, and Sport Management major; or permission of Instructor. Not open to students with credit for EduPAES 906.</td>
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<tr>
<td>8193</td>
<td>Advanced Individual Studies: Sport Management</td>
<td>G</td>
<td>1 - 12</td>
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<td>Advanced independent study in Sport Management. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.</td>
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<tr>
<td>8194</td>
<td>Advanced Group Studies: Sport Management</td>
<td>G</td>
<td>1 - 5</td>
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<td>Advanced group studies in Sports Management. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
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<td>8895</td>
<td>Seminars: Sport Management</td>
<td>G</td>
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<td></td>
<td>Writing and research on topics in Sport Humanities. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs.</td>
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<tr>
<td>8895</td>
<td>Theoretical Approaches to Sport Organizations</td>
<td>G</td>
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<td>Organization and management theory applied to sport organizations. Prereq: Major in Sport Management, and Grad standing; or permission of Instructor. Not open to students with credit for EduPAES 951 or 952. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>8898</td>
<td>Research: Sport Management</td>
<td>G</td>
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<td>Research topics to be determined through discussion with advisor. Repeatable to a maximum of 12 cr hrs or 12 completions.</td>
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<tr>
<td>8899</td>
<td>Dissertation/Thesis Research: Sport Management</td>
<td>G</td>
<td>1 - 9</td>
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<tr>
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<td>Research for thesis or dissertation purposes only. Prereq: Post-candidacy and Doct standing in Sport Management, and permission of Instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.</td>
<td></td>
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</tr>
</tbody>
</table>
Korean

1101.01 Level One Korean I: Classroom Track U 4
Standard modern Korean: development of listening and speaking skills; basic grammar; reading and writing of the Korean script (hangul). Classroom Track. Not open to native speakers or students with 3+ years at high school level. Prereq: Not open to students with credit for 101.01 or 102.01. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1101.02 Level One Korean I: Summer Intensive U 4
Standard modern Korean: development of listening and speaking skills; basic grammar; reading and writing of the Korean script (hangul). Admission to SPECT program is required for registration. Must complete 4 cr hrs during first 3.5 weeks of Sum Ses. Prereq: Application and admission to SPECT program. Not open to students with credit for 101.02, 102.02, or to native speakers of this language through regular course enrollment or EM credit; or to students with 3 or more years of study in this language in high school, except by permission of dept. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1101.51 Level One Korean I: Individualized Instruction U 1 - 4
Standard modern Korean: development of listening and speaking skills; basic grammar; reading and writing of the Korean script (hangul). Individualized Track. Prereq: Not open to students with credit for 101.51, 102.51, or to native speakers of this language through regular course enrollment or EM credit; or to students with 3 or more years of study in this language in high school, except by permission of dept. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102.01 Level One Korean II: Classroom Track U 4
Continuation of 1101. Classroom Track. Prereq: 1101.01 or 1101.02, or 4 cr hrs of 1101.51 or equivalent. Not open to students with credit for 102.01, 103.01, or to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1102.02 Level One Korean II: Summer Intensive U 4
Continuation of 1101. Summer Intensive Track. Admission to SPECT program is required for registration. Students must complete 4 cr hrs during the second 3.5 weeks of the Summer Session. Prereq: 1101.01 or 1101.02, or 4 cr hrs of 1101.51 or equivalent. Application and admission to SPECT program. Not open to students with credit for 102.02, 103.02, or to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.02 Level One Korean II: Bridge2 U 3
Continuation of 1101. Bridge course for students transitioning from the quarter to semester system. Prereq: 102.01, or permission of instructor. Not open to students with credit for 1102.01, 1102.02, or 4 credits of 1102.51. Not open to native speakers of this language, to students with EM credit, or to students with 3 or more years of study in this language in high school, except by permission of dept. GE for lang course. FL Admis Cond course.

1102.05 Level One Korean II: Bridge U 5
Continuation of 1101. Bridge course for students transitioning from the quarter to semester system. Prereq: 101.01, or permission of instructor. Not open to students with credit for 1102.01, 1101.01, or 4 credits of 1101.51. Not open to native speakers of this language through regular course enrollment or EM credit; or to students with 3 or more years of study in this language in high school, except by permission of dept. GE for lang course. FL Admis Cond course.

1102.51 Level One Korean II: Individualized Instruction U 1 - 4
Continuation of 1101. Individualized Track. Progress is sequential from one cr or to the next with a demonstrated proficiency at the level of 80% required for advancement. Prereq: 1101.01 or 1101.02, or 4 cr hrs of 1101.51 or equivalent. Advancement to the first credit in this course in the same semester as the completion of the 4th credit for 1101.51 requires registration for both courses, with permission of instructor. Not open to students with credit for 102.51, 103.51, or to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.01 Level Two Korean I: Classroom Track U 4
Modern Korean intermediate level spoken communication, development of reading skills, and written composition. Classroom Track. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1102.01, 1102.02, 1102.03, 1102.05, 1101.01, or 102.01, or 4 sem cr hrs of 1102.51, or equivalent. Not open to students with credit for 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.02 Level Two Korean I: Summer Intensive Track U 4
Modern Korean intermediate level spoken communication, development of reading skills, and written composition. Admission to SPECT is required for registration. Must complete 4 cr hrs during first 3.5 weeks of the Summer Session. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1102.01 or 1102.02, or 4 cr hrs of 1102.51, or equivalent. Application and admission to SPECT program. Not open to students with credit for 104. This course is available for EM credit. GE for lang course. FL Admis Cond course.

1103.51 Level Two Korean I: Individualized Track U 1 - 4
Modern Korean intermediate level spoken communication, development of reading skills, and written composition. Individualized Track. Prereq: 1102.03, 1102.05, 1102.01, or 1102.02 or 4 cr hrs of 1102.51, or equivalent; and 101.51 and 102.51. Not open to students with credit for 103.51, 104.51, or to native speakers of this language through regular course enrollment or EM credit. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

2102.01 Level Two Korean II: Classroom Track U 5
Continuation of 1103.01. Prereq: 1103.01 or 1103.02, or 4 cr hrs of 1103.51 or equivalent. Not open to students with credit for 2102.02, 205, or 206; or native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit.

2102.02 Level Two Korean II-Summer Intensive Track U 5
Continuation of 1103.02. Admission to SPECT is required for registration. Students must complete 4 cr hrs during the second 3.5 weeks of the Summer Session. Prereq: 1103.01 or 1103.02, or 4 cr hrs of 1103.51 or equivalent. Application and admission to SPECT program. Not open to students with credit for 205, 206, or to native speakers of this language through regular course enrollment or EM credit. This course is available for EM credit. FL Admis Cond course.

2102.51 Level Two Korean II: Individualized Track U 1 - 5
Continuation of 1103.01. Prereq: 1103.01 or 1103.51, or permission of instructor. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is available for EM credit.

2102.61 Level Two Korean II-Bridge U 3
Continuation of 1103. A bridge course designed for students who have completed 205 (in the quarter system) but not 206 and who wish to enroll in 2102. Prereq: Completion through 205 but not beyond. FL Admis Cond course.

2231 Elements of Korean Culture U 3
A survey of the religion, history, customs, performing arts, fine arts, literature, and social institutions of the Korean people from the earliest era to the present. Taught in English. Prereq: Not open to students with credit for 231. GE cultures and ideas and diversity global studies course.

2451 Korean Literature in Translation U 3
A close examination of masterpieces in Korean literature across genres for students with no previous academic training in Korean literature. All readings and discussions in English; college-level English reading and writing required. Prereq: English 1110.01 (110), 1110.02, or 1110.03. Not open to students with credit for 251. GE 8r or diversity global studies course.

4101.01 Level Three Korean I: Classroom Track U 5
Expanding oral and written proficiency in Korean; expansion of vocabulary and knowledge of Chinese characters. Classroom Track. Prereq: 2102 or equivalent with permission of instructor. Not open to students with credit for 507.01 or 508.01. This course is available for EM credit.

4101.51 Level Three Korean I: Individualized Track U 1 - 5
Expanding oral and written proficiency in Korean; expansion of vocabulary and knowledge of Chinese characters. Individualized Track. Progress is sequential from one cr or to the next with a proficiency at the level of 80% required for advancement. Prereq: 2102 or equivalent with permission of instructor. Not open to students with credit for 507.51 or 508.51. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is available for EM credit.

4102.01 Level Three Korean II: Classroom Track U 5
Continuation of 4101. Classroom Track. Prereq: 4101 or equivalent with permission of instructor. Not open to students with credit for 508.01 or 509.01. This course is available for EM credit.

4102.51 Level Three Korean II: Individualized Track U 1 - 5
Continuation of 4101. Individualized Track. Progress is sequential from one cr or to the next with a demonstrated proficiency at the level of 80% required for advancement. Prereq: 4101 or equivalent with permission of instructor. Advancement to the first credit in this course in the same semester as the completion of the 5th credit for 4102.51 requires registration for both courses, with permission of instructor. Not open to students with credit for 508.51 or 509.51. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is available for EM credit.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>4193</td>
<td>Individual Studies</td>
<td>U</td>
<td>1-3</td>
<td>Directed study to meet individual research needs of students in Korean studies. Not a substitute for regular language courses.</td>
</tr>
<tr>
<td>4194</td>
<td>Group Studies</td>
<td>U</td>
<td>1-3</td>
<td>Group investigation of issues in Korean studies. Varying topics.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research Project</td>
<td>U</td>
<td>3</td>
<td>Focused research toward completion of an original project. Permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4998H</td>
<td>Honors Undergraduate Research Project</td>
<td>U</td>
<td>3</td>
<td>Focused research toward completion of an original project. Honors standing and/or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4999</td>
<td>Undergraduate Research Thesis</td>
<td>U</td>
<td>3</td>
<td>Focused research toward completion of an original thesis. Permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>5012</td>
<td>Level Four Korean II</td>
<td>U</td>
<td>3</td>
<td>Continuation of 5101. Permission of instructor. Not open to students with credit for 610 or 611.</td>
</tr>
<tr>
<td>5013</td>
<td>Level Five Korean I</td>
<td>U</td>
<td>3</td>
<td>Strengthening communication skills through oral and written reports of social and cultural issues; development of advanced proficiency in a variety of genres.</td>
</tr>
<tr>
<td>5104</td>
<td>Level Five Korean II</td>
<td>U</td>
<td>3</td>
<td>Continuation of 5103. Permission of instructor.</td>
</tr>
<tr>
<td>5256</td>
<td>Interdisciplinary Topics in Korean Politics and Society</td>
<td>U</td>
<td>3</td>
<td>Interdisciplinary Korean studies course in the areas of social science, bridging Korean history, politics, gender, religion, philosophy, education, intercultural communication and international relations, etc. Taught in English. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>5315</td>
<td>Korean Language: Structure, Culture, and Communication</td>
<td>U</td>
<td>3</td>
<td>A comprehensive survey of structural, cultural, and communicative aspects of the Korean language. Taught in English.</td>
</tr>
<tr>
<td>5380</td>
<td>Korean Linguistics</td>
<td>U</td>
<td>3</td>
<td>Examination of the phonology, syntax, lexicon, and writing system of the Korean language; some topics related to language use and acquisition. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>5400</td>
<td>Performance Traditions of Korea</td>
<td>U</td>
<td>3</td>
<td>Cross-cultural and interdisciplinary exploration of cultural expressiveness in the context of Korean performance traditions; includes guided research, field work, ethnography and performance workshop. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>5405</td>
<td>Korean Dramatic Tradition</td>
<td>U</td>
<td>3</td>
<td>Major works in the Korean dramatic tradition from ancient to contemporary eras. Includes historical and performative discourse, dramatic reading and enactment. Taught bilingually, sometimes in English and sometimes in Korean. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>5453</td>
<td>Readings in Korean Literary and Classical Text</td>
<td>U</td>
<td>3</td>
<td>Advanced study of Korean language and literature in cross-cultural context, by introducing selected narrative, drama, poetry, and critical essays in Korean. Includes literary translation. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>5455</td>
<td>Interdisciplinary Courses in Korean Art, Music, Film, and Theatre</td>
<td>U</td>
<td>3</td>
<td>Interdisciplinary course in the history and criticism of Korean art, music, theatre, martial art, healing art and film with reference to their implications to humanity. Taught in English. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>6445</td>
<td>Studies in Korean-American Literature</td>
<td>G</td>
<td>3</td>
<td>Critical study of Korean-American literature and literary genres of the twentieth century and beyond, with particular attention to historical, social, and cultural contexts. Prereq: 8 cr hrs taken in any literature courses, or Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>6454</td>
<td>Korean Literary Traditions</td>
<td>G</td>
<td>3</td>
<td>Analysis of the development of Korean literary traditions and their significance in the cultural and intellectual evolution of Korean society. All reading materials are in Korean. Prereq: 2231 or 2451 or equivalent. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
</tbody>
</table>

**Korean 305**

**Landscape Architecture**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>Landscape Architecture Survey</td>
<td>U</td>
<td>1</td>
<td>Introduction to the University, the Knowlton School of Architecture and the professions of architecture, city and regional planning and landscape architecture. Prereq: Not open to students with credit for 1100, 110, Arch 1100 (100), 1100E, 100H, CRPlan 1100 (100), 1100E, or any survey course. Cross-listed in Arch and CRPlan.</td>
</tr>
<tr>
<td>2300</td>
<td>Outlines of the Built Environment</td>
<td>U</td>
<td>3</td>
<td>Introduction to the disciplines of architecture and landscape architecture and planning with an emphasis on the physical artifact and its formal and cultural context. Prereq: Not open to students with credit for 200, 1210, 2300E, Arch 1210 (200), 2300, or 2300E. GE cultures and ideas course. Cross-listed in Arch.</td>
</tr>
<tr>
<td>2300E</td>
<td>Outlines of the Built Environment</td>
<td>U</td>
<td>3</td>
<td>Introduction to the disciplines of architecture and landscape architecture and planning with an emphasis on the physical artifact and its formal and cultural context. Honors Section. Prereq: Honors standing. Not open to students with credit for 200, 1210, 2300, Arch 1210 (200), 2300, or 2300E. GE cultures and ideas course. Cross-listed in Arch.</td>
</tr>
<tr>
<td>2310</td>
<td>Introduction to Design</td>
<td>U</td>
<td>4</td>
<td>Introduction to the design of the physical environment through the exploration of form, space, and order using drawing and modeling techniques. Prereq: Not open to students with credit for 1410, 151, Arch 1410 (202), or Arch 2310. Cross-listed in Arch.</td>
</tr>
<tr>
<td>2367</td>
<td>Making and Meaning of the American Landscape</td>
<td>U</td>
<td>3</td>
<td>Overview and interpretation of influential figures, policies, programs, cultural forces, and environmental factors that have shaped the American landscape since the Revolutionary War. Prereq: English 1110 (111) or 110, or equiv. Not open to students with credit for 367 or NatRes 367. GE writing and comm: level 2 and cultures and ideas course.</td>
</tr>
<tr>
<td>2367E</td>
<td>Making and Meaning of the American Landscape</td>
<td>U</td>
<td>3</td>
<td>Overview and interpretation of influential figures, policies, programs, cultural forces, and environmental factors that have shaped the American landscape since the Revolutionary War. Prereq: Honors standing, and English 1110 (111) or 110, or equiv. Not open to students with credit for 367 or NatRes 367. GE writing and comm: level 2 and cultures and ideas course.</td>
</tr>
<tr>
<td>2410</td>
<td>Workshop I: Analysis and Communication</td>
<td>U</td>
<td>3</td>
<td>Introduction to fundamental techniques of site inventory and analysis, with a focus on representation and building visual arguments. Prereq: Not open to students with credit for 271 or 272.</td>
</tr>
<tr>
<td>2420</td>
<td>Workshop II: Landscape Technologies</td>
<td>U</td>
<td>3</td>
<td>Introduction to techniques and technologies of landscape architectural implementation at the site scale, with a focus on schematic level documentation, materials and construction. Prereq: 2410. Not open to students with credit for 321 or 624.</td>
</tr>
<tr>
<td>2600</td>
<td>Outlines of Landscape Architecture: Visual Literacy in the Built Environment</td>
<td>U</td>
<td>3</td>
<td>Overview of patterns and processes of human design on land in relation to environmental, economic, and socio-cultural forces, with an emphasis on interpretation of visual landscape change. Prereq: Not open to students with credit for 201. GE VPA course.</td>
</tr>
<tr>
<td>2600E</td>
<td>Outlines of Landscape Architecture: Visual Literacy in the Built Environment</td>
<td>U</td>
<td>3</td>
<td>Overview of patterns and processes of human design on land in relation to environmental, economic, and socio-cultural forces, with an emphasis on interpretation of visual landscape change. Honors section. Prereq: Honors standing. Not open to students with credit for 201. GE VPA course.</td>
</tr>
</tbody>
</table>
Landscape Architecture Topics Seminar
Discussion-based undergraduate course focusing on topics in contemporary landscape practice and research. Repeatable to a maximum of 6 cr hrs.

Design Studio II: Site Dynamics
Introduction to basic principles and qualities of landscape architectural design, with a focus on the dynamic interaction of environment and people at site scale within the typological framework of gardens and parks.
Prereq: Enrollment in LArch major. Not open to students with credit for 252.

Design Studio III: Social Dynamics
Continuation of the second-year Landscape Architecture design studio sequence, with a focus on urban and suburban sites within the typological framework of campuses, complexes and communities.
Prereq: 2920 (252), Not open to students with credit for 254.

Landscape Architecture Ecological Field Explorations
Observation and field investigation of the diverse landscape ecologies of Ohio and the region. Repeatable to a maximum of 8 cr hrs or 2 completions.

Group Studies in Landscape Architecture
Group-based study of landscape architecture topics within the frame of an instructor guided course.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

Workshop III: Advanced Analysis & Communication
Advanced techniques and technologies of landscape analysis and data visualization, with an emphasis on GIS.
Prereq: 2420 and completion of physical science GE, or permission of instructor. Not open to students with credit for 361 or 702.

Workshop IV: Advanced Landscape Technologies
Advanced techniques and technologies of landscape architectural implementation, with a focus on site infrastructure.
Prereq: 3430 and Math 1118 (117) or 1151 (151), or permission of instructor. Not open to students with credit for 322 and 323.

Sustainability & You
Perspectives on social, environmental, and economic sustainability as it relates to landscape within a global context; problem-solving strategies within an interdisciplinary team environment.
Prereq: Jr or Sr standing. Not open to students with credit for 597. GE cross-disciplinary seminar course.

Sustainability & You
Perspectives on social, environmental, and economic sustainability as it relates to landscape within a global context; problem-solving strategies within an interdisciplinary team environment.
Prereq: Honors standing, and Jr or Sr standing. Not open to students with credit for 597. GE cross-disciplinary seminar course.

Design Studio IV: Landscape Ecology & Planning
Synthesis of landscape ecology and urban ecology principles with landscape planning and design at the district, watershed and/or regional scale, with a focus on integration of advanced inventory and analysis methodologies.
Prereq: 2930 (254). Not open to students with credit for 653.

Design Studio V: Design in Detail
Processes and techniques of design development, detailing and documentation, with a focus on sustainable design practices.
Prereq: 3940 (633 and 356). Not open to students with credit for 658.

Landscape Architecture Internship
Internship in landscape architectural design, planning, research, implementation or management.
Prereq: 2920, 2930, 2410 and 2420, and permission of instructor.

Independent Studies in Landscape Architecture
For students who wish to pursue special independent studies in landscape architecture, with the guidance of an advisor/instructor.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

Group Studies in Landscape Architecture
For group-based study of landscape architecture topics within the frame of an instructor guided course.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions.

Advanced Design Studies
Introduction and development of advanced design methods in Landscape Architecture. Repeatable to a maximum of 12 cr hrs or 3 completions.

Advanced Landscape Technologies
Introduction and development of skills in advanced landscape technologies, including design, communication, modeling, fabrication, implementation and information technologies. Repeatable to a maximum of 9 cr hrs or 3 completions.

Undergraduate Research Methods
Quantitative, qualitative and design methods for undergraduate level landscape architectural research. Honors section.
Prereq: Honors standing, and major within the Knowlton School of Architecture. Not open to students with credit for 740.

Institutional Study Abroad
Opportunity for study and academic work at a foreign academic institution while receiving Ohio State University credit.
Repeatable to a maximum of 12 cr hrs.

International Studies in Landscape Architecture
International program offering opportunity for guided travel, international projects, student exchange, and immersion experiences.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

Study Tour
Group international and domestic travel programs opportunities tailored to complement the classroom experience.
Prereq: Honors standing. Repeatable to a maximum of 45 cr hrs or 3 completions.

Interdepartmental Seminar
Interdepartmental seminar; topics to be announced.
Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in CRPlan 4880 and Arch 4880.

Topics in Landscape Architecture Practice
Exploration, evaluation and discussion of topical issues in professional practice. Repeatable to a maximum of 9 cr hrs or 3 completions.

Design Studio VI: Urbanism
Advanced landscape design and planning in relation to sustainable urbanism.
Prereq: 3950 or 356. Not open to students with credit for 457.

Design Studio VII: Synthesis
Advanced landscape architectural research, design and planning synthesizing diverse scales, with an emphasis on interdisciplinary engagement.
Prereq: 4960 or 658.

Honors Design Studio
Allows for development of topical research/design projects with an interdisciplinary perspective.
Prereq: Honors standing, and major within the Knowlton School of Architecture.

For group-based study of landscape architecture topics within the frame of an instructor guided course.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 4 completions.

Landscape Architecture Professional Practice
Overview of landscape architectural professional practice principles, standards and codes, with a focus on writing and communication.
Prereq: Jr, Sr, or Grad standing, and enrollment in LArch major. Not open to students with credit for 663.

History & Theory: Gardens
Contemporary history and theory of landscape architecture practice and criticism, with an emphasis on evaluating conceptual, formal and performative aspects of designed landscapes.
Focus on gardens.
Prereq: Honors standing.

History & Theory: Gardens
Contemporary history and theory of landscape architecture practice and criticism, with an emphasis on evaluating conceptual, formal and performative aspects of designed landscapes.
Focus on gardens.
Prereq: Honors standing.

History & Theory: Parks
Contemporary history and theory of landscape architecture practice and criticism, with an emphasis on evaluating conceptual, formal and performative aspects of designed landscapes.
Focus on parks.
Prereq: Not open to students with credit for 603.

History & Theory: Parks
Contemporary history and theory of landscape architecture practice and criticism, with an emphasis on evaluating conceptual, formal and performative aspects of designed landscapes.
Focus on parks.
Prereq: Honors standing.

History & Theory: Urbanism
Contemporary history and theory of landscape architecture practice and criticism, with an emphasis on evaluating conceptual, formal and performative aspects of designed landscapes.
Focus on Urbanism.
History & Theory: Urbanism

Contemporary history and theory of landscape architecture practice and criticism, with an emphasis on evaluating conceptual, formal and performative aspects of designed landscapes. Focus on urbanism.
Prereq: Honors standing.

Study Tour in Landscape Architecture

Program offering opportunity for guided travel, field study and on-site investigation in the United States and abroad. Repeatable to a maximum of 45 cr hrs or 3 completions.

Interdepartmental Seminar

Interdepartmental seminar; topics to be announced. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in CRPlan and Arch.

Design Competition

Learn how to work in interdisciplinary teams to develop design proposals to solve problems in the natural or built environment.
Prereq: Jr, Sr, or Grad standing. Repeatable to a maximum of 9 cr hrs or 3 completions. Cross-listed in Arch and CRPlan.

Group Studies in Landscape Architecture

For group-based study of landscape architecture topics within the frame of an instructor guided course.
Prereq: Grad standing and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

Landscape Architecture Immersion

Accelerated introduction to topics and techniques of landscape architecture through readings, field visits and instructional workshops.
Prereq: Grad standing.

Workshop I: Analysis and Communication

Introduction to fundamental techniques of site inventory and analysis, with a focus on graduate level representation and building visual arguments.
Prereq: Grad standing. Not open to students with credit for 670.

Workshop II: Landscape Technologies

Introduction to techniques and technologies of landscape architectural implementation at the site scale, with a focus on schematic level documentation, materials and construction.
Prereq: 6410 and Grad standing. Not open to students with credit for 702.

Workshop III: Advanced Analysis and Communication

Advanced techniques and technologies of landscape analysis and data visualization, with an emphasis on GIS.
Prereq: 6420, and Grad standing. Not open to students with credit for 620, 622, 626, 670, 672, and 702.

Workshop IV: Advanced Landscape Technologies

Advanced techniques and technologies of landscape architectural implementation, with a focus on site infrastructure.
Prereq: 6430, and Grad standing. Not open to students with credit for 620, 622, 626, 670, 672, and 702.

Interdepartmental Seminar

Interdepartmental seminar; topics to be announced.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in CRPlan and Arch.

Design Studio I: Site Design

Introductory design studio with a focus on design process at the site scale.
Prereq: Grad standing. Not open to students with credit for 645.

Design Studio II: Dynamic Systems

Synthesis of landscape ecology and site planning principles at the community and/or watershed scale, with a focus on integration of advanced inventory and analysis methodologies.
Prereq: 6910, and Grad standing. Not open to students with credit for 642 or 644.

Thesis in Landscape Architecture

Individual thesis development under guidance of advisor.
Prereq: Permission of instructor. Repeatable. This course is progress graded (S/U).

Ecological Field Explorations

Offers exposure to the varied landscape ecologies of Ohio and surrounding states through series of day trips and extended tours. Repeatable to a maximum of 6 cr hrs.

Graduate Internship in Landscape Architecture

Graduate internship in landscape architecture.
Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs.

Independent Studies in Landscape Architecture

For students who wish to pursue independent studies in landscape architecture, with the guidance of an advisor/instructor.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

Group Studies in Landscape Architecture

For group-based study of landscape architecture topics within the frame of an instructor guided course.
Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions.

Landscape Studies

Advanced studies in graduate landscape architectural design. Repeatable to a maximum of 12 cr hrs or 3 completions.

Landscape Technologies

Advanced studies in landscape technologies. Repeatable to a maximum of 9 cr hrs or 3 completions.

Visual Media Exploration

Advanced tools and techniques of landscape architectural visual media. Repeatable to a maximum of 9 cr hrs or 3 completions.

Landscape Materials Exploration

Advanced graduate study of landscape materials.
Prereq: 6440 or 626. Repeatable to a maximum of 6 cr hrs or 2 completions.

Graduate Landscape Topics in Research & Theory

Advanced topics in graduate research and theory.
Prereq: 7780 (740). Repeatable to a maximum of 12 cr hrs or 4 completions.

Professional Topics

Investigation into current and future professional practice models, tools and methods. Repeatable to a maximum of 6 cr hrs or 2 completions.

Research Methods in Landscape Architecture

Quantitative, qualitative and design methods for graduate level landscape architectural research and documentation.
Prereq: Grad standing. Not open to students with credit for 740.

Institutional Graduate Study Abroad

Study and academic work at a foreign academic institution. Repeatable to a maximum of 12 cr hrs.

International Graduate Study Abroad in Landscape Architecture

International study abroad including guided travel, projects, student exchange and immersion experiences. Repeatable to a maximum of 12 cr hrs.

Seminar in Landscape Architecture

Advanced topics in landscape architectural practice, theory and research.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

Design Studio III: Urban Landscape

Design of the urban environment in relation to sustainable urbanism principles and practices.
Prereq: 6920, and Grad standing. Not open to students with credit for 754. Repeatable to a maximum of 16 cr hrs.

Design Studio IV: Global Issues

Advanced graduate landscape architectural research, design and planning synthesizing diverse scales, with an emphasis on international and interdisciplinary engagement.
Prereq: 7930, and Grad standing. Not open to students with credit for 750 and 752. Repeatable to a maximum of 16 cr hrs.

Design Studio V: Design in Detail

Processes and techniques of landscape architectural design development, detailing and documentation, with a focus on sustainable design practices.
Prereq: 7940, and Grad standing. Not open to students with credit for 658. Repeatable to a maximum of 16 cr hrs.

Thesis Pro-Seminar

Seminar-based, guided development of individual thesis projects.
Prereq: 7780, and Grad standing. Not open to students with credit for 760.

Elementary Latin I

Accelerated introduction to topics and techniques of landscape architecture through readings, field visits and instructional workshops.
Prereq: Jr, Sr, or Grad standing. Repeatable to a maximum of 9 cr hrs or 3 completions. Cross-listed in Arch and CRPlan.

Elementary Latin I: Accelerated

First part of the accelerated introductory Latin sequence, covering material offered in Lat1101 and first half of the material covered in Lat1102. Not open to students with 3 or more years of high school study in this language, except by permission of department.
Prereq: Not open to students with credit for 1101, 1102, or 1101.55. GE for lang course. FL Admis Cond course.

Latin

Elementary level introduction to the Latin language; the course begins the study of grammar and vocabulary. This course is a conversion of the entirety of 101.01 and the first half of 102.01. Not open to students with 3 or more years of high school study in this language, except by permission of department.
Prereq: Not open to students with credit for 101.01, 1102.01, or 1101.55. GE for lang course. FL Admis Cond course.
Intermediate Latin I  
Completion of Latin grammar and syntax; introduction to reading of Latin authors. This course is a conversion of the second half of 102.01 and the entirety of 103. Prerequisite: 1101 or equiv, or Placement Test, or permission of instructor. Not open to students with credit for 103. This course is available for EM credit. GE for lang course. FL Admins Cond course.

Elementary Latin II: Accelerated  
Second part of the accelerated introductory Latin sequence; leads to readings of Latin authors such as Ovid, Caesar, Cicero, or Pliny. Prerequisite: 1101.55. GE for lang course. FL Admins Cond course.

Intermediate Latin II  
Selected readings in Latin literature. Prerequisite: 1102 (103), or Placement Test, or permission of instructor. GE for lang course.

Intensive Latin Workshop I  
Intensive Latin workshop introducing grammar and vocabulary up to reading competence of Latin authors, covering the material offered in Latin 1101-1103. Su Sem. Concur: 1891. GE for lang course.

Intensive Latin Workshop II  
Intensive Latin workshop covering the study of Latin authors at the 2000 level. Su Sem. Concur: 1890. Students may not register for any other course if they enroll in Latin 1891.

Cicero  
Readings from Cicero's works, mainly the orations. Prerequisite: 1103 or 1890, or permission of instructor. Not open to students with credit for 210.

Vergil  
Readings from Vergil's poetry. Prerequisite: 1103 or 1890, or permission of instructor. Not open to students with credit for 211.

Roman Historians  
Readings from Caesar, Sallust, Livy, and/or Tacitus' Agricola. Prerequisite: 1103 or 1890, or permission of instructor. Not open to students with credit for 212.

Ovid  
Readings from Ovid's narrative poetry (Metamorphoses and Fasti). Prerequisite: 1103 or 1890, or permission of instructor. Not open to students with credit for 213.

Latin Lyric  
Readings from the poems of Catullus, Horace, Propertius, Tibullus, or the elegiac poems of Ovid. Prerequisite: 1103 or 1890, or permission of instructor. Not open to students with credit for 214.

Roman Comedy  
Readings from the comedies of Plautus and Terence. Prerequisite: 1103 or 1890, or permission of instructor. Not open to students with credit for 206.

Individual Studies  
Intermediate readings in Latin literature. Prerequisite: 1103 or equiv, and permission of department. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

Research  
A program of study arranged for each student. Prerequisite: Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

Honors Research  
A program of study arranged for each student. Prerequisite: Honors standing, and Sr standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

Thesis Research  
A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in Latin. Prerequisite: Jr standing or above, and enrollment in Classics Major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.

Honors Thesis Research  
A program of study leading to the writing of a thesis and an oral defense that will integrate the experience of earlier courses in Latin. Prerequisite: Honors standing, Jr standing or above, and enrollment in Classics Major; or permission of instructor or department. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.

Roman Epic Poetry  
Readings from Vergil, Ovid, Lucan, and others. Prerequisite: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 616.

Roman Lyric and Erotic Poetry  
Readings from Catullus, Horatius, Propertius, Tibullus and others. Prerequisite: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 614.

Roman Historians  
Readings from Sallust, Livy, Tacitus and other historians. Prerequisite: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 617.

Roman Drama  
Readings from Roman comedy and/or tragedy. Prerequisite: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 622.

Roman Oratory and Rhetorical Theory  
Readings in Roman orators and rhetoricians, including Cicero, Quintilian, and Tacitus. Prerequisite: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 615.

Roman Philosophy  
Readings from Roman philosophers, especially Cicero, Lucretius and Seneca. Prerequisite: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 618.

Roman Satire and Novel  
Readings from Roman satirical poetry and novels such as texts by Horatius, Juvenal, and Petronius. Prerequisite: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 623.

Post Classical Latin  
Readings from texts illustrating the history of Latin language and literature in the Middle Ages and the Renaissance. Prerequisite: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 625.

Special Topics in Latin Literature  
Study of a topic in Roman literature with extensive original readings. Prerequisite: 2 courses more advanced than 1103, or Grad standing, or permission of instructor. Not open to students with credit for 660. Repeatable to a maximum of 18 cr hrs or 6 completions.

Individual Studies  
A program of study arranged for each student, with specific passages for reading and topics from Roman literature, culture, or religion for investigation. Prerequisite: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

Group Studies  
A program of study arranged for a small group of students, with specific passages for reading and topics from Roman literature, culture, or religion for investigation. Prerequisite: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

Study at a Foreign Institution  
Study at a foreign institution for which the student receives credit from OSU. All participants must be enrolled in the University's travel insurance available through the Office of International Affairs. Prerequisite: Permission of dept chairperson. Repeatable to a maximum of 27 cr hrs or 3 completions.

Intensive Latin Workshop I  
Intensive Latin workshop offered during the first six weeks of the Summer Term (12-wks) introducing grammar and vocabulary up to reading competence of Latin authors, covering the material offered in Latin 1101-1103. Credit will be awarded upon completion of 5891. Concur: 5891. Not open to students with credit for 1101 through 1103. This course is progress graded.

Intensive Latin Workshop II  
Intensive Latin workshop offered during the second half of the Summer Term (12-wks) covering the study of Latin authors at the 2000 level. Concur: 5890. Not open to students with credit for 671.

Latin Survey: Prose  
A survey of Latin Prose Literature from its beginning to late antiquity focusing on language competence and literary history. Prerequisite: 2 courses at the 2000-level, and permission of instructor or Grad standing. Not open to students with credit for 701.

Latin Survey: Poetry  
Survey of Latin Poetry from its beginning to late antiquity focusing on language competence and literary history. Prerequisite: 2 courses at the 2000-level, and permission of instructor or Grad standing. Not open to students with credit for 702.
Writing Latin prose. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 802.

An introduction to the teaching of Latin, its methods and techniques. Taught Fall Semester when students typically begin their language teaching. Au Sem. Prereq: Grad standing. Not open to students with credit for 801. This course is graded S/U.

Assigned reading of Latin authors or topics of Roman culture to help with language requirements or to prepare for exams. Au, Sp, Su Sems. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

Research seminar on a topic of Latin literature and Roman culture. Repeatable to a maximum of 30 cr hrs or 15 completions.

Graduate research seminar on Latin or Italic linguistics. Repeatable to a maximum of 30 cr hrs or 15 completions.

Readings and discussions connected with the writing of a thesis on a topic of Latin literature and culture. Au, Sp, Su Sems. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.


An opportunity for students to study at a foreign institution and receive OSU credit for work completed there. Student will pay OSU fees and fees in excess of OSU tuition, as well as all travel and subsistence costs. Prereq: Permission of department chairperson. Repeatable to a maximum of 54 cr hrs or 30 completions.

Overview of American law and the U.S. legal profession. Introduction to U.S. common law and statutory law. Prereq: Not open to students with credit for 630L.

Analysis, research and writing for international students in the LLM program. Prereq: Not open to students with credit for 502L.

Continues the work of Legal Analysis and Writing I using more sophisticated client problems and focusing on teaching students how to write like advocates. Prereq: Not open to students with credit for 511L.

Trespass to person; negligence; misrepresentation; nuisance, strict liability; liability insurance; alternatives to the fault system; and federal and state regulation of traffic safety. Prereq: Not open to students with credit for 504L.

Acquisition, incidents, and transfer of ownership; possessory, concurrent, marital, and future interests, and contractual modification of these results. Prereq: Not open to students with credit for 505L.

Civil procedure in state and federal courts; development of equity; abolition of common law forms of action; merger of law and equity; jurisdiction; venue. Prereq: Not open to students with credit for 507L.

Functional study of the major substantive, methodological, and federalistic limitations upon governmental power obtaining under practice of judicial review. Prereq: Not open to students with credit for 510L.

Remedies for breach; offer and acceptance; consideration; third party beneficiaries; assignment of rights and delegation of duties; conditions; impossibility and frustration; statute of frauds. Prereq: Not open to students with credit for 503L.

The lawmaking process; how the legislative process works; process by which statutes are enacted; how judges interpret the legislative product in theory and practice. Prereq: Not open to students with credit for 529L.

Justifications for regulating behavior through criminal sanctions, how laws are crafted to reach the intended behavior, and issues of culpability, mens rea, and excuses. Prereq: Not open to students with credit for 553L.

Legal methods. Prereq: Permission of college. Not open to students with credit for 590L.

Procedural and substantive aspects of appellate practice; the student prepares a brief and presents an oral argument on the basis of assigned research materials. Prereq: 6103 and 6106. Not open to students with credit for 600L.

Training in the preparation of legal documents. Prereq: 6103, 6106, and 7003. Not open to students with credit for 601L.

Advanced topics in legal research. Prereq: 6103. Not open to students with credit for 602L. Repeatable to a maximum of 6 cr hrs or 6 completions.

Negotiation and mediation techniques and practices. Prereq: Not open to students with credit for 701L.

An introduction to the arbitration process as well as an identification of controversial legal issues that have arisen in the arbitration context. Prereq: Not open to students with credit for 702L.

Study of the theory, law, and practice of transactional and settlement negotiations through actual negotiations by individual students in a variety of legal negotiation settings. Prereq: Not open to students with credit for 703L.

Examines international arbitral procedures through the interaction of private contractual ordering, national law, and international treaties. Prereq: Not open to students with credit for 717L.

Survey of dispute resolution processes including negotiation, mediation, arbitration, and a variety of court-administered and extra-judicial settlement processes. Prereq: Not open to students with credit for 722L.

Focuses on the most common forms of resolution of workplace disputes, other than litigation. Prereq: Not open to students with credit for 723L.

Examines a wide range of dispute resolution processes in use, not only in the United States but around the world. Prereq: Not open to students with credit for 7124 or 724L.

Advanced study in the area of dispute resolution. Prereq: Not open to students with credit for 726L.

Examines procedures for resolving international disputes (negotiation, mediation, arbitration, judicial settlement), how they operate in contemporary disputes, and how law governs their use. Prereq: Not open to students with credit for 7118 or 761L.

Design new forums for particular disputes and for a series of disputes. Prereq: Not open to students with credit for 772L.
Public Interest and Government Externship

Conduct substantive legal work at government and non-profit placements, attend a class designed for externs, and fulfill specific academic requirements. Repeatable to a maximum of 8 hrs or 3 completions. This course is graded S/U.

Individual Studies

By special arrangement with the dean’s office, special problems or projects may be taken for credit under the supervision of members of the faculty. The credit granted varies in proportion to the magnitude of the project. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.

Group Studies

Group study in selected areas of the law. Repeatable to a maximum of 24 cr hrs or 24 completions.

Business Associations

Formation, financing, governance, regulation of corporations and partnerships, and including problems under the federal securities laws. Prereq: Not open to students with credit for 7203 (607.02L) or 607.01L.

Business Associations - Extended

Formation, financing, governance, regulation of corporations and partnerships, and including problems under the federal securities laws. Prereq: Not open to students with credit for 607.02L. This course is progress graded.

Insurance Law

Insurance and practice with particular reference to fire, life, and automobile insurance; insurable interest; warranties and representation; waiver and estoppel; construction standards principles. Prereq: Not open to students with credit for 618L.

Accounting for Lawyers

Problems of financial information in the context of business enterprise law and tax law. Prereq: Not open to students with credit for 628L.

Business Bankruptcy

Examines issues related to the business bankruptcy process, e.g. Chapter 11 reorganizations; claims and distribution; the automatic stay; adequate protection; setoff; transfers; among other topics.

Banking Law

Study of development of banking activities, structure, and regulation; emphasis on state and federal banking laws; interinstitutional competition, and laws relating to geographic and product expansion. Prereq: Not open to students with credit for 652L.

Drafting Business Contracts

Provides students with a practical, hands-on introduction to the skills, techniques, and strategies that transactional business lawyers use when drafting business contracts.

Contracts II

Covers advanced topics in contract law including pre-contractual negotiation, interpretation, performance, breach, enforcement defenses, third party rights, and transactional drafting.

Securities

Analysis of Securities Act of 1933 and its pervasive effects on the issuance and transfers of securities. Prereq: Not open to students with credit for 708L.

Small Business and Entrepreneurial Finance

The financial problems faced by new and small businesses and how they intersect with the law. Prereq: Not open to students with credit for 718L.

Corporate Finance

Capital formation and financial transactions. Prereq: 7210 or 7203, and enrollment in Law; or permission of home academic program leadership and instructor. Not open to students with credit for 719L.

Mergers and Acquisitions

Application of state law, federal securities law, accounting principles, tax law, labor law, products liability law, environmental law, ERISA, antitrust law to mergers and acquisitions. Prereq: Not open to students with credit for 721L.

Regulated Industries

Legal and economic principles of rate regulation and entry requirements in utility, broadcasting, and transportation industries. Prereq: Not open to students with credit for 722L.

Regulatory Compliance

Analyzes the legal, ethical and policy foundations of regulatory compliance: the effort to translate statutory requirements into compliant corporate and individual behavior.

International Business Transactions

Legal problems in transnational context arising from doing business abroad; investments; establishment; exchange controls; trade, licensing; extraterritoriality of regulatory legislation; international agreements; European Common Market. Prereq: Not open to students with credit for 728L.

Topics in Business Law

Advanced topics concerning business enterprises. Prereq: Not open to students with credit for 731L. Repeatable to a maximum of 12 cr hrs or 3 completions.

Venture Capital and Entrepreneurial Dealmaking

This course examines the law and economics of venture capital and entrepreneurship focusing on the legal, economic and financial issues that legal professionals confront in this area.

International Trade

Public international law framework and institutions that regulate trade and economic relations between nations. Prereq: Not open to students with credit for 762L.

Commercial Paper

Types of commercial or negotiable paper; liability of parties; transfer and payment. Prereq: Not open to students with credit for 605L.

Sales

A study of the Uniform Commercial Code and other statutes bearing on the sale of goods in the American market. Prereq: Not open to students with credit for 605L.

Secured Transactions

Creation and perfection of security interests in goods and intangibles under the Uniform Commercial Code; priorities and remedies. Prereq: Not open to students with credit for 7315 or 610L.

Transactional Practice

Students will explore the procedural and substantive aspects of transactional practice; conduct original research and write a formal report (in multiple drafts); provide a formal oral presentation.

Debtor and Creditor Law

Debtor and creditor rights and remedies; emphasis on the Bankruptcy Code. Prereq: Not open to students with credit for 7315 or 611L.

Secured Transactions and Debtor and Creditor Law

Integrated treatment of secured transactions and debtor-creditor law. Prereq: Not open to students with credit for 7309, 7312, or 612L.

Commercial Law

Combination of sales, commercial paper, and secured transactions courses; focuses on the entire Commercial Code and explores related federal statutes. Prereq: Not open to students with credit for 7300, 7306, 7309, 7315, or 659L.

Consumer Law

In-depth study of consumer rights and remedies as provided by the common law and federal and state statutes, with particular emphasis on the Federal Truth In Lending Act. Prereq: Not open to students with credit for 657L.

Advanced Topics on Criminal Law

Advanced topics on criminal law. Prereq: Not open to students with credit for 633L. Repeatable to a maximum of 8 hrs or 4 completions.

Forensic Mental Health Law

Discusses the civil and criminal aspects of mental health case law including involuntary civil commitment, competence to stand trial, and sanity at the time of the act.

White Collar Crime

Advanced substantive and procedural study of the federal criminal law enforcement system including RICO (Racketeer Influenced and Corrupt Organizations), mail fraud, drug offenses, tax enforcement, bank secrecy, and civil rights. Prereq: Not open to students with credit for 639L.

Criminal Procedure: Investigations

Legality of police practices to gather evidence; emphasis on interrogation and search and seizure; some reference to identification procedures and entrapment. Prereq: Not open to students with credit for 640L.

Criminal Procedure: Adjudication

Study of the criminal justice system emphasizing the right to counsel, bail, preliminary proceedings, grand jury, speedy trial, discovery, and plea. Prereq: Not open to students with credit for 641L.
Disability Discrimination

Advanced study of First Amendment precedent and doctrines governing the press, speech, association, and church-state relations. Prereq: Not open to students with credit for 733L.

Civil Rights

Study topics such as discrimination, race and class. Prereq: Not open to students with credit for 747L. Repeatable to a maximum of 9 cr hrs or 3 completions.

Special Education Advocacy

The law of special education as provided in the Individuals with Disabilities Education Act. Prereq: Not open to students with credit for 757L.

Children & the Law

The law applicable to children, including a study of agency and juvenile court treatment of dependent, neglected, abused, unruly, and delinquent children. Prereq: Not open to students with credit for 634L.

Family Law

Legal concerns in marital relationships, including entrance into marriage, spousal relationships during marriage, annulment, divorce, custody, and post-divorce financial arrangements; legal concerns in quasi-marital living arrangements. Prereq: Not open to students with credit for 635L.

Adoption Law

Examines the adoption laws of the United States through their history and development. Prereq: Not open to students with credit for 638L.

Foster Care Law

The legal underpinnings, judicial procedures, and the factual realities of the foster care system in the United States. Prereq: Not open to students with credit for 655L.

Sex, Sexuality & the Law

Surveys the various legal issues facing gay men, lesbians and bisexuals. Prereq: Not open to students with credit for 763L.

Gender and the Law

Explores various strands of feminist legal theory as well as the legal significance of gender in a variety of contexts, including family, employment, criminal, civil and family law. Prereq: Not open to students with credit for 764L.

Critical Race Narratives

Focuses on the relationship between narrative and law by using critical race theory to examine how race in America is a narrative of property and power. Prereq: Not open to students with credit for 765L.

Human Rights

International norms and procedures for the enforcement of the rights of individuals, including treaties and the activities of international agencies. Prereq: Not open to students with credit for 643L.

Foreign Relations Law

Constitutional, statutory, and international law basis for conduct of foreign affairs by the U.S. Prereq: Not open to students with credit for 750L.

Law of War

The lawfulness of the initiation of hostilities by nations, and the lawfulness of the methods employed in the use of armed force. Prereq: Not open to students with credit for 760L.

Comparative Law

Broad study of legal systems with emphasis on patterns of similarities and differences. Not open to students with credit for 785L. Repeatable to a maximum of 12 cr hrs or 4 completions.

International Law

International agreements; status of states and individuals; recognition; jurisdiction; international claims; expropriation; human rights; sovereign immunity; war and peace; law of the sea; presidential congressional power. Prereq: Not open to students with credit for 619L.

Comparative Legal History

Comparative studies in history of law and exploration of relationship between the development of legal systems and societal structures. Prereq: Not open to students with credit for 637L.

8020.04 \( I/S: \) A Journal of Law and Policy for the Information Society
Prereq: Students selected via announced selection process. Repeatable to a maximum of 5 cr hrs or 4 completions. This course is graded S/U.

8020.05 \( I/S: \) Ohio State Entrepreneurial Business Law Journal
Prereq: Students selected via announced selection process. Repeatable to a maximum of 6 cr hrs or 4 completions. This course is graded S/U.

8100 Employment Law
L 2 - 4
State and federal regulation of the employment relationship with primary focus upon minimum wage and overtime compensation, workers' disability and unemployment compensation, safety and health, retirement and pension security, and wrongful discharge.
Prereq: Not open to students with credit for 613L.

8103 Labor Law
L 2 - 5
Federal regulation of labor-management relations focusing upon employee organizational and representational rights, selection of bargaining representative, collective bargaining process, contract administration and enforcement, and internal union affairs.
Prereq: Not open to students with credit for 614L.

8106 Employee Benefits
L 3
Prereq: Not open to students with credit for 725L.

8109 Employment Discrimination Law
L 2 - 4
A constitutional and statutory study of federal and state laws that proscribe employment discrimination based upon race, color, religion, sex, national origin, age, and physical and mental handicap.
Prereq: Not open to students with credit for 744L.

8189.01 Criminal Defense Practicum
L 2 - 4
Advanced study and training in performance of legal services for the poor under supervision of clinical faculty and staff attorney. Development of the basic knowledge and skills of criminal law practice.
Prereq: 8200. Not open to students with credit for 738.01L.

8189.02 Civil Law Practicum
L 2 - 4
Advanced study and training in performance of legal services for the poor under supervision of clinical faculty and staff attorney. Development of the basic knowledge and skills of civil law practice on behalf of the poor.
Prereq: 8200. Not open to students with credit for 738.02L.

8189.03 Criminal Prosecution Practicum
L 4
Students represent the City of Delaware in criminal cases, prosecuting cases such as domestic violence, sexual misconduct, drunk driving, and theft.
Prereq: 8200. Not open to students with credit for 738.03L.

8189.04 Justice For Children Practicum
L 2 - 6
Study of the intricacies of the juvenile intake process, difficulties of dealing with a total family situation involving child neglect or juvenile delinquency, and substantive legal problems of the juvenile area.
Prereq: Not open to students with credit for 738.04L.

8189.05 Legislation Practicum
L 1 - 4
Law students help Ohio legislators analyze legislative issues, examine other state approaches, and develop statutory (or other) responses that are appropriate for our state.
Prereq: Not open to students with credit for 738.05L.

8189.06 Multiparty Mediation Practicum
L 4
Examines the legal, ethical, and policy issues that arise when using the mediation process to resolve multi-party controversies.
Prereq: Not open to students with credit for 738.06L.

8189.07 Mediation Practicum
L 4
Examines legal, ethical, and policy issues surrounding mediation and to develop of mediation skills.
Prereq: Not open to students with credit for 738.07L.

8189.08 Selected Legal Problems Practicum
L 1 - 4
Topics will change as specially scheduled in any semester. Repeatable to a maximum of 8 cr hrs or 2 completions.

8189.09 Entrepreneurial Business Law Clinic
L 4
This clinic allows students to represent entrepreneurs and emerging businesses in need of transactional legal assistance.

8189.20 Judicial Externship
L 2 - 3
Judicial externships for credit.
Prereq: Faculty permission. This course is graded S/U.

8189.30 DC Externship
L 2 - 3
Substantive externships in D.C.
Prereq: Application to the Washington D.C. summer program.

8200 Evidence
L 2 - 4
Survey of rules of evidence; particularly demonstrative, testimonial, and circumstantial proof; qualification and examination of witnesses; privilege; relevancy; documents; hearsay rule and its exceptions.
Prereq: Not open to students with credit for 603L.

8203 Civil Procedure II
L 3 - 5
Examination of federal rules of civil procedure: pleading, joinder, class actions, discovery, disclosure, case management, adjudication without trial, jury selection, post-trial motions, and appellate review.
Prereq: Not open to students with credit for 604L.

8206 Conflict of Laws
L 3 - 4
Private law pertaining to jurial relations containing one or more foreign elements; jurisdiction; foreign judgments; domicile, choice of law; torts; workmen's compensation acts; contracts; property; family law; decedents' estates.
Prereq: Not open to students with credit for 706L.

8209 Federal Courts
L 3 - 4
The federal judicial system; jurisdiction of the district courts, courts of appeals, and United States Supreme Court.
Prereq: Not open to students with credit for 710L.

8210 Constitutional Litigation
L 3
Advanced and applied constitutional law with a focus on how to litigate and defend constitutional claims against public officials and local governments.

8211 Sentencing Law & Policy
L 3
Reviews traditional theoretical justifications for punishments and examines in depth society's always-developing approach to the sentencing of criminal offenders.

8212 Pretrial Litigation
L 3 - 4
Depositions and client interviews; drafting of interrogatories; case strategies.
Prereq: Not open to students with credit for 735L.

8215 Remedies
L 2 - 4
An integrated study of remedial theory and devices available in the context of torts, contracts, and property law.
Prereq: Not open to students with credit for 743L.

8218 Products Liability
L 3
Examines the theories and defenses of those involved in the manufacturing and selling of products.
Prereq: Not open to students with credit for 782L.

8300 Federal Antitrust Law
L 2 - 4
Combinations in restraint of trade; monopolization, attempts and conspiracies to monopolize; mergers, patent antitrust problems, and price discrimination under Sherman, Clayton, and Federal Trade Commission acts.
Prereq: Not open to students with credit for 623L.

8303 Immigration Law
L 3
Law concerning persons who want to come to the United States on a temporary or permanent basis.
Prereq: Not open to students with credit for 624L.

8306 Administrative Law
L 3 - 4
A study of the creation, operation, and control of federal administrative agencies, emphasizing their legislative, investigative, and adjudicatory authority and its control through judicial review.
Prereq: Not open to students with credit for 729L.

8309 Environmental Law
L 2 - 4
Federal environmental legislation, regulations, and judicial interpretation, including Natural Environmental Policy Act, the Clean Air Act, the Clean Water Act, and the Solid Waste Act, as amended.
Prereq: Not open to students with credit for 732L.

8310 Energy Law
L 3
An introduction to domestic energy law, focusing on the legislative and regulatory framework for electricity and the challenges associated with diversification of energy sources.

8311 Climate Change Law
L 3
Explores the legal, political, and scientific challenges involved in addressing and responding to climate change, including international strategies and U.S. law and policy.

8312 Election Law
L 3
Examines the laws that govern political elections, including campaign finance rules, ballot access issues, and re-apportionment.
Prereq: 8118. Not open to students with credit for 752L.

8315 Education Law
L 3
An examination of the legal framework and issues of public education K-12.
Prereq: Not open to students with credit for 753L.
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<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>8318</td>
<td>Law and the Presidency</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>8400</td>
<td>Interprofessional Education: Care of Patient/Client</td>
<td>Not open to students with credit for 756L.</td>
<td>1 - 2</td>
</tr>
<tr>
<td>8403</td>
<td>Ethical Issues</td>
<td>Not open to students with credit for 700.03L.</td>
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<tr>
<td>8406</td>
<td>Professional Responsibility</td>
<td>Has credit for 700.03L.</td>
<td>1 - 2</td>
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<tr>
<td>8500</td>
<td>Landlord Tenant</td>
<td>Not open to students with credit for 736.01L.</td>
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</tr>
<tr>
<td>8600</td>
<td>Real Estate Finance</td>
<td>Not open to students with credit for 741L.</td>
<td>2 - 4</td>
</tr>
<tr>
<td>8603</td>
<td>Real Estate Development</td>
<td>Not open to students with credit for 621L.</td>
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</tr>
<tr>
<td>8606</td>
<td>Land Use Planning Law</td>
<td>Not open to students with credit for 645L.</td>
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<tr>
<td>8609</td>
<td>Commercial Leasing</td>
<td>Not open to students with credit for 648L.</td>
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<tr>
<td>8700</td>
<td>Federal Income Taxation</td>
<td>Not open to students with credit for 764L.</td>
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<tr>
<td>8706</td>
<td>State and Local Taxation</td>
<td>Not open to students with credit for 606L.</td>
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<tr>
<td>8707</td>
<td>State and Local Government Law</td>
<td>Not open to students with credit for 762L.</td>
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</tr>
<tr>
<td>8708</td>
<td>Biotechnology Law and Policy</td>
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<tr>
<td>8709</td>
<td>Wills, Trusts, Estates</td>
<td>Not open to students with credit for 656L.</td>
<td>2 - 4</td>
</tr>
<tr>
<td>8712</td>
<td>Tax of Bus. Ent.</td>
<td>Not open to students with credit for 771L.</td>
<td>3 - 4</td>
</tr>
<tr>
<td>8716</td>
<td>Taxation of Gifts, Trusts, and Estates</td>
<td>Not open to students with credit for 8700 or 740L.</td>
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</tr>
<tr>
<td>8718</td>
<td>Law and Social Science</td>
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<tr>
<td>8719</td>
<td>Tax of Bus. Ent.</td>
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<tr>
<td>8724</td>
<td>Lawyers and the Media</td>
<td>Not open to students with credit for 771L.</td>
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</tr>
<tr>
<td>8727</td>
<td>Law and Economics</td>
<td>Not open to students with credit for 762L.</td>
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<tr>
<td>8780</td>
<td>Oil and Gas Law</td>
<td>Not open to students with credit for 780L.</td>
<td>2 - 3</td>
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<tr>
<td>8800</td>
<td>Jurisprudence</td>
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<tr>
<td>8803</td>
<td>Law and Religion</td>
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<tr>
<td>8806</td>
<td>Advanced Constitutional Law</td>
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<tr>
<td>8807</td>
<td>Law of the Presidency</td>
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<tr>
<td>8808</td>
<td>Law of the Presidency</td>
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<tr>
<td>8809</td>
<td>Health Law</td>
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<tr>
<td>8810</td>
<td>Public Health Law</td>
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<tr>
<td>8811</td>
<td>FDA Law &amp; Policy</td>
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<tr>
<td>8812</td>
<td>Internet, Law &amp; Democracy</td>
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<tr>
<td>8813</td>
<td>E-Discovery Law and Practice</td>
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<tr>
<td>8815</td>
<td>Law and Social Science</td>
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<td>2 - 4</td>
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<tr>
<td>8816</td>
<td>Legal and ethical issues involved with making public statements about litigation and legal issues</td>
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<tr>
<td>8817</td>
<td>Economic analysis of legal opinions, including a review of how courts use economic analysis</td>
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<tr>
<td>8818</td>
<td>Oil and Gas Law</td>
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<tr>
<td>8819</td>
<td>Interdepartmental Seminars</td>
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<td>1 - 5</td>
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</table>
### Law

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>8896.01</td>
<td>Seminar: Topics in Business Law</td>
<td>L</td>
<td>1 - 3</td>
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<tr>
<td></td>
<td>Topics in business law and of concern to practitioners will vary by semester. Prereq: Not open to students with credit for 796.10L. Repeatable to a maximum of 9 cr hrs or 3 completions.</td>
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<tr>
<td>8896.02</td>
<td>Seminar: The U.S. Supreme Court</td>
<td>L</td>
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<td></td>
<td>The Supreme Court as an institution emphasizing its formal and informal norms and structures, and content of the law the Court makes. Prereq: Not open to students with credit for 796.11L.</td>
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<tr>
<td>8896.03</td>
<td>Seminar: Law &amp; Genetics</td>
<td>L</td>
<td>2 - 3</td>
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<td></td>
<td>Examines how the law responds to rapid changes in scientific knowledge and technology. Prereq: Not open to students with credit for 796.12L.</td>
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<tr>
<td>8896.04</td>
<td>Seminar: Health Law</td>
<td>L</td>
<td>2 - 3</td>
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<td></td>
<td>Conflict in concept between disciplines of law and medicine in matters of causation, injury, disability, prognosis, aggravation, and re-injury related to their use in proof of such elements in litigation. Prereq: Not open to students with credit for 796.13L. Repeatable to a maximum of 6 cr hrs or 2 completions.</td>
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<tr>
<td>8896.05</td>
<td>Seminar: Anthropology and the Law</td>
<td>L</td>
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<td></td>
<td>An examination of the relationship between Anthropology and the law. Prereq: Not open to students with credit for 796.14L.</td>
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<tr>
<td>8896.06</td>
<td>Seminar: Ethics and ADR</td>
<td>L</td>
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<td>Explores the intersection of traditional lawyer ethical codes with the new roles lawyers assume with alternative dispute resolution (ADR). Prereq: Not open to students with credit for 796.15L.</td>
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<tr>
<td>8896.07</td>
<td>Seminar: Privacy, Technology and the Law</td>
<td>L</td>
<td>2 - 3</td>
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<td></td>
<td>Freedom from publicity and in physical seclusion; the law's response to social and technological changes which threaten these interests. Topics will vary each semester. Prereq: Not open to students with credit for 796.16L.</td>
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<tr>
<td>8896.08</td>
<td>Seminar: History of American Law and Society Since the Civil War</td>
<td>L</td>
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<td>The history of American law and legal institutions, and their relationship to society, from the Reconstruction era through recent past. Prereq: Not open to students with credit for 796.17L.</td>
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<tr>
<td>8896.09</td>
<td>Seminar: Health and Ethics</td>
<td>L</td>
<td>2</td>
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<td>Considers approaches to topics in Bioethics and Public Health Ethics, with an eye to developing an equality-centered, and unifying, account of both fields. Prereq: Not open to students with credit for 796.18L.</td>
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<tr>
<td>8896.10</td>
<td>Seminar: Selected Problems in Criminal Law and Procedure</td>
<td>L</td>
<td>2</td>
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<td></td>
<td>Topics vary and will be announced each semester. Prereq: Not open to students with credit for 796.19L.</td>
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<tr>
<td>8896.11</td>
<td>Seminar: Research Seminar in Law</td>
<td>L</td>
<td>2 - 3</td>
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<td></td>
<td>Topics will change as specially scheduled in any semester. Repeatable to a maximum of 6 cr hrs or 3 completions.</td>
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<tr>
<td>8896.12</td>
<td>Seminar: Sexual Violence and the Law</td>
<td>L</td>
<td>2</td>
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<td></td>
<td>Examines various theories of sexuality -- both cross-sex and same-sex -- and how they sit in relation to violence, injury, and law. Prereq: Not open to students with credit for 796.21L.</td>
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<tr>
<td>8896.13</td>
<td>Seminar: Tax Topics</td>
<td>L</td>
<td>2 - 3</td>
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<td></td>
<td>Variable topics including tax ethics and policy. This seminar requires as a prerequisite Federal Income Tax Law 8700. Prereq: 8700. Not open to students with credit for 796.41L. Repeatable to a maximum of 6 cr hrs or 2 completions.</td>
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<tr>
<td>8896.14</td>
<td>Seminar: Tax Topics</td>
<td>L</td>
<td>2 - 3</td>
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<tr>
<td></td>
<td>Variable topics including tax ethics and policy. Prereq: Not open to students with credit for 796.41L. Repeatable to a maximum of 6 cr hrs or 2 completions.</td>
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<tr>
<td>8896.15</td>
<td>Seminar: Social and Environmental Litigation</td>
<td>L</td>
<td>2 - 3</td>
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<tr>
<td></td>
<td>Study of impact of law on social and environmental problems with emphasis on procedure and choice of remedies. Prereq: Not open to students with credit for 796.51L.</td>
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<tr>
<td>8896.16</td>
<td>Seminar: Federal Criminal Law</td>
<td>L</td>
<td>2 - 3</td>
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<td></td>
<td>The relationship of federal and state criminal law; historical role and specialized problems of federal criminal law. Prereq: Not open to students with credit for 796.52L. Repeatable to a maximum of 6 cr hrs or 2 completions.</td>
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<tr>
<td>8896.17</td>
<td>Seminar: Consumer Law</td>
<td>L</td>
<td>2 - 3</td>
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<tr>
<td></td>
<td>Consumer credit; statutory and judicial regulation, with particular emphasis on the problems of the poor consumer. Prereq: Not open to students with credit for 796.55L. Repeatable to a maximum of 6 cr hrs or 2 completions.</td>
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<tr>
<td>8896.18</td>
<td>Seminar: Topics in Election Law</td>
<td>L</td>
<td>2 - 3</td>
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<tr>
<td></td>
<td>Exploration of the lawyer's role in the political process; the relationship of political parties to the election process; and the interplay of legal requirements and the campaign and voting procedures. Prereq: Not open to students with credit for 796.58L. Repeatable to a maximum of 6 cr hrs or 2 completions.</td>
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<tr>
<td>8896.19</td>
<td>Seminar: Evidence and Trial Practice</td>
<td>L</td>
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<td></td>
<td>A host of evidentiary issues that challenge trial courts and litigants in the course of a trial. Prereq: Not open to students with credit for 796.60L.</td>
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<tr>
<td>8896.20</td>
<td>Seminar: Commercial Law</td>
<td>L</td>
<td>2 - 3</td>
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<td>In-depth consideration of commercial law, focusing primarily on the Uniform Commercial Code. Prereq: Not open to students with credit for 796.62L. Repeatable to a maximum of 6 cr hrs or 2 completions.</td>
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<tr>
<td>8896.21</td>
<td>Seminar: Topics In Intellectual Property</td>
<td>L</td>
<td>2 - 3</td>
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<tr>
<td></td>
<td>Exploration of current and emerging problems in the law of intellectual property. Prereq: Not open to students with credit for 796.64L. Repeatable to a maximum of 6 cr hrs or 2 completions.</td>
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<tr>
<td>8896.22</td>
<td>Seminar: Sexual Harassment</td>
<td>L</td>
<td>2</td>
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<td></td>
<td>Focuses on sexual harassment in the employment setting and in academic settings. Prereq: Not open to students with credit for 796.67L.</td>
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<tr>
<td>8896.23</td>
<td>Seminar: Law and Development</td>
<td>L</td>
<td>2 - 3</td>
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<tr>
<td></td>
<td>Examines the role of the law in economic development. Prereq: Not open to students with credit for 796.70L.</td>
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<tr>
<td>8896.24</td>
<td>Seminar: Constitutional Problems</td>
<td>L</td>
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<td></td>
<td>Small group study and training in legal and non-legal research, expository writing, and various functions of the practicing lawyer. Advanced constitutional questions, including evolution of judicial review, intergovernmental relationships. Prereq: Not open to students with credit for 796.03L. Repeatable to a maximum of 4 cr hrs.</td>
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<tr>
<td>8896.25</td>
<td>Seminar: Law in Africa</td>
<td>L</td>
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<td>Focuses on Africa, both the domestic law of the various countries of Africa, and international-legal issues relating to Africa. Prereq: Not open to students with credit for 796.04L.</td>
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<tr>
<td>8896.26</td>
<td>Seminar: Critical Race Theory</td>
<td>L</td>
<td>2 - 3</td>
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<td></td>
<td>Issues surrounding race and gender are critiqued in this course from a sociological, historical, political, economic and legal perspective.</td>
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<tr>
<td>8896.27</td>
<td>Seminar: Middle East Conflict</td>
<td>L</td>
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<tr>
<td></td>
<td>The Israeli-Palestinian conflict: legal issues, positions of the parties, relevant treaties, activity of international agencies, procedures for settlement. Prereq: Not open to students with credit for 796.06L.</td>
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<tr>
<td>8896.28</td>
<td>Seminar: Problems in Torts</td>
<td>L</td>
<td>2 - 3</td>
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<tr>
<td></td>
<td>Exploration of current and emerging problems in the law of torts. Prereq: Not open to students with credit for 796.63L. Repeatable to a maximum of 6 cr hrs or 2 completions.</td>
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<tr>
<td>8896.29</td>
<td>Computer Crime and Surveillance</td>
<td>L</td>
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<td>The ways in which computers and the internet change the way crime is committed, investigated, and punished.</td>
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<tr>
<td>8896.30</td>
<td>Sem: Advanced Family Law</td>
<td>L</td>
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<tr>
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<td>Perspectives on the field of Family Law, past, present and future. Prereq: 7803 (635L).</td>
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<tr>
<td>8896.31</td>
<td>Seminar: Capital Markets</td>
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<td>Consideration of current academic thinking about capital markets, including presentations by outside academics and industry participants.</td>
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<tr>
<td>8896.32</td>
<td>Seminar: Fourteenth Amendment</td>
<td>L</td>
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<td>This advanced course in constitutional law will examine current, recurrent, and lasting topics of interest under the Fourteenth Amendment.</td>
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<tr>
<td>8896.33</td>
<td>Sem: Federal Death Penalty Habeas</td>
<td>L</td>
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<td>Examines substantive and procedural issues in federal habeas corpus review of death penalty cases. Reviewing doctrine and practice, it tracks the development of the law to its modern form.</td>
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<tr>
<td>8896.34</td>
<td>Sem: Doing Business in China</td>
<td>L</td>
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<td>Covers basic forms of multinational companies doing business in China, examining foreign investment formations, corporate reorganizations, labor, tax, real estate, and dispute resolution.</td>
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<tr>
<td>8896.35</td>
<td>Sem: Workplace Bias: Theories and Debates</td>
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<td>Explores contemporary theories and debates about the causes and effects of workplace bias.</td>
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<tr>
<td>8896.36</td>
<td>Sem: Public Utilities</td>
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<td>The course examines the regulation and deregulation of utilities including: competition, trading, consolidations, effects on public service obligations, and municipal power and cooperatives.</td>
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<td>Course Code</td>
<td>Course Title</td>
<td>Units</td>
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<tr>
<td>8896.37</td>
<td>Sem: Money and Politics</td>
<td>L 2</td>
<td>This seminar addresses the role and regulation of money in politics, including the subjects of bribery, campaign finance, and lobbying.</td>
</tr>
<tr>
<td>8896.38</td>
<td>Sem: Marijuana Law Policy &amp; Reform</td>
<td>L 2</td>
<td>This seminar will examine the social and historical backdrop of intoxication prohibition, and assess the legal reforms and political debates now surrounding the control and regulation of marijuana use.</td>
</tr>
<tr>
<td>8896.39</td>
<td>Sem: Disability Discrimination</td>
<td>L 2</td>
<td>Surveys the employment, public accommodation and public entity provisions of the Americans with Disabilities Act. Students are required to conduct an accessibility negotiation.</td>
</tr>
<tr>
<td>8896.40</td>
<td>Sem: Hot Money</td>
<td>L 2</td>
<td>Examines the appropriate regulation of investor funds that chase short-term trading gains in capital markets. Current financial news and events are at the forefront of class discussion.</td>
</tr>
<tr>
<td>8896.41</td>
<td>Sem: Civil Rights</td>
<td>L 2</td>
<td>This seminar surveys the history of civil rights laws and issues in part by exploring the development of constitutional doctrines such as anti-discrimination, color blindness, and anti-subordination.</td>
</tr>
<tr>
<td>8896.42</td>
<td>Sem: Race &amp; Crime</td>
<td>L 2</td>
<td>This seminar examines questions relating to the myriad ways in which race intersects with the law and with the criminal justice system.</td>
</tr>
<tr>
<td>8896.43</td>
<td>Sem: Jurisprudence</td>
<td>L 2</td>
<td>Explores fundamental questions that underlie our legal system by examining various perspectives on law, including natural law, positivism, legal realism, and critical legal perspectives.</td>
</tr>
<tr>
<td>8896.44</td>
<td>Seminar: Education Law</td>
<td>L 2</td>
<td>Focuses primarily on K-12 education wherein students examine topics including school safety issues, protection of student privacy and freedom of expression, and the rights of educators.</td>
</tr>
<tr>
<td>8896.45</td>
<td>Seminar: The Business of Law</td>
<td>L 2</td>
<td>Explores the business of law. Students will study how law firms historically have been structured and how they have evolved, and review and critique proposals for restructuring.</td>
</tr>
<tr>
<td>8896.46</td>
<td>Sem: Lawyering and Social Movements</td>
<td>L 2</td>
<td>Examines the complex and dynamic relationship between law, lawyers, and social movements.</td>
</tr>
<tr>
<td>8896.47</td>
<td>Sem: War Crimes Law: Cambodia, the Balkans, and Rwanda</td>
<td>L 2</td>
<td>This seminar explores the lack of “rule of law” and its role in the conflicts in the Balkans, Rwanda, and Cambodia focusing on the history and studying both international and domestic trials.</td>
</tr>
<tr>
<td>8896.48</td>
<td>Sem: Disaster Law</td>
<td>L 2</td>
<td>This seminar explores the emerging field of disaster law, focusing on disaster prevention, emergency response, compensation &amp; insurance, environmental protection, human rights, and community recovery.</td>
</tr>
<tr>
<td>8896.49</td>
<td>Sem: Standard-Form Agreements and the Boilerplate Problem</td>
<td>L 2</td>
<td>Examining how standard-form agreements interact with underlying legal norms, and whether, when, and how, should the law allow the forms to circumvent those underlying norms.</td>
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<tr>
<td>8896.51</td>
<td>Sem: Critical Race Narratives</td>
<td>L 2 - 3</td>
<td>This seminar focuses on the relationship between narrative and law by using critical race theory to examine how race in America is a narrative of property and power.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>8900</td>
<td>Transfer Credit</td>
<td>L 1 - 25</td>
<td>Transfer Credit. Repeatable to a maximum of 31 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8910</td>
<td>Enrollment in Law</td>
<td>L 0</td>
<td>Enrollment in law, no credit. Repeatable to a maximum of 2 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8950</td>
<td>Professional Practice Course</td>
<td>L 1 - 3</td>
<td>Professional Practice series focus on specific lawyering skills and are taught by law faculty or distinguished adjuncts. Prereq: Not open to students with credit for 707.02L. Repeatable to a maximum of 9 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>8953</td>
<td>Professional Practice Capstone Course</td>
<td>L 1 - 3</td>
<td>Professional Practice Capstone series are taught by distinguished visitors and focus on real-world challenges faced by lawyers in particular areas, such as health law, international trade, or employment law. Prereq: Not open to students with credit for 707.01L. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8956</td>
<td>Jury Instructions</td>
<td>L 1</td>
<td>Step-by-step approach to the drafting of jury instructions. Prereq: Not open to students with credit for 740L.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
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</tr>
</thead>
<tbody>
<tr>
<td>8961</td>
<td>Opinion Writing</td>
<td>L 1</td>
<td>A skills-based course focused on various types of judicial opinions. Prereq: Not open to students with credit for 740L.</td>
</tr>
<tr>
<td>8964</td>
<td>Lawyers as Leaders</td>
<td>L 2 - 3</td>
<td>Combining theory, simulations and case studies, this course develops a descriptive and normative picture of leadership practices and challenges for lawyers. Prereq: Not open to students with credit for 763.</td>
</tr>
<tr>
<td>8970</td>
<td>American Legal History</td>
<td>L 2 - 3</td>
<td>The history of American law from its colonial antecedents until the twentieth century, emphasizing the relationship between law and the changing social, political, and economic conditions. Prereq: Not open to students with credit for 627L.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>1100</td>
<td>The Basics of Language for Language Learners</td>
<td>U 3</td>
<td>Important tools for becoming a successful foreign language learner; cross-cultural differences and similarities in language use, parts of speech, foreign sounds, typical mistakes, etc. Prereq: Not open to students with credit for Linguist 170. GE soc sci indivs and groups and diversity global studies course.</td>
</tr>
<tr>
<td>200</td>
<td>Introduction to Language in the Humanities</td>
<td>U 3</td>
<td>Examination of language as a system of human communication; provides students with the tools needed for the recording, investigation, and close analysis of language. Prereq: Not open to students with credit for 200H or Linguist 201. GE cultures and ideas course.</td>
</tr>
<tr>
<td>200H</td>
<td>Introduction to Language in the Humanities</td>
<td>U 3</td>
<td>Examination of language as a system of human communication; provides students with the tools needed for the recording, investigation, and close analysis of language. Prereq: Honors standing. Not open to students with credit for Linguist 201H. GE cultures and ideas course.</td>
</tr>
<tr>
<td>2001</td>
<td>Language and Formal Reasoning</td>
<td>U 3</td>
<td>How natural and artificial languages are alike in structure and use in reasoning; how natural languages differ in principles of use by humans. Prereq: Math 075 or equiv, or Math placement level R. Not open to students with credit for Linguist 280. GE quant reason math and logical anly course.</td>
</tr>
<tr>
<td>2051</td>
<td>Analyzing the Sounds of Language</td>
<td>U 3</td>
<td>The sounds that languages are used are examined. Quantitative analytical tools used in phonetic science are introduced. Small experiments are conducted to introduce students to research. Prereq: Math 1075 or 1148, or an ACT math subscore of 22 or higher that is less than two years old; or Math Placement Level R. Not open to students with credit for 2051H (Linguist 286H) or 226, SpHrmg 2051 (286) or 286H. GE data only course.</td>
</tr>
<tr>
<td>2051H</td>
<td>Analyzing the Sounds of Language</td>
<td>U 3</td>
<td>The sounds that languages are used are examined. Quantitative analytical tools used in phonetic science are introduced. Small experiments are conducted to introduce students to research. Prereq: Honors standing, and Math 148 or 150. Not open to students with credit for SpHrmg 2051 (286H) or 286H. GE data only course.</td>
</tr>
<tr>
<td>2052H</td>
<td>Theories of Linguistics: The Scientific Method for Abstractions and Unobservables</td>
<td>U 3</td>
<td>Provides a strong grounding in fundamental principles of scientific reasoning illustrated through concrete examples across the Natural and Social sciences with emphasis on Psychology and Linguistics. This course is suitable for students from all backgrounds including non-science majors. Students will gain understanding of what it means to “do science.” Prereq: Honors standing. GE quant reason math and logical anly course.</td>
</tr>
<tr>
<td>2194</td>
<td>Group Studies</td>
<td>U 1 - 3</td>
<td>Introductory topics in linguistics. Repeatable to a maximum of 6 cr hrs or 6 completions.</td>
</tr>
<tr>
<td>2367.01</td>
<td>Language, Sex, and Gender in American Culture</td>
<td>U 3</td>
<td>Discussing and writing about ways that views about sex and gender affect language and its use in speech communities in the U.S. Prereq: English 1110.01 (110.01), 1110.02 (110.02), or 1110.03 (110.03), or equiv. Not open to students with credit for Ling 2367.01H (Linguist 367.01H). GE writing and comm: level 2 and diversity soc div in the US course.</td>
</tr>
<tr>
<td>2367.01H</td>
<td>Language, Sex, and Gender in American Culture</td>
<td>U 3</td>
<td>Discussing and writing about ways that views about sex and gender affect language and its use in speech communities in the U.S. Prereq: Honors standing, and English 1110.01 (110.01), 1110.02 (110.02), or 1110.03 (110.03) or equiv. Not open to students with credit for Linguis 367. GE writing and comm: level 2 and diversity soc div in the US course.</td>
</tr>
<tr>
<td>2367.02</td>
<td>Language and Advertising</td>
<td>U 3</td>
<td>How advertising impacts American culture; how the U.S. influences international advertising and how various populations are represented in ads. Prereq: English 1110.01 (110.01), 1110.02 (110.02), or 1110.03 (110.03), or equiv. Not open to students with credit for Linguis 367. GE writing and comm course: level 2.</td>
</tr>
</tbody>
</table>
316 Linguistics

3191 Internship in Linguistics U 1 - 3
Intensive experience in linguistics as a research assistant on a faculty research project or as an intern at a linguistics-related business or organization.
Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601), and at least 3 additional courses in Linguistics. Repeatable to a maximum of 3 cr hrs or 3 completions. This course is graded S/U.

3401 Words and Meanings U 3
An introduction to semantics focusing on word meanings, meaning in word formation, meaning change over time, and cognitive processes involved in word learning and use.
Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601), and English 1110.01 (111.01), 1110.02 (111.02), or 1110.03 (111.03), or equiv. Not open to students with credit for Lingust 307. GE soc sci indivs and groups and diversity soc div in the US course.

3551 Introduction to American Indigenous Languages U 3
An introduction to indigenous languages of the Americas and their speakers: e.g. history of settlement, language families, linguistic properties, bilingual education, language policies and attitudes.
Prereq: English 1110.01 (111.01), 1110.02 (111.02), or 1110.03 (111.03), or equiv. Not open to students with credit for Lingist 303 or AFAM 303. GE cultures and ideas and diversity soc div in the US course.

3601 Language, Race, and Ethnicity in the U.S. U 3
Objective examination of the relationship between language, race and ethnicity in the context of varieties of English used by minority ethnic and racial groups in the U.S.
Prereq: English 1110.01 (111.01), 1110.02 (111.02), or 1110.03 (111.03), or equiv. Not open to students with credit for Lingust 303 or AFAM 303. GE cultures and ideas and diversity soc div in the US course.

3601H Language and Social Identity in the U.S. U 3
Prereq: Not open to students with credit for Lingist 372. GE soc sci indivs and groups and diversity soc div in the US course.

3602H Language and Social Identity in the U.S. U 3
Prereq: Not open to students with credit for Lingist 372. GE soc sci indivs and groups and diversity soc div in the US course.

3603 Language Across Cultures U 3
Investigation of relationships between language and culture in different societies with a view to shedding light on cross-cultural similarities and differences.
Prereq: English 1110.01 (111.01), 1110.02 (111.02), or 1110.03 (111.03), or equiv. Not open to students with credit for Lingist 376. GE soc sci indivs and groups and diversity soc div in the US course.

3604 Language and Identity Among OSU Students U 3
Students will conduct research on language variation and identity among OSU students, receiving hands-on training in methods of sociolinguistic variation and dialectology, including study design, data collection, ethics issues and data analysis.

3701 Language and the Mind U 3
Introduction to the psychological processes for producing and understanding speech, the means by which they arise in the child, and bases in the brain.
Prereq: Ling 2000 (Linguist 201), 2000H (201H), 4000 (601), or Psych 1100 (100), or permission of instructor. Not open to students with credit for Lingist 371 or Psych 3371 (371). GE soc sci indivs and groups course. Cross-listed in Psych 3371.

3701H Language and the Mind U 3
Introduction to the psychological processes for producing and understanding speech, the means by which they arise in the child, and bases in the brain.
Prereq: Ling 2000 (Linguist 201), 2000H (201H), 4000 (601), or Psych 1100 (100), or permission of instructor. Not open to students with credit for Lingist 371 or Psych 3371 (371), or 3371H (371H). GE soc sci indivs and groups course. Cross-listed in Psych 3371H.

3801 Codes and Codebreaking U 3
Introduction to old and new technology associated with codes and code-breaking and the ways in which it has impacted people's lives.

3802 Language and Computers U 3
Introduction to human language technology, explaining the computational and linguistic principles behind such familiar technologies as web search, machine translation, and spelling correction.
Prereq: Soph standing or above. Not open to students with credit for Linguist 384. GE quant reason math and logical anly course.

3802H Language and Computers U 3
Introduction to human language technology, explaining the computational and linguistic principles behind such familiar technologies as web search, machine translation, and spelling correction.
Prereq: Honors standing. Not open to students with Fresh standing. GE quant reason math and logical anly course.

3901 Language Evolution and Language Change U 3
A study of how and why languages change and evolve over time, taking into account the linguistic, historical, ideological and cultural factors involved.
Prereq: Not open to students with credit for Lingust 301. GE cultures and ideas course. Cross-listed in NELC 3101.

4100 Phonetics U 3
Cross-linguistic survey of the sounds of the world's languages.
Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601). Not open to students with credit for Ling 5101 (LING 600.01).

4193 Individual Studies U 1 - 3
Individual Studies.
Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4194 Group Studies U 1 - 3
Study of topics not regularly scheduled for seminars in linguistics, under the direction of a faculty member.
Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4200 Syntax U 3
Basic elements of syntactic description and an overview of syntactic structure across languages.
Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601). Not open to students with credit for Ling 5201 (LING 602.01).

4200E Syntax U 3
Basic elements of syntactic description and an overview of syntactic structure across languages.
Prereq: Honors standing, and Ling 2000 (Linguist 201), 2000H (201H) or 4000 (601), or permission of instructor. Not open to students with credit for Ling 5201 (LING 602.01).

4300 Phonology U 3
Introduction to phonological analysis and description, and an overview of phonological structure across languages.
Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601). Not open to students with credit for Ling 5301 (LING 603.01).

4350 Morphology U 3
The grammatical and phonological analysis of words, and their significance in linguistic structure.
Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601).

4400 Linguistic Meaning U 3
Introduction to linguistic meaning across languages, including word meaning, the contribution of syntactic structure, and the role of context in interpretation.
Prereq: 2000 (201), 2000H (201H), or 4000 (601).

4550 Introduction to Linguistic Field Methods U 3
Introduction to techniques for studying the grammar of an unknown language, working with a native speaker. Permission is needed to repeat the course.
Prereq or conc: Ling 4100, 4200, or 4300. Repeatable to a maximum of 9 cr hrs.

4597.01 Language Endangerment and Language Death U 3
Examines language endangerment and language death to reach an understanding of the forces threatening the survival of over half of today's 6,000 languages.
Prereq: Jr or Sr standing. Not open to students with credit for Ling 597.01. GE cross-disciplinary seminar course.

4597.02 Language and the Law U 3
Examination of the role of interpretation of language in the law and in legal proceedings, with special consideration of issues in comparative law and multi-lingual jurisdictions.
Prereq: Jr or Sr standing. Not open to students with credit for Ling 597.02. GE cross-disciplinary seminar course.

4601 Language and the Black Experience U 3
Prereq: Not open to students with credit for Lingist 505, English 4601 (505), or AFAM 505. Cross-listed in English.

4601S Language and the Black Experience U 3
Combines the study of language and culture in the African American community with tutoring service at a local elementary school. Tutoring provides direct experience with language use and literacy development in African American children.
Prereq: Not open to students with credit for Ling 505S, English 4601S (505S), or AFAM 505S. Cross-listed in English.

4780 Undergraduate Research Seminar U 3
Linguistics students learn about cutting-edge research by OSU linguists and get hands-on experience conducting their own linguistic research.
Prereq: Ling 4100, 4200, or 4300, and enrollment in Ling major; or permission of instructor.
4998 Undergraduate Research U 1 - 10
Undergraduate research or creative activities in various topics. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 15 completions. This course is graded S/U.

4998H Undergraduate Research U 1 - 10
Research: assigned reading and individual research. Prereq: Honors standing and permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions. This course is graded S/U.

4999 Undergraduate Thesis Research U 1 - 10
Undergraduate research or creative activities in various topics culminating in a research thesis and oral defense. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

4999H Honors Undergraduate Thesis Research U 1 - 10
Honors undergraduate research or creative activities in various topics, culminating in a research thesis and oral defense. Prereq: Honors standing, and permission of instructor and the Arts and Sciences Honors Committee. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

5000 Introduction to Linguistics U G 3
A broad introduction to general linguistics: survey of phonological, morphological, syntactic, and semantic analysis, and of historical and comparative linguistics. Prereq: Grad standing, or major/minor in Ling; or permission of instructor. Not open to students with credit for 4000 (Linguist 601).

5001 Formal Foundations of Linguistics U G 3
Applying tools from set theory, symbolic logic, model theory, algebra and formal grammar in the foundations of formal linguistic theories and in linguistic analysis. Prereq: 2000, 2000H, 2001, Philos 2000, Math 2386, or 3345; or Grad standing; or permission of instructor. Not open to students with credit for Linguist 680.

5002 Algebraic Linguistics U G 3
Formal properties of grammar and automata; relations between linear, context-free and context-sensitive grammars and finite, pushdown-storage and linear-bounded automata; properties of transformational grammars. Prereq: Ling 5001 (Linguist 680). Not open to students with credit for Linguist 681.

5050 Technical Tools for Linguists U G 3
Practical training in standard computational tools for tackling different kinds of linguistic research. Students will learn computational techniques to access, search and format linguistic datasets, including text corpora, speech and audio, structured representations such as parse trees, and experimental measurements. The course will also cover data exploration and basic modeling.

5051 Quantitative Methods U G 3
Quantitative methods in the sub-disciplines of Linguistics, including data analysis, interpretation and display of data, inferential statistics, and statistical modeling. Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601).

5101 Phonetics: Phonetic Theory U G 3
Principles of articulatory phonetics, with some discussion of acoustic phonetics; practice in the production, recognition, and transcription of sounds in various languages of the world. Prereq: 4100 (Linguist 500), 4300 (503), or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 600.01.

5102 Laboratory Phonology U G 3
Introduction to laboratory methods and quantitative models of speech for Linguistics. Prereq: Ling 5101 (Linguist 600.01). Not open to students with credit for Linguist 600.02.

5201 Syntactic Theory I U G 3
Theories of syntax; principles of syntactic description. Prereq: 4200 (Linguist 502) or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 602.01.

5202 Syntactic Theory II U G 3
Theories of syntax; principles of syntactic description. Prereq: Ling 5201 (Linguist 602.01). Not open to students with credit for Linguist 602.02.

5203 Syntactic Theory III U G 3
Theories of syntax; principles of syntactic description. Prereq: Ling 5001 (Linguist 608), 5202 (602.02), and 5401 (683.01).

5301 Phonological Theory I U G 3
Introduction to phonological analysis and the principles governing the structure, acquisition, and change of phonological systems; survey of major phonological theories. Prereq: 4100 (Linguist 500), 4300 (503), or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 603.01.

5302 Topics in Advanced Phonology U G 3
Introduction to phonological analysis and the principles governing the structure, acquisition, and change of phonological systems; survey of major phonological theories. Prereq: 5301 or Linguist 603.01. Not open to students with credit for Linguist 603.02. Repeatable to a maximum of 9 cr hrs.

5351 Morphological Theory U G 3
Introduction to and comparison of current theories of morphology with application to linguistic data and problems. Prereq: 2000 (Linguist 201), 2000H (201H), or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 609.

5401 Semantic Theory I U G 3
Problems and methods in linguistic semantics, using logic and semantic model theory as analytic tools; reference, compositionality, presupposition, conversational implicature, speech acts, deixis. Prereq: 4400 or 5000 (Linguist 601); or permission of instructor. Not open to students with credit for Linguist 683.01.

5402 Semantic Theory II U G 3
Montage semantics and more recent semantic theories; analysis of important problems, such as generalized quantifiers, lattice-based accounts of plurals and events, discourse representation theory. Prereq: Ling 5401 (Linguist 683.01). Not open to students with credit for Linguist 683.02.

5451 Formal Pragmatics U G 3
Introduction to contemporary theories of pragmatic phenomena which build on theories of dynamic interpretation in formal semantics. Prereq: Ling 5402 (Linguist 683.02). Not open to students with credit for Linguist 780.

5500 Language Description U G 3
Informant techniques and (if available) textbooks and published linguistic analyses are employed in analyzing and describing a language. Prereq: Ling 2000 (Linguist 201), 2000H (201H), or 4000 (601); or permission of instructor. Not open to students with credit for Linguist 672. Repeatable to a maximum of 18 cr hrs.

5501 An Introduction to African-American English U G 3
Introduction to the structure and history of the varieties of English used by African-Americans and the relationship between language use and socio-cultural context. Prereq: One Linguistics course taken at the 4000 level (300 level) or above. Not open to students with credit for AfrAmSt 5501 or 605.

5551 Field Methods I U G 3
Methodology for determining the phonological system of a previously unknown language through the use of a native informant. Prereq: Two courses from two of the following three groups: 4100 (Linguist 500) or 5101 (600); 4200 (502) or 5201 (602.01); or 4300 (503) or 5301 (603.01); or permission of instructor. Repeatable to a maximum of 24 cr hrs.

5552 Field Methods II U G 3
Methodology for determining the morphological and syntactic system of a previously unknown language through the use of a native informant. Prereq: Two Ling courses 2000 (Linguist 201) or above, or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 861.01.

5553 Sociolinguistic Field Methods U G 3
Research methods for sociolinguistic fieldwork including interviewing, observation, survey design and experimental work. Focus on methodology, planning and implementation. Prereq: 5551 (Linguist 650.01). Repeatable to a maximum of 24 cr hrs.

5601 Introduction to Sociolinguistics U G 3
Survey of approaches to the study of language in its social context: sociology of language, ethnography of speaking, discourse analysis, quantitative sociolinguistics. Prereq: Two Ling courses 2000 (Linguist 201) or above, or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 861.01.

5602 Introduction to Quantitative Sociolinguistics U G 3
Exploration of language in its social context through the methods of quantitative analysis of linguistic variation, including the Labovian and implicational models. Prereq: 5601 (Linguist 651.01). Not open to students with credit for Linguist 861.02.

5603 Sociolinguistic Field Methods U G 3
Research methods for sociolinguistic fieldwork including interviewing, observation, survey design and experimental work. Focus on methodology, planning and implementation. Prereq: 5551 (Linguist 650.01).

5612 Introduction to Cognitive Science U G 3
Cognitive science is an interdisciplinary study of the nature of human thought; psychological, philosophical, linguistic, and artificial intelligence approaches to knowledge representation. Prereq: Permission of instructor. Not open to students with credit for Linguist 612, Philos 5830 (612), CSE 5531 (612), or Psych 5612 (612). Cross-listed in Philos 5830, CSE 5531, and Psych 5612.

5651 Languages in Contact U G 3
Study of the effects of language contact on the structure of the involved languages, and of the characteristics of the individuals and communities involved in language contact. Prereq: Two Ling courses 2000 (Linguist 201) or above, or 5000 (601); or permission of instructor.

5700 Training in Informal Science Outreach U G 3
The purpose of this course is to provide students with hands-on training in informal science education at the COSI museum. All students will learn to provide outreach education at the museum; advanced students will develop outreach materials, assist in the visible research operations, and mentor other students. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in Psych and EduTL.
### Linguistics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>6193</td>
<td>Individual Studies</td>
<td>1 - 12</td>
<td>U</td>
<td>Permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5701</td>
<td>Psycholinguistics I</td>
<td>3</td>
<td>U G</td>
<td>An introduction to high-level language processing, word recognition, sentence understanding, and discourse processing. Prereq: 3701 (Linguist 371), 3701H (371H), or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 615.</td>
</tr>
<tr>
<td>5702</td>
<td>Psycholinguistics II</td>
<td>3</td>
<td>U G</td>
<td>Models of human language processing and language parsing and interpretation; probabilistic models, issues in experimentation, and model implementation. Prereq: 5701 (Lingust 615) and 5801 (Linguist 684.01).</td>
</tr>
<tr>
<td>5703</td>
<td>Eye Tracking Methods for Psycholinguistics</td>
<td>3</td>
<td>U G</td>
<td>A hands-on laboratory course focusing on current techniques for monitoring eye movements as a measure of language processing. We will discuss preparation of auditory and screen-based real-world visual stimuli, and methods for aggregating and analyzing eye movement data. Students will have access to Tobii and ASL Mobile eye trackers. Prereq: Ling 3701H (Lingust 371H) or 5701 (615).</td>
</tr>
<tr>
<td>5801</td>
<td>Computational Linguistics I</td>
<td>3</td>
<td>U G</td>
<td>Symbolic and probabilistic computation applied to the structure of words and sentences, models of syntax, parsing algorithms. Prereq: 3802 (Lingust 384), 5000 (601), CSE 3321, 3521, or 5052; or permission of instructor. Not open to students with credit for Linguist 684.01.</td>
</tr>
<tr>
<td>5802</td>
<td>Computational Linguistics II</td>
<td>3</td>
<td>U G</td>
<td>Computational models of language acquisition and application of machine learning techniques to language processing. Prereq: Ling 5801 (Linguist 684.01). Not open to students with credit for Linguist 684.02.</td>
</tr>
<tr>
<td>5803</td>
<td>Computational Semantics</td>
<td>3</td>
<td>U G</td>
<td>Methods for constructing semantic representations for fragments of natural language and performing inference with such representations. Prereq: 5801 (Linguist 684.01). Not open to students with credit for Linguist 684.03.</td>
</tr>
<tr>
<td>5901</td>
<td>Introduction to Historical Linguistics</td>
<td>3</td>
<td>U</td>
<td>Introduction to the methods and principles of historical linguistics. Prereq: 4100 (Linguist 500), 5101 (600.01), 4300 (503), 5301 (603.01), or 5000 (601); or permission of instructor. Not open to students with credit for Linguist 511.</td>
</tr>
<tr>
<td>5906</td>
<td>Topics in Indo-Iranian Linguistics</td>
<td>1 - 3</td>
<td>U</td>
<td>Possible topics include advanced classical Sanskrit, introductory Vedic Sanskrit, Indo-Iranian or Indo-Aryan linguistics, or studies in the ancient Indian grammarians. Repeatable to a maximum of 9 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>6000</td>
<td>Teaching Introductory Linguistics</td>
<td>1</td>
<td>G</td>
<td>Designed to train instructors in the techniques and materials used to teach introductory linguistics courses. Prereq: Not open to students with credit for Linguist 630. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>6001</td>
<td>Proseminar in Linguistics</td>
<td>2</td>
<td>G</td>
<td>Introduction to the problems, methods, and tools of linguistic research. Recommended for all candidates for grad degrees. Repeatable to a maximum of 50 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>6194</td>
<td>Group Studies</td>
<td>1 - 3</td>
<td>G</td>
<td>Study of topics not regularly scheduled for seminars in linguistics, under the direction of a faculty member. Prereq: Ling 4000 (Linguist 601). Repeatable to a maximum of 24 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7890.01</td>
<td>Seminar Discussion Groups: TA Workshop</td>
<td>1 - 3</td>
<td>G</td>
<td>A selected group study, with emphasis on individual writing and presentation. Prereq: 5000 level or above course in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.</td>
</tr>
<tr>
<td>7890.02</td>
<td>Seminar Discussion Groups: Syntax</td>
<td>1 - 3</td>
<td>G</td>
<td>A selected group study, with emphasis on individual writing and presentation. Prereq: 5000 level or above course in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.</td>
</tr>
<tr>
<td>7890.03</td>
<td>Seminar Discussion Groups: Phonetics/Phonology</td>
<td>1 - 3</td>
<td>G</td>
<td>A selected group study, with emphasis on individual writing and presentation. Prereq: 5000 level or above course in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.</td>
</tr>
<tr>
<td>7890.04</td>
<td>Seminar Discussion Groups: Pragmatics</td>
<td>1 - 3</td>
<td>G</td>
<td>A selected group study, with emphasis on individual writing and presentation. Prereq: 5000 level or above course in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.</td>
</tr>
<tr>
<td>7890.05</td>
<td>Seminar Discussion Groups: Language Acquisition Research Group</td>
<td>1 - 3</td>
<td>G</td>
<td>A selected group study, with emphasis on individual writing and presentation. Prereq: 5000 (600) level or above course in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.</td>
</tr>
<tr>
<td>7890.06</td>
<td>Seminar Discussion Groups: Sociolinguistics/Historical Linguistics</td>
<td>1 - 3</td>
<td>G</td>
<td>A selected group study, with emphasis on individual writing and presentation. Prereq: 5000 (600) level or above course in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.</td>
</tr>
<tr>
<td>7890.07</td>
<td>Seminar Discussion Groups: Psycholinguistics</td>
<td>1 - 3</td>
<td>G</td>
<td>A selected group study, with emphasis on individual writing and presentation. Prereq: 5000 (600) level or above course in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.</td>
</tr>
<tr>
<td>7890.08</td>
<td>Seminar Discussion Groups: Computational Linguistics</td>
<td>1 - 3</td>
<td>G</td>
<td>A selected group study, with emphasis on individual writing and presentation. Prereq: 5000 (600) level or above course in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.</td>
</tr>
<tr>
<td>7890.09</td>
<td>Seminar-Discussion Group on LLIC (Language, Logic, Information, and Computation)</td>
<td>1 - 3</td>
<td>G</td>
<td>This discussion group introduces, discusses and reviews the technical details of formal methods in linguistics. Prereq: 5000 (600) level course or above in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.</td>
</tr>
<tr>
<td>7890.10</td>
<td>Seminar Discussion Groups: Topics in Linguistics</td>
<td>1 - 3</td>
<td>G</td>
<td>A selected group study, with emphasis on individual writing and presentation. Prereq: 5000 (600) level course or above in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.</td>
</tr>
<tr>
<td>7890.11</td>
<td>Sociolinguistic Meaning Discussion Group</td>
<td>1 - 3</td>
<td>G</td>
<td>Cross-disciplinary discussion group on sociolinguistic meaning. Readings and research drawn from sociolinguistics, anthropology, psycholinguistics, phonetics and social cognition, among others. Prereq: 5000 (600) level course or above in Ling, or permission of instructor. Repeatable to a maximum of 60 cr hrs or 60 completions.</td>
</tr>
<tr>
<td>7890.12</td>
<td>Seminar in Linguistics: Computational and Cognitive Approaches to Language Discussion Group</td>
<td>1 - 3</td>
<td>G</td>
<td>A selected seminar, with emphasis on individual writing and presentation. This particular decimalized subdivision of Linguistics 7890 (Seminar in Linguistics) is specified to be a forum for individual writing and presentation by members of the Computational and Cognitive Approaches to Language Discussion Group. Repeatable.</td>
</tr>
<tr>
<td>7901</td>
<td>Historical Linguistics: Phonology</td>
<td>3</td>
<td>G</td>
<td>An introduction to the methods, conventions, and literature of comparative-historical linguistics with primary attention to the comparison and reconstruction of Indo-European phonological systems. Prereq: Ling 4000 (Linguist 601) and 5901 (611), or permission of instructor. Not open to students with credit for Linguist 801.</td>
</tr>
<tr>
<td>7902</td>
<td>Historical Linguistics: Morphology</td>
<td>3</td>
<td>G</td>
<td>Advanced work in the comparison and reconstruction of morphological and syntactic systems, primarily Indo-European; detailed examination of some of the results of past and current scholarship. Prereq: 7901 (Linguist 801). Not open to students with credit for 802.</td>
</tr>
<tr>
<td>7903</td>
<td>Topics in Indo-European</td>
<td>3</td>
<td>G</td>
<td>Study of various Indo-European languages and language families and exploration in depth of specific problems in Indo-European grammar. Prereq: Ling 7902 (Linguist 802). Repeatable to a maximum of 18 cr hrs.</td>
</tr>
<tr>
<td>8100</td>
<td>Seminar in Phonetics</td>
<td>1 - 3</td>
<td>G</td>
<td>Study of specific problems in articulatory and acoustic phonetics at an advanced level. Prereq: 5101 (Linguist 601.03). Repeatable to a maximum of 18 cr hrs.</td>
</tr>
<tr>
<td>8200</td>
<td>Seminar in Syntax</td>
<td>1 - 3</td>
<td>G</td>
<td>Advanced topics in syntactic analysis. Prereq: 5202 (Linguist 662.02). Repeatable to a maximum of 18 cr hrs.</td>
</tr>
</tbody>
</table>
Seminar in Phonology  G  1 - 3
Advanced topics in phonological analysis.
Prereq: 5302 (Lingist 603.02). Repeatable to a maximum of 18 cr hrs or 6 completions.

Seminar in Morphology  G  1 - 3
Advanced topics in morphological analysis.
Repeatable to a maximum of 18 cr hrs or 18 completions.

Seminar in Semantics  G  1 - 3
Accounts of semantic judgments in languages, especially within the theory of generative grammar; relationships between syntax, semantics, and language use.
Prereq: 5202 (Lingist 602.02). Repeatable to a maximum of 18 cr hrs.

Seminar in Pragmatics  G  1 - 3
An intensive examination of one or more major problems in pragmatics, such as speech acts, implicature, or presupposition.
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

Seminar in Sociolinguistics  G  1 - 3
Advanced topics in sociolinguistics.
Prereq: 5601 (Lingist 661.01). Repeatable to a maximum of 18 cr hrs or 18 completions.

Seminar in Contact Linguistics  G  1 - 3
The goal of this seminar is to explore in some detail the methodological frameworks and theoretical issues that relate to the origins and development of various outcomes of language contact.
Prereq: Ling 5651 (Lingist 685). Repeatable to a maximum of 18 cr hrs or 18 completions.

Seminar in Psycholinguistics  G  1 - 3
Advanced topics in psycholinguistics.
Prereq: Ling 5701 (Lingist 615). Repeatable to a maximum of 18 cr hrs or 18 completions.

Seminar in Computational Linguistics  G  1 - 3
Advanced topics in computational linguistics.
Prereq: 5802 (Lingist 684.02). Repeatable to a maximum of 18 cr hrs or 18 completions.

Interdepartmental Seminar  G  1 - 3
Two or more departments present seminars on subjects of mutual interest; topics to be announced.
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions.

Seminar in Historical Linguistics  G  1 - 3
Advanced topics in methods and principles of diachronic analysis.
Prereq: 5901 (Lingist 611), or permission of instructor. Repeatable to a maximum of 18 cr hrs.

Non-thesis graduate research  G  1 - 15
Non-thesis graduate research. Repeatable. This course is graded S/U.

Thesis/Dissertation Research in Linguistics  G  1 - 10
Research for thesis and dissertation purposes only. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.

Master of Business Administration

Organizational Behavior, Teamwork and Leadership-EMBA  G  3
An overview of factors that influence individual, group, and organizational work performance and techniques to improve it; analytical frameworks for determining effectiveness of given techniques in specific circumstances.
Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for 660.

Organizational Behavior  G  1½
An overview of factors that influence individual and team performance and techniques to improve it; analytical frameworks for determining effectiveness of given techniques in specific circumstances.
Prereq: Enrollment in MBA or WPMBMBA program; or permission of instructor. Not open to students with credit for 860.

Leadership  G  1½
An overview of factors that influence individual and team performance and techniques to improve it; analytical frameworks for determining effectiveness of given techniques in specific circumstances.
Prereq: Enrollment in MBA or WPMBMBA program; or permission of instructor. Not open to students with credit for 860.

Professional Development: Leadership and Team Effectiveness-EMBA  G  3
Skills enhancement in professional teamwork and leadership roles.
Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for BusMH 801.

Accounting for Decision Making-EMBA  G  3
Uses of Accounting by Managers.
Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for 802.

Accounting for Decision Making  G  3
Examines the role of accounting and financial reporting by investors and managers for decision-making and performance evaluation.
Prereq: Enrollment in MBA program or permission of instructor. Not open to students with credit for 800 or 801.

Finance  G  1½
Course covers time value of money, risk and return, investment criteria, capital budgeting, market efficiency, derivatives, and interest rate parity.
Prereq: Enrollment in Executive MBA program or Working Professional MBA program; or permission of instructor. Not open to students with credit for 810.

Finance I  G  1½
Covers topics of time value of money, concepts of risk and return, and investment criteria.
Prereq: Enrollment in MBA or MAcc program, or permission of instructor. Not open to students with credit for 810.

Finance II  G  1½
Covers capital budgeting, market efficiency, derivatives, interest rate parity.
Prereq: Enrollment in MBA or MAcc program, or permission of instructor. Not open to students with credit for 810 or BusFin 811.

Operations Management  G  3
How the operations function contributes to ensuring effective and efficient flow of materials and information within and outside the organization.
Prereq: Enrollment in Executive MBA program or Working Professional MBA program; or permission of instructor. Not open to students with credit for 850.

Operations Management I  G  1½
How the operations function contributes to ensuring effective and efficient flow of materials and information within and outside the organization.
Prereq: Enrollment in MBA or permission of instructor. Not open to students with credit for 850.

Operations Management II  G  1½
How the operations function contributes to ensuring effective and efficient flow of materials and information within and outside the organization. Continuation of 6231.
Prereq: 6231 and enrollment in MBA or WPMBMBA program or permission of instructor. Not open to students with credit for 850.

Operations Management-EMBA  G  3
Operations Management (MBA 6233) is designed to provide a solid foundation and deeper understanding of how the operations function contributes to ensuring effective and efficient flow of materials and information within and outside the organization.
Prereq: Enrollment in MBA, or permission of instructor. Not open to students with credit for 850.

Organizations, Markets and Management-EMBA  G  3
Microeconomics from a management and organizational perspective, developing a framework grounded in the fundamentals of economic theory.
Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for 812.

Organizations, Markets and Management  G  2½
Microeconomics from a management and organizational perspective, developing a framework grounded in the fundamentals of economic theory.
Prereq: Enrollment in MBA or WPMBMBA program or permission of instructor. Not open to students with credit for 812.

Organizations, Markets and Management  G  3
Microeconomics from a management and organizational perspective, developing a framework grounded in the fundamentals of economic theory.
Prereq: Enrollment in MBA or WPMBMBA program, or permission of instructor. Not open to students with credit for 8241 or 812.

Marketing Management  G  3
Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment.
Prereq: Enrollment in Executive MBA program or Working Professional MBA program or permission of instructor. Not open to students with credit for 840.
320 Master of Business Administration

6251 Marketing Management I G 1½
Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment. Prereq: Enrollment in MBA program or permission of instructor. Not open to students with credit for 640.

6252 Marketing Management II G 1½
Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment. Continuation of 6251. Prereq: 6251 and enrollment in MBA or permission of instructor. Not open to students with credit for 640.

6253 Marketing G 3
Focuses on the interrelated elements of the marketing mix, its relationship with the other functional areas of management, and marketing responses to the external environment. Prereq: Enrollment in MBA program, or permission of instructor. Not open to students with credit for 640.

6260 Global Environment of Business-EMBA G 3
Political, economic, social and technological forces shaping today's global business environment. Prereq: Enrollment in Executive MBA program, or permission of instructor. Not open to students with credit for 620.

6261 Global Environment of Business G 1½
Political, economic, social and technological forces shaping today's global business environment. Prereq: Enrollment in MBA or WPMB program, or permission of instructor. Not open to students with credit for 620.

6270 Data Analysis for Managers-EMBA G 3
Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making. Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for 670.

6271 Data Analysis for Managers G 2½
Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making. Prereq: Enrollment in MBA or WPMB program or permission of instructor. Not open to students with credit for 670.

6273 Data Analysis for Managers G 3
Introduction to data analysis and statistics for business. Emphasis on achieving an application-oriented understanding of statistical inference and regression analysis and their use in decision making. Prereq: Enrollment in MBA or WPMB program, or permission of instructor. Not open to students with credit for 670.

6281.01 Professional Development G 1½
Professional development and skill set enhancement in the areas of leadership, self-awareness, team-based work and ability to adapt to work life in the context of different organizational and global cultures. Prereq: Enrollment in MBA program, or permission of instructor.

6281.02 Professional Development G 1½
Professional development and skill set enhancement in the areas of leadership, self-awareness, team-based work and ability to adapt to work life in the context of different organizational and global cultures. Prereq: Enrollment in MBA program, or permission of instructor.

6281.03 Professional Development G 1½
Professional development and skill set enhancement in the areas of leadership, self-awareness, team-based work and ability to adapt to work life in the context of different organizational and global cultures. Prereq: Enrollment in MBA program, or permission of instructor.

6281.04 Professional Development G 1½
Professional development and skill set enhancement in the areas of leadership, self-awareness, team-based work and ability to adapt to work life in the context of different organizational and global cultures. Continuation of MBA 6281. Prereq: Enrollment in MBA program, or permission of instructor.

6282 Workshop Core II G 1½
Professional development and skill set enhancement in the areas of leadership, self-awareness, team-based work and ability to adapt to work life in the context of different organizational and global cultures. Continuation of MBA 6281. Prereq: Enrollment in MBA program, or permission of instructor.

6283 Workshop Core-WPMB G 1½
Professional development and skill set enhancement in the areas of leadership, self-awareness, team-based work and ability to adapt to work life in the context of different organizational and global cultures. Prereq: Enrollment in WPMB program or permission of instructor.

6290 Strategy Formulation & Implementation-EMBA G 3
Focuses on the determination of the strategic direction of the firm and the management of the strategic process. Prereq: Enrollment in Executive MBA program or permission of instructor. Not open to students with credit for 980.

6291 Strategy Formulation & Implementation G 2½
Focuses on the determination of the strategic direction of the firm and the management of the strategic process. Prereq: Enrollment in MBA or WPMB program or permission of instructor. Not open to students with credit for 980.

Materials Science and Engineering

2193 Individual Studies in Materials Science and Engineering U 0 - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

2194 Group Studies in Materials Science and Engineering U 0 - 6
Special topics in MSE not offered in other courses. Repeatable to a maximum of 12 cr hrs or 8 completions.

2241 Structure and Characterization of Materials U 3
Atomic structure of materials and its determination using X-ray diffraction techniques. Introduction crystalline defects and microstructure. Characterizing and quantifying materials microstructure using optical and electron microscopy. Prereq: 2010, Physics 1250 or 1260, Math 1151 or 1161, and Chem 1210 or 1250; or permission of instructor. Not open to students with credit for 205.

2251 Thermodynamics of Materials U 3
Fundamental basis of three laws of thermodynamics, phase equilibria, reaction equilibria, solution theory, and phase diagrams and electrochemistry. Prereq: 2010, Physics 1250 or 1260, Math 1151 or 1161, and Chem 1210 or 1250; or enrollment as MatScEn-BS or WeldEng-BS student; or permission of instructor. Not open to students with credit for both 341 and 342.

2311 Modeling and Simulation Lab I U 3
A modeling and simulation laboratory appropriate to sophomore-level study in materials science and engineering. Prereq: 2010, Physics 1250 or 1260, Math 1151 or 1161, and Chem 1210 or 1250; or enrollment as MatScEn-BS or WeldEng-BS student; or permission of instructor. Not open to students with credit for both 401 and 525.

2331 Structure and Characterization Lab U 2
Companion laboratory course to MatScEn-2241. Experiments on X-ray diffraction, scanning electron microscopy, optical microscopy, and stereology with applications. Statistical treatment of data and technical reporting. Prereq: 2010, Physics 1250 or 1260, Math 1151 or 1161, and Chem 1210 or 1250; or enrollment as MatScEn-BS student; or permission of instructor. Not open to students with credit for 282.

3141 Transformation and Processing of Materials U 3
Introduction to transformations, and the relationship between microstructure, properties, and processing in metals, ceramics, semiconductors, and polymers. Prereq: 2251, and enrollment as MatScEn-BS or WeldEng-BS major; or permission of instructor.

3151 Transport Phenomena and Kinetics U 3
Provides students with concepts related to transport phenomena and kinetics as applied to processing of metals, ceramics, polymers, and composite materials. Prereq: 2010 and 2241; and Math 2177 or 2415; or 2174; and enrollment as MatScEn-BS major; or permission of instructor. This course is available for EM credit.

3189 Professional Practice in Industry U ½ - 3
Preparation of a comprehensive report based on employment experience in a co-op or job in industry. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.
3193.01 Individual Studies in Materials Science & Engineering U ½ - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

3193.02 Individual Studies in Materials Science & Engineering U ½ - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

3261 Introduction to the Mechanical Behavior of Materials U 3
Survey of the mechanical response of solids to forces and stresses. Responses studied include elastic, viscoelastic, plastic deformation and fracture. Prereq: 2010, MechEng 2400, and enrollment as MatScEn-BS student; or permission of instructor. Not open to students with credit for both 361 and 564.

3271 Electronic Properties U 3
Introduction to structure, property, and applications of electronic materials. Includes electronically and ionically conducting materials, dielectrics, and optical and magnetic materials. Prereq: 2010; and Math 1151 or 1161; and Physics 1251 or 1261; and enrollment as MatScEn-BS student; or permission of instructor. Not open to students with credit for 371.

3321 Modeling and Simulation Lab II U 2
Modeling and simulation techniques appropriate to junior-level study in materials science and engineering. Prereq: 2321, 3141, and 3151, and enrollment as MatScEn-BS student; or permission of instructor.

3331 Materials Science and Engineering Lab I U 2
Laboratory experiments related to materials processes and properties. Introduction to experimental techniques used in materials fields. Data analysis, presentation, and technical writing skills. Prereq: 2321, and enrollment as MatScEn-BS major; or permission of instructor. Not open to students with credit for both 581.01 and 581.02.

3332 Materials Science and Engineering Lab II U 2
Laboratory experiments related to materials application and performance. Advanced experimental techniques and analysis in these areas. Technical writing skills at fully professional level. Prereq: 2241, 2331, and 2251; and enrollment as MatScEn-BS student; or permission of instructor. Not open to students with credit for both 581.02 and 581.03.

3333 Materials Science and Engineering Laboratory for Welding Engineering Students U 2
Lab experiments related to heat treating, casting, welding, materials characterization, and properties. Introduction to experimental techniques in materials science. Development of technical writing skills. Prereq: WeldEng 3001 and 3601; and enrollment as WeldEng-BS major; or permission of instructor. Not open to students with credit for 581.04. Not open to students majoring in MatScEn.

3611 Biological Response to Biomaterials U 3
The biological response to biomaterials implanted within the human body. Prereq: 2010, and Biology 1113 or 2100; or permission of instructor. Not open to students with credit for 645 and 646.

4181 Materials Selection U 2
Systematic and quantitative strategies for selecting materials and processes as a foundation for designing with materials. Prereq: 2241, 2331, 2251, 2321, and enrollment as MatScEn-BS major; or permission of instructor. Not open to students with credit for 600.

4193.01 Individual Studies in Materials Science & Engineering U ½ - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

4193.02 Individual Studies in Materials Science & Engineering U ½ - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

4194 Group Studies in Materials Science and Engineering U 0 - 6
Special topics in Materials Science and Engineering. Repeatable to a maximum of 12 cr hrs or 8 completions.

4321 Modeling and Simulation-Based Design U 3
Practical modeling and simulation techniques appropriate to senior-level design in materials science and engineering. Prereq: 2321, 3321, and enrollment as MatScEn-BS major; or permission of instructor.

4381 Design and Professional Practice I U 3
An in-depth design project to foster independent thinking and to develop problem-solving skills. Design of experiments, applied statistics, presentation and communication skills will be discussed. Prereq: 3411, 3511, and 3331. Prereq or concur: 2321, 3271, or 3332, and enrollment as MatScEn-BS major; or permission of instructor. Not open to students with credit for both 695.01 and 695.02.

4382 Design and Professional Practice II U 3
An in-depth design project to foster independent thinking and to develop problem-solving skills. Design of experiments, applied statistics, presentation and communication skills will be discussed. Prereq: 4381, and enrollment as MatScEn-BS major; or permission of instructor. Not open to students with credit for both 695.02 and 695.03.

4891 Junior Seminar I U 1
Seminars on industrial experience and on graduate school by outside invited speakers. This course is graded S/U.

4892 Junior Seminar II U 1
Seminars on industrial experience and on graduate school by outside invited speakers. This course is graded S/U.

4998 Undergraduate Research U ½ - 3
Supervised undergraduate research on various topics. Repeatable to a maximum of 6 or hrs or 6 completions.

4999 Undergraduate Research U ½ - 3
Supervised undergraduate research on topics in Materials Science & Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 6 or hrs or 2 completions.

5193.01 Individual Studies in Materials Science & Engineering U G 0 - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

5193.02 Individual Studies in Materials Science & Engineering U G 0 - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

5194 Group Studies in Materials Science & Engineering U G 0 - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required. Repeatable to a maximum of 12 or hrs or 8 completions.

5321 Computational Thermodynamics and Kinetics U G 2
Comprehensive background on computational thermodynamics and kinetics. Includes focus on CALPHAD (Calculation of Phase Diagram) methodology. Prereq: 2251 and 3151 or equv., or Grad standing in MatScEn or WeldEng: or permission of instructor. Cross-listed in WeldEng 4121 and 7121.

5431 Advanced Metals Laboratory U G 1
Advanced laboratory covering various topics in metallic materials. Prereq: 2241, 2331, 3141, 3261, and 3332. Prereq or concur: 5441 or 5451; or permission of instructor. Not open to students with credit for 695, or to Grad students enrolled in MatScEn or WeldEng.

5441 Physical Metallurgy U G 3
Physical metallurgy of ferrous and non-ferrous alloys. Emphasis on alloy design, processing and structure-property relations. Prereq: 3411, 3261, and enrollment as MatScEn-BS major student; or Grad standing; or permission of instructor. Not open to students with credit for both 661 and 663.

5451 Molten Metal Processing U G 3
An advanced class in application of thermodynamics, kinetics, and macro-transport phenomena to primary metals production, refrining, and solidification processing. Prereq: 2251 or 3151; or Grad standing; or permission of instructor. Not open to students with credit for 667, 668, 5451, ISE 5502, or 651.02. Cross-listed in ISE 5502.

5531 Ceramics Processing Laboratory U G 1
Laboratory experiments involving synthesis fabrication and characterization of high performance technical ceramics. Prereq: 3141, 3261, 3271, 3332, and enrollment as MatScEn-BS major; or permission of instructor. Not open to students with credit for 619.
5532  Electronic, Optical, and Magnetic Properties Laboratory  U G 1
Correlates electronic, optical, and magnetic properties of materials with structure,
composition, and microstructure. Examples include resistivity, the Hall effect, and
ferromagnetic/ferroelectric hysteresis.
Prereq: 3141, 3261, 3271, 3332, and enrollment as MatScEn-BS major student; or permission
of instructor. Not open to students with credit for 5679.

5541  Structure and Properties of Amorphous Materials  U G 3
Provide basic knowledge about the structure and properties of oxide, metallic, semiconducting
and polymeric glasses emphasizing viscosity, glass transition, structural relaxation and
microstructure.
Prereq: 2241, 2251, 3151, and 3261, or permission of instructor. Not open to students with
credit for 618.

5551  Ceramic Processing  U G 3
Overview of ceramics processing, including essential topics of: powder
synthesis/characterization, colloidal/sol-gel processing, shaping/consolidation, sintering,
microstructure development and nanoceramics, and thin films/coating.
Prereq: 3141, 3151, and enrollment as MatScEn-BS major; or Grad standing; or permission
of instructor. Not open to students with credit for 615.

5552  Nanoscale Synthesis and Processing of Electronic
Materials  U G 3
Processing, structure and stability of materials in micro/nano/electronics. Thin film epitaxy,
semiconductor heterostructures, quantum confinement, bandgap engineering, electronic
properties of defects, nanolithography, self-assembled nanostructures.
Prereq: 3141 and 3271, or permission of instructor. Not open to students with credit for 676.

5571  Electroceramics  U G 3
Functional ceramics covering electrical, magnetic and optical properties of oxides. Emphasis
is on the processing-microstructure-property correlation.
Prereq: 3271, or permission of instructor. Not open to students with credit for 614.

5572  Materials for Energy Technology  U G 3
Structure property relationships of materials in energy applications. Photovoltaic materials,
solid state photonic materials, electrochemical devices such as batteries, fuel cells and
chemical sensors, superconductors, memory and nuclear materials.
Prereq: 2241, and 3271 or ECE 2300; and enrollment as MatScEn-BS major; or Grad
standing; or permission of instructor.

5605  Quantitative Introduction to Materials Science  U G 3
A quantitative survey of the key elements related to the processing, structure and properties
of materials. Structural materials and core aspects are emphasized. Intended for MS/PhD
students enrolled in MatScEn who come from a non-MatScEn background.
Prereq: Grad standing in MatScEn or WeldEng; or permission of instructor. Not open to
students with credit for 2010, 6605, or 605, or to students enrolled in MatScEn-BS.

5611  Materials in Medicine  U G 3
The materials science of plastics, metals and ceramics currently used to replace or supplement
tissues within the human body.
Prereq: 2010 and 3611; or Grad standing; or permission of instructor. Not open to students
with credit for both 645 and 646.

5631  Biomaterials Laboratory  U G 1
A laboratory experience in the processing and characterization of biomaterials used for the
replacement of human tissues.
Prereq or concur: 5611 or 5641; or permission of instructor. Not open to students with credit
for 645.

5641  Structure-Property Relationships of Polymers  U G 3
An understanding of the structure/property relationships that drive the continued expansion of
polymers into a wide array of applications.
Prereq: 2010, CPHR 2.0 or higher, and rank 3 or 4 in Engineering; or Grad standing; or
permission of instructor. Not open to students with credit for both 642 and 643.

5651  Biomaterials Processing  U G 3
The relationship between the processing of biomaterials - metals, polymers and ceramics -
and the impact that these steps have on final biomedical properties.
Prereq: 5611 or 5641; or permission of instructor.

5711.70  Introduction to Composites  U G 1½
In this seven-week course, students will gain the theoretical background as well as practical
knowledge of the structure and properties of ceramic, metal, and polymer matrix composites.
Prereq: 3261, or permission of instructor. Not open to students with credit for 644 or 5711.

5761.71  Mechanical Behavior of Crystalline Solids at Lower
Temperature  U G 1½
Strength and Deformation Mechanisms in Crystalline Solids at Low Temperatures.
Prereq: 3261 or 3332; or Grad standing; or permission of instructor. Not open to students with
credit for MatScEn 5761.

5761.72  Mechanical Behavior of Crystalline Solids at High
Temperatures  U G 1½
Strength and deformation mechanisms in crystalline solids at high temperatures.
Prereq: 3261 or 3332; or Grad standing; or permission of instructor. Not open to students with
credit for 5761.
6737 Diffusion and Interface Kinetics G 3
Detailed atomic and phenomenological descriptions of rate limiting steps, diffusion, and interface kinetics with applications involving mass transport and phase transitions in the solid state.
Prereq: Grad standing in MatScEn, or permission of instructor. Not open to students with credit for 6737.

6741 Practical Transmission Electron Microscopy Lab G 1
Transmission Electron Microscopy with emphasis on practical methods.

6747 Structure and Defects in Materials G 3
Structure and defects in crystalline and amorphous solids.
Prereq: Grad standing in MatScEn, or permission of instructor. Not open to students with credit for 474.

6750 Nuclear Materials and Irradiation Effects in Materials G 2
Develop an understanding of the interactions of materials with radiation and the resulting changes in materials properties. Discussion of common materials in nuclear materials.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 750 or NuCen 6750. Cross-listed in NuCen.

6756 Computational Materials Modeling G 2
Introduction to common computer modeling methods, including hands-on work with emphasis on the atomic and nano-scales.
Prereq: Permission of instructor. Not open to students with credit for 756.

6758 Mechanical Behavior of Materials G 2
Mechanical response of materials to loads and deformation.
Prereq: Grad standing in MatScEn, or permission of instructor. Not open to students with credit for 756.

6777 Electronic Properties of Materials G 2
In-depth analysis of the structure - property relationships and application of materials in electronics, optics and magnetics.
Prereq: Grad standing in Engineering or Science or permission of instructor. Not open to students with credit for 777.

6999 Graduate Research in Materials Science and Engineering G ½ - 18
Research for thesis purposes only. Repeatable. This course is graded S/U.

7193.01 Individual Studies in Materials Science and Engineering G 0 - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 8 completions. This course is graded S/U.

7193.02 Individual Studies in Materials Science & Engineering G 0 - 6
Investigations in areas of advanced non-thesis research.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

7194 Group Studies in Materials Science and Engineering G 0 - 6
Special topics in Materials Science and Engineering.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 8 completions.

7818 Advanced Topics in Corrosion Science G 2
Advanced topics in corrosion science.
Prereq: 6735. Not open to students with credit for 681.

7835 Point Defects in Crystalline Materials G 2
A thermodynamic and electrochemical treatment of the formation, concentrations, mobilities, and interactions of atomic, ionic, and electronic point defects in materials at high temperatures.
Prereq: 6730 and 6737, or permission of instructor. Not open to students with credit for 635.

7845 Solid Surfaces and Interfaces G 2
Elements of surface and interface science. Thermodynamics, structure, microstructure and kinetics of interfacial phenomena in materials.
Prereq: 6730, 6737, and 6747. Not open to students with credit for 845.

7850 Structural Transformations G 2
Structural transformations in materials with emphasis on basic phenomena. Selected topics will be developed based on classical approaches and recent advances.
Prereq: 6730 and 6737. Not open to students with credit for 650.

7855 Electron Diffraction, Imaging and Spectroscopies G 2
Advanced topics in characterizing materials using transmission electron microscopy. Topics covered include electron diffraction techniques, important imaging modes, and widely used spectroscopy methods.
Prereq: 6715, or permission of instructor. Not open to students with credit for 655.

7861 Plasticity G 2
Continuum and micromechanisms of plastic deformation. 2-1.5 hr cr. Prereq or concur: 6765. Not open to students with credit for 681.
324 Mathematics

1114 Transition Calculus I

Calculus 1 transition, from one quarter to one semester. Su 12, Au 12 sems.
Prereq: C- or better in 151. Not open to students with credit for 1151 or higher, or for any quarter-system math course numbered 152.xx or higher. GE quant reason math and logical anly course.

1116 Excursions in Mathematics

Critical thinking and problem solving, with relevant topics met in everyday life. Appropriate for non-science majors.
Prereq: 1073, 1074, 1075, 75, or 104; or Math Placement Level R or above; or ACT math sub score of 22 or higher that is less than 2 years old. Not open to students with credit for 1152 (153) or above. GE quant reason math and logical anly course.

1118 Mathematics for Architects

Topics in architecture majors.
Prereq: A grade of C- or above in 1148 or 1150, or credit for 148 or 150, or Math Placement Level M or L, and enrollment in School of Architecture.

1124 Transition Math for Elementary Teachers

Numbers, counting, and algebra for prospective elementary school teachers. Not open to students with credit for 107.

1125 Mathematics for Elementary Teachers I

Sequence 1125-1126 involves numbers, geometry, measurement, and mathematical reasoning, for prospective elementary school teachers.
Prereq: A grade of C- or above in 1075; or credit for 1074, 75, or 104; or Math Placement Level R or above; or ACT math sub score of 22 or higher that is less than 2 years old; and enrollment in Elementary Education Special education major, or in Middle Childhood major or pre-major with area of concentration different than Math. Not open to students with credit for 106.

1126 Mathematics for Elementary Teachers II

Continuation of 1125: numbers, geometry, measurement, and mathematical reasoning, for prospective elementary school teachers.
Prereq: A grade of C- or above in 1125; and enrollment in Early Childhood or Special Education major, or in Middle Childhood major or pre-major with area of concentration different than Math. Not open to students with credit for 107.

1130 College Algebra for Business

Algebraic, exponential, and logarithmic functions. Matrix algebra. Applications to business.
Prereq: A grade of C- or above in 1075, or credit for 104, or Math Placement Level M or N, or ACT math sub score of 22 or higher that is less than 2 years old. Not open to students with credit for 1131 (131), or for any Math course numbered 1149 (150) or above. This course is available for EM credit. GE quant reason math and logical anly course.

1131 Calculus for Business

Survey of calculus of one and several variables; applications to business.
Prereq: A grade of C- or above in 1130, 1144, 1148, or 1150, or credit for 130, 148, or 150, or Math Placement Level L. Not open to students with credit for 1151 (151) or above, or 1134 (132). This course is available for EM credit. GE quant reason math and logical anly course.

1134 Transition Calculus for Business

Integral and multi-variable calculus for business. This course is used only for transfer credit.
Prereq: 131, or equiv. Not open to students with credit for 132. This course is available for EM credit.

1135 Number and Operations for Teachers

The first course in a two semester sequence for teachers of elementary and middle grade students. This course focuses on concepts of numbers and arithmetic operations, including modern and historical perspectives.
Prereq: A grade of C- or above in 1075, or credit for 1074, 75, or 104; or Math Placement Level R or above; or ACT math sub score of 22 or higher that is less than 2 years old. Not open to students with credit for 106.

1136 Measurement and Geometry for Teachers

This course is the second in a two semester sequence for teachers of elementary and middle grade students. This course focuses on concepts of measurement and geometry, including modern and historical perspectives.
Prereq: A grade of C- or above in 1135.

1144 Precalculus Transition

Math 150 done in a semester. Properties and applications of rational, logarithmic, exponential, trigonometric, and inverse trigonometric functions. Introduction to complex numbers. This course is used only for transfer credit.
Prereq: 1148 (149), or permission of department. Not open to students with credit for 150 or above.

1148 College Algebra

Functions; polynomial, rational, radical, exponential, and logarithmic. Introduction to right-angle trigonometry. Applications.
Prereq: A grade of C- or above in 1075, or credit for 104 or 148, or Math Placement Level N, or ACT math sub score of 22 or higher that is less than 2 years old, or permission of department. Not open to students with credit for 1144, for any Math course numbered 1150 (150) or above. This course is available for EM credit. GE quant reason math and logical anly course.

1149 Trigonometry

Trigonometric functions and their properties. Vectors, polar coordinates and complex numbers. Prereq: A grade of C- or above in 1148, or permission of department. Not open to students with credit for 1144, or for any Math course numbered 1150 (150) or above. This course is available for EM credit. GE quant reason math and logical anly course.

1150 Precalculus

Functions: polynomial, rational, radical, exponential, logarithmic, trigonometric, and inverse trigonometric. Applications.
Prereq: Math Placement Level M. Not open to students with credit for 1144, 1148, or for 1149 or above, or for any quarter Math course numbered 150 or above. This course is available for EM credit. GE quant reason math and logical anly course.

1151 Calculus I

Differential and integral calculus of one real variable.
Prereq: A grade of C- or above in 1148 and 1149, or in 1144, 1150, or 150, or Math Placement Level L. Not open to students with credit for 1152 or 152.xx, or above. This course is available for EM credit. GE quant reason math and logical anly course.

1152 Calculus II

Integral calculus, sequences and series, parametric curves, polar coordinates, (optional: vectors).
Prereq: A grade of C- or above in 1114 (114), 1151, 1156, 1161.xx, 152.xx, 161.xx, or 161.01H. Not open to students with credit for any Math class numbered 1172 or above, or with credit for 153.xx, or Math courses numbered 162.xx or above. This course is available for EM credit. GE quant reason math and logical anly course.

1156 Calculus for the Biological Sciences

Differential calculus and mathematical modeling in the life sciences.
Prereq: A grade of C- or above in 1148 and 1149, or a grade of C- or above in 1150, or credit for 150, or Math Placement Level L. Not open to students with credit for 1151 (151.xx) or above. GE quant reason math and logical anly course.

1157 Mathematical Modeling for the Biological Sciences

Models in life sciences using integral calculus, linear algebra, dynamical systems, and ordinary differential equations.
Prereq: A grade of C- or above in 1151, 1156, 1161.xx, or 181H, or credit for 152.xx. Not open to students with credit for 1152, or for any Math course numbered 2000 or above, or for a quarter-system Math course numbered 254.xx or above.

1161.01 Accelerated Calculus I

Differential and integral calculus of one real variable. Intended for students having prior experience with calculus.
Prereq: Math Placement Level L, and previous calculus experience. Not open to students with credit for any Math course numbered 1152 or above, or for the quarter-system Math courses 151.xx and 152.xx, or for any quarter-system course numbered 162 or above. GE quant reason math and logical anly course.

1161.02 Accelerated Calculus I for Honors Engineers

Differential and integral calculus of one real variable. Intended for students in Fundamentals of Engineering for Honors (FEH).
Prereq: Math Placement Level L, and previous calculus experience. Not open to students with credit for 1152, or 151.xx and 152.xx, or 162 or above. GE quant reason math and logical anly course.

1164 Transition Math for Middle School Teachers

Algebraic thinking and probability.
Prereq: 109, and enrollment in Middle Childhood, Early Childhood or Special Education. Not open to students with credit for 110.

1165 Math for Middle School Teachers I

Algebra and reasoning for middle school teachers.
Prereq: A grade of C- or above in 1148 and 1149, or in 1150, or credit for 150, or Math Placement Level L, and major or pre-major in Middle Childhood Education, within either ASC or EHE.

1166 Math for Middle School Teachers II

Geometry for middle school teachers.
Prereq: A grade of C- or above in 1165, and major or pre-major in Middle Childhood Education either within ASC or within EHE.

1172 Engineering Mathematics A

Techniques of integration, Taylor series, differential calculus of several variables. Applications.
Prereq: A grade of C- or above in 1144 (114), 1151, 1156, 1161.xx, 152.xx, 161.xx, or 161.01H. Not open to students with credit for 1152, 1534 (153.xx), or 1544 (154), or for any Math class numbered 1172 or above, or for any quarter-system Math class numbered 254.xx or above. Not open to students majoring in Math, pre-Actuarial Science, or Actuarial Science. This course is available for EM credit.

1181H Honors Calculus I

Single variable calculus treated in depth.
Prereq: 1151 or 151.xx, and permission of department. GE quant reason math and logical anly course.
1187 Problem Solving  U  1 - 2
Problem solving involving topics in college algebra and calculus.
Prereq: Permission of department. Repeatable to a maximum of 8 cr hrs or 4 completions.
This course is graded S/U.

1187H Honors Problem Solving  U  1 - 2
Problem solving beyond what is encountered in standard programs.
Prereq: Permission of department. Repeatable to a maximum of 8 cr hrs or 4 completions.
This course is graded S/U.

1193 Individual Studies in Mathematics  U  1 - 3
Individual studies.
Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions.
This course is graded S/U.

1194 Group Studies in Mathematics  U  1 - 3
This is one of two independent courses which follow Math 1136 to provide necessary content
for middle grade teachers. This course focuses on algebra, coordinate geometry, and
their connections through equations in one or more unknowns. Modern and historical perspectives
are woven throughout.
Prereq: A grade of C- or above in 1136.xx, and a grade of C- or above in 1149 or 1150, or credit
for 150, or math placement level L.

1295 Introductory Seminar  U  1
Seminar on mathematical topics for beginning math majors.
Prereq: Enrollment in Math major, or permission of department. This course is graded S/U.

1534 Transition Calculus II  U  3
Indeterminate forms, improper integrals, infinite series, parametric curves, vectors and vector
functions. This course is used only for transfer credit.
Prereq: A grade of C- or above in 152.xx, or equiv.

1544 Algebra and Coordinate Geometry for Teachers  U  3
Integral calculus, Taylor series, differential calculus of several variables. Applications. Intended for
students majoring in Engineering. This course is used only for transfer credit.
Prereq: A grade of C- or above in 152.xx, or equiv.

2137 Calculus and its History for Teachers  U  3
This is one of two independent courses which follow Math 1136 to provide necessary content
for middle grade teachers. This course focuses on functions and calculus, including modern and
historical perspectives.
Prereq: A grade of C- or above in 1136.xx, and a grade of C- or above in 1149 or 1150, or credit
for 150, or math placement level L.

2138 Calculus and its History for Teachers  U  3
This is one of two independent courses which follow Math 1136 to provide necessary content
for middle grade teachers. This course focuses on functions and calculus, including modern and
historical perspectives.
Prereq: A grade of C- or above in 1136.xx, and a grade of C- or above in 1149 or 1150, or credit
for 150, or math placement level L.

2153 Calculus III  U  4
Multivariable differential and integral calculus.
Prereq: A grade of C- or above in 1152, 1172, 1534, 1544, 1181H, or 4181H, or credit for
153.xx, 154, 162.xx, or 162.01H. Not open to students with credit for any course 2153 or
above, or for any quarter-system class 254.xx or above. This course is available for EM credit.

2162.01 Accelerated Calculus II  U  5
Vectors, multivariable calculus, integral theorems.
Prereq: A grade of C- or above in 1161.xx, 1181H, or 4181H. Not open to students with credit
for semester Math course above 2162.01, or for any quarter Math course numbered 254.xx or
above.

2162.02 Accelerated Calculus II for Honors Engineers  U  5
Accelerated multivariable calculus. Intended for students in Fundamentals of Engineering for
Honors (F	H).
Prereq: A grade of C- or above in 1161.xx, 1181H, or 4181H. Not open to students with credit
for 2153, or for a semester Math course numbered 2162 or above, or for a quarter Math course
numbered 263.xx or above.

2167 Calculus for Middle School Teachers  U  3
Concepts of Calculus for Middle School teachers.
Prereq: A grade of C- or above in 1165, or credit for 1164 (110); and enrollment in Middle
Childhood Education major or pre-major, within ASC or EHE. Not open to students with credit
for 111.

2168 History of Mathematics for Middle School Teachers  U  3
Historical and mathematical discussion of topics in the middle school math curriculum.
Prereq: A grade of C- or above in 2167, or credit for 111; and enrollment as a major or pre-
major in Middle Childhood Education (within either ASC or EHE). Not open to students with
credit for 212.

2173 Engineering Mathematics B  U  3
Multiple integrals, line integrals, vector fields, second order ordinary differential equations.
Prereq: 1172 or 1544 (154). Not open to students with credit for 2153, or for any Math course
2173 or above, or for any quarter-system Math course 254.xx or above.

2174 Linear Algebra and Differential Equations for Engineers  U  3
Matrix theory, eigenvectors and eigenvalues, ordinary and partial differential equations.
Prereq: 2173, and enrollment in Engineering, Physics, or Chemistry major; or permission of
Math department. Not open to students with credit for both 2415 (415.xx) and 2568 (568 or
571), or with credit for 5520H (520H and 521H).

2177 Mathematical Topics for Engineers  U  4
Multiple integrals, line integrals; matrix algebra; linear (ordinary and partial)
differential equations.
Prereq: 172, 1544 (154), 2153, 2162.xx, 2182H, 4182H, 254.xx, 263.xx, 263.01H, or 264H;
and a major or minor in Biochem, BiomedEn, Chem, CEEEGS, FABEng, MatSciEn, CBE,
Physics or WaktEng. Not open to students with credit for 2174 or 5520H, or with credit for
both (i) 2415 (415), 2255 (255), or 4512 (512) and (ii) 2568 (568 or 571).

2182H Honors Calculus II  U  5
Multivariable calculus treated in depth.
Prereq: A grade of C or above in 1181H or 4181H. Not open to students with credit for both
192.01H and 263.01H.

2191.01 Field Experience  U  2
A cooperative education or internship assignment conducted under the supervision of the employer; registration and evaluation by the director of ASC Career Services.
Prereq: Minimum cumulative GPA of 2.5, Soph standing, and permission of the director
of ASC Career Services. Student is responsible for finding an internship or cooperative
education site that is secured, through completion of the Internship Agreement form, prior
to the start of the semester. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

2191.02 Field Experience  U  0
A cooperative education or internship assignment conducted under the supervision of the employer; registration and evaluation by the director of ASC Career Services.
Prereq: Minimum cumulative GPA of 2.5, Soph standing, and permission of the director
of ASC Career Services. Student is responsible for finding an internship or cooperative
education site that is secured, through completion of the Internship Agreement form, prior
to the start of the semester. Repeatable to a maximum of 2 completions. This course is graded S/U.

2193 Individual Studies in Mathematics  U  1 - 3
Individual studies.
Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions.
This course is graded S/U.

2194 Group Studies in Mathematics  U  1 - 3
Designed to give groups of able undergraduate students an opportunity to pursue special
studies not otherwise offered.

2255 Differential Equations and Their Applications  U  3
Ordinary differential equations, their series solutions, numerical methods, Laplace transforms,
physical applications.
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, 2182H, or 4182H, or credit for 254.xx,
263.xx, 263.01H, or 264H. Not open to students with credit for 2415, 5520H, 255, 415.xx, or
521H.

2366 Introduction to Discrete Mathematics  U  2
Mathematical reasoning, logic, sets, functions, recursive definitions, elementary counting
principles.
Prereq: C- or better in 1131, 1151, 1161.xx, or 1181H; or credit for 132, 152.xx, 161.xx,
161.01H; or permission of department. Open only to majors in MIS (Management Information
Systems). Not open to students with credit for 366.

2415 Ordinary and Partial Differential Equations  U  3
Ordinary and partial differential equations: Fourier series, boundary and initial value problems.
Prereq: 2153, 2162.xx, 2173, 2182H, 4182H, 254.xx, 263.xx, 263.01H, or 264H; or 2568 and
either 1172 or 1544 (154). Not open to students with credit for 2255 (255), 5520H (521H),
2174, or 415.xx.

2566 Discrete Mathematical Structures  U  3
Efficiency of algorithms, counting principles, theory of graphs and networks.
Prereq: C- or better in CSE 2321 or 3345; or credit for 366, or 345. Open only to majors or
minors in CSE, CptrInf, or ECE.

2568 Linear Algebra  U  3
Matix algebra, vector spaces and linear maps, bases and dimension, eigenvalues and
eigenvectors, applications.
Prereq: A grade of C- or above in 1172, 1544, 2153, 2162.xx, 2182H, or 4182H; or a grade of
C- or above in both 1152 and CSE 2321; or credit for 154, 254.xx, 263.xx, 263.01H, or 264H;
not open to students with credit for 4568 (568), 5520H (520H), or 572.
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Seminar on mathematical topics and career possibilities for senior math majors and actuarial science majors.
Prereq: Enrollment in Math or Actuarial Science major, and permission of department. This course is graded S/U.

Introduction to logic, proof techniques, set theory, number theory, real numbers.
Prereq: Major or minor in Math, CSE, CIS, or ECE, and:
If Math:
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, or 2162H, or credit for 254.xx, 263.xx, 263.01H.
If CIS, CSE or ECE:
Prereq: A grade of C- or above in CSE 2231; and a grade of C- or above in 1161.xx, 1172, 116H, 1534, 1544, 1152, or 416H, or credit for 153.xx, 154, 162.xx, or 162.01H.
Not open to students with credit for 345.

Introduction to quantitative and qualitative analysis of several mathematical models for biological systems.
Prereq: C- or better in Math 2255, 2415, 5520H; or credit for 255, 415.xx, or 521H. Not open to students with credit for 350.

Problem workshop for applications of calculus and probability to actuarial science and risk management.
Prereq: C- or better in 4530, 5530H, or Stat 4201; or credit for Math 530, 531H, or Stat 420. Not open to students with credit for 532.

Presentations by practicing actuaries on topics drawn from their fields of expertise; oral presentations by students on selected topics in actuarial science.
Prereq: Completion of second writing course; Jr standing. Open only to actuarial science majors. Not open to students with credit for 588.

Introduction to mathematical theory of algorithms used to solve problems that typically arise in sciences, engineering, and finance.
Prereq: Both a C- or better in 2255, 2415, or 5520H, or credit for 255, 415.xx, or 521H; and also a C- or better in 2568 or 5520H, or credit for 568, 571, or 529H.

Introduction to mathematical theory of algorithms used to solve problems that typically arise in sciences, engineering, and finance.
Prereq: Both a C- or better in 2255, 2415, or 5520H, or credit for 255, 415.xx, or 521H; and also a C- or better in 2568 or 5520H, or credit for 568, 571, or 529H.

Financial transactions involving interest: measurement of interest, force of interest, annuities-certain, introduction to financial derivatives.
Prereq: A grade of C- or above in 1152, 1172, 118H, 1534, 1544, 2162.xx, 2153, or 418H, or credit for 153, 154, 162, 162H, or 191H; and enrollment in Math major, or Actuarial Science major or pre-major. Not open to students with credit for 618.

Algebra connections between school mathematics and undergraduate mathematics, focusing on the algebra in the Common Core State Standards for Mathematics.
Prereq: Enrollment in the M.Ed. program for secondary mathematics. Prereq or concur: 4507; or permission of instructor.

Algebra connections between school mathematics and undergraduate mathematics, focusing on the algebra in the Common Core State Standards for Mathematics.
Prereq: Enrollment in the M.Ed. program for secondary mathematics. Prereq or concur: 4580; or permission of instructor.

Development of mathematics from primitive origins to present forms. Topics include development of arithmetic, algebra, geometry, trigonometry, and calculus.
Prereq: A grade of C- or above in 2568, 4507, or 5520H; or credit for 568, 571, 507, 580, or 520H, and enrollment in Math major or Grad standing in EduTL; or permission of department.
Not open to students with credit for 504.

Topics in Euclidean, spherical, and hyperbolic geometries.
Prereq: A grade of C- or above in 3345, and in 2568 or 5520H; or credit for 345, and credit for 568, 571, or 520H. Not open to students with credit for 507.

Second order ordinary differential equations via Laplace transforms and series solutions; Fourier series; three arctehnical partial differential equations; boundary value problems; Sturm-Liouville theory. Intended for Engineering students.
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, 218H, or 418H, or credit for 254.xx, 263.xx, 263.01H, or 264H. Not open to students with credit for 4557 (557) or 512.

Combinatorial probability, random variables, independence, expectation, variance.
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, 2177, 218H, or 418H, or credit for 254.xx, 263.xx, 263.01H, or 264H. Not open to students with credit for 5530H (531H), 530, or Stat 4201 (420).

Theory of integrals, sequences and sequences of functions. Au12 only.
Prereq: 548. Not open to students with credit for 549.

Topics in calculus and analysis.
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, 218H, or 418H, or credit for 254, 263.xx, 263.01H, 264H, or equiv; and a grade of C- or above in 2568 or 5520H, or equiv; and Grad standing in Statistics or Biostatistics; and permission of department (Statistics or Biostatistics).

Continuation of Math 4547. Advanced calculus: sequences, limits, continuity, differentiation, Riemann integral, sequences and series of functions, Taylor series, improper integrals.
Prereq: C- or better in 3345; or credit for 345. Not open to students with credit for 548.

Continuation of Math 4547. Advanced calculus: sequences, limits, continuity, differentiation, Riemann integral, sequences and series of functions, Taylor series, improper integrals.
Prereq: C- or better in 4547, or credit for 548. Not open to students with credit for 549.

Vector operations; Jacobian and change of variables; divergence, gradient, and curl; Green's, Stokes', and divergence theorems; applications.
Prereq: C- or better in 2153, 2162.xx, 2173, or 218H; or credit for 254.xx, 263.xx, or 263.01H. Not open to students with credit for 418H (264H), 513, or 551.

Introduction to analytic functions of a complex variable, integral theorems, power series, residues, conformal mapping.
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, 218H, or 418H, or credit for 254.xx, 263.xx, 263.01H, or 264H. Not open to students with credit for 5522H (522H), 514, or 562.

Systems of linear, first-order differential equations; existence and uniqueness theorems; numerical methods; qualitative theory; and physical applications.
Prereq: A grade of C- or above in 2153, 2162.xx, 2173, 218H, or 418H, or credit for 254.xx, 263.xx, 263.01H, or 264H. Not open to students with credit for 556.

First and second-order PDE's; existence and uniqueness, initial and boundary value problems, Fourier series; Green's functions; wave, heat and Laplace equations; nonlinear PDE's; applications.
Prereq: C- or better in 2255, 2415, 4556, or 5520H; or credit for 255, 415.xx, or 521H. Intended for Math majors. Not open to students with credit for 4512 (512), or 557.
4568 Linear Algebra for Engineering Graduate Students U 3
Systems of linear equations, vector spaces, bases and dimension, linear maps and matrices, eigenvalues and eigenvectors, applications.
Prereq: A grade of C- or above in 1172, 2153, 2162.xx, 2182H, or 4182H, or credit for 254, 263.xx, 263.01H, or 264H, or equiv; and Grad standing. Not open to students with credit for 2568 (568), 5101 (601), 5520H (520H), or 572.

4573 Elementary Number Theory U 3
Prime numbers, modular arithmetic, Diophantine equations, combinatorial analysis; introduction to concepts of abstract algebra.
Prereq: A grade of C- or above in 3345 or 4161H, or credit for 264H or 345. Not open to students with credit for 5576H or 573.

4575 Combinatorial Mathematics U 3
Classic puzzles of recreational mathematics; matching theory and graph theory; enumeration techniques, combinatorial analysis.
Prereq: C- or better in 2568 or 5520H; or credit for 568, 571, or 520H. Not open to students with credit for 5529H or 575.

4578 Discrete Mathematical Models U 4
Homogeneous and non-homogeneous difference equations of one or several variables, Markov chains, graph theory, network flows.
Prereq: Both a C- or better in 2568 or 5520H, and also a C- or better in 4530, 553H or Stat 4201; or both credit for 568, 571, or 520H; and also credit for 530, 531H, or Stat 420. Not open to students with credit for 578.

4580 Abstract Algebra I U 3
Topics in number theory, group theory, vector spaces and linear transformations, field theory, and field extensions.
Prereq: A grade of C- or above in 3345, or credit for 345; and a grade of C- or above in 2568 or 5520H, or credit for 568, 571, or 520H. Not open to students with credit for 581 or 591H.

4581 Abstract Algebra II U 3
Continuation of Math 4580: topics in number theory, group theory, vector spaces and linear transformations, field theory, and field extensions.
Prereq: A grade of C- or above in 4580, or credit for 5590H or 581. Not open to students with credit for 582 or 592H.

4584 Transition Abstract Algebra U 3
Fields and introduction to Galois theory.
Prereq: 581. Not open to students with credit for 582. Au12 only.

4990 Undergraduate Seminar in Mathematical Biology Research U 1
Seminar on research in mathematical biology and its applications, with an emphasis on evolutionary biology, ecology, neuroscience, and cell biology.
Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs. This course is graded S/U. Cross-listed in EEBB 4990.

4998 Undergraduate Research U 1 - 3
Opportunity for undergraduate students to do mathematical research.
Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

4998H Honors Undergraduate Research U 1 - 3
Opportunity for honors undergraduate students to do mathematical research.
Prereq: Honors standing and permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

4999 Undergraduate Thesis U 1 - 3
Opportunity for undergraduate students to write a thesis.
Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

4999H Honors Undergraduate Thesis U 1 - 3
Opportunity for honors undergraduate students to write a thesis.
Prereq: Honors standing and permission of department. Not open to students with credit for 783H. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

5001 Introduction to Set Theory U 3
Axioms of set theory, transfinite induction and recursion, cardinal numbers, cardinal arithmetic, ordinal numbers, ordinal arithmetic, Axiom of Choice, equivalent principles, closed unbounded and stationary sets, infitary combinatorics.
Prereq: 4547 (547), 4580 (580), Grad standing or permission of department. Not open to students with credit for 647

5051 Introduction to Mathematical Logic U 3
Syntax and semantics of sentential logic, syntax and semantics of first-order logic, compactness of first-order logic, Goedel's completeness theorem, theories and models of theories, Goedel's incompleteness theorems; computability.
Prereq: 4547 (547), 4580 (580), Grad standing, or permission of department. Not open to students with credit for 648 or 649.

5101 Linear Mathematics in Finite Dimensions U 3
Vector spaces; linear transformations; inner product spaces; eigenvalues and eigenvectors; Hermitian, unitary and normal matrices; quadratic forms; constraints, Rayleigh quotients; singular value decomposition; pseudo-inverse.
Prereq: 2568 (568), 571, or grad standing. Not open to students with credit for 601.

5102 Linear Mathematics in Infinite Dimensions U 3
Sturm-Liouville systems, Hilbert spaces, Fourier and wavelet theory, Green's functions, Helmholtz's equation, cylinder and spherical harmonic solutions, interior and exterior boundary value problems; method of steepest descent and stationary phase.
Prereq: 5101 (602). Not open to students with credit for 603.02.

5111 Algebra I U 3
Groups and homomorphisms, group actions and Sylow's theorems, direct and semidirect products, rings and homomorphisms, factorizations in rings, polynomial rings.
Prereq: Grad standing, or permission of department. Not open to students with credit for 670.

5112 Algebra II U 3
Modules and vector spaces, modules over a principal ideal domain, applications to linear algebra, field theory, Galois theory.
Prereq: 5111 (671) or 591H. Not open to students with credit for 672.

5152 Introduction to Number Theory with Applications U 3
Divisibility, fundamental theorem of arithmetic, Fermat's theorem, congruences, Euler's formula, prime numbers, Euler's phi-function, counting primes, powers and roots mod m, quadratic reciprocity theorem, Diophantine approximation, Pell's theorem.
Prereq: Both 5101 (602) and 4581 (582); or Grad standing. Not open to students with credit for 683.

5168 Introduction to the Finite Element Method U 3
Basic concepts, formulation, and application of finite element techniques for numerical solution of problems of engineering and scientific interest.
Prereq: 2568 (568) or CivilEn 2606 (460), and CSE 1221. Not open to students with credit for both CivilEn 768 and MechEn 7668. Cross-listed in MechEn and CivilEn.

5194 Group Studies in Mathematics U 1 - 9
Designed to give groups of advanced undergraduate and beginning graduate students an opportunity to pursue special studies not otherwise offered.
Prereq: Permission of department. Repeatable.

5194H Honors Group Studies in Mathematics U 1 - 3
Gives groups of honors undergraduate students an opportunity to pursue special studies not otherwise offered.
Prereq: Permission of department. Repeatable to a maximum of 6 cr hrs or 2 completions.

5201 Introduction to Real Analysis I U 5
Basic metric topology, sequences and series, continuous functions, differentiable functions of one variable, Riemann integration, uniform convergence, Fourier series.
Prereq: Grad standing, or permission of department. Not open to students with credit for 651.

5202 Introduction to Real Analysis II U 5
Continuation of Fourier series, differentiable functions of several variables, implicit function theorem and inverse function theorem, introduction to Lebesgue measure and Lebesgue integration, introduction to Hilbert spaces.
Prereq: 5201 (652). Not open to students with credit for 653.

5221 Introduction to Complex Analysis U 3
Calculus of functions of a complex variable, series expansion and singularities of complex analytic functions, Cauchy's integral theorem, maximum principle, harmonic functions, differentials and residue theory, Weierstrass theorem.
Prereq: 4547 (548). Not open to students with credit for 5251 (654).

5251 Complex Variables and Applications U 3
Complex numbers and complex differentiable functions, elementary analytic functions, complex integration, series, poles and residues, conformal mapping, applications of conformal mapping.
Prereq: Both 2153.xx (254) and 4547 (548); or permission of department. Not open to students with credit for 4552 (552), 514, or 654.

5401 Applied Differential Equations I U 3
Existence and uniqueness, linear ODE systems, 2x2, phase plane analysis, conservative and reversible systems, bifurcation analysis, limit cycles, perturbation theory.
Prereq: 2255 (255) and 2568 (568 or 572). Not open to students with credit for 615.

5402 Applied Differential Equations II U 3
Steady state, heat equation, wave equation, PDEs in two dimensions, the Dirichlet problem, nonlinear evolution equations, wave equations by method of characteristic curves.
Prereq: 4541 (516). Not open to students with credit for 617.

5421 Mathematics of Infectious Disease Dynamics U 3
Provides an introduction to mathematical modeling of infectious diseases, including techniques for building and analyzing disease models, and discussions of calibration and comparison of models with data. This course is intended for graduate students in public health or other related disciplines and for upper level undergraduate and graduate mathematics students.
Prereq: 1152, 1172, or 153; or permission of instructor. Cross-listed in PubHEng.
Euler-Lagrange equations, Hamilton’s Principle, Lagrangian mechanics, Hamiltonian dynamics, Hamilton-Jacobi integration theory of dynamical systems, direct methods, tensor calculus, curvature and geometry of continuum mechanics.

**552H Honors Linear Algebra and Differential Equations** U G 5
Linear transformations and matrices, spectral theorem, ordinary differential equations, existence and uniqueness theorems, phase space, stability, oscillations. Prereq: A grade of C or above in 4182H, or in both 2182H and 3345; or credit for 264H, or in both 263H and 345; or permission of department. Not open to students with credit for 520H and 591H.

**552H Honors Complex Analysis** U G 5
Theoretical treatment of complex analysis. Prereq: A grade of C or above in 5520H, or credit for 521H, or permission of department. Not open to students with credit for 4552, 522H, 514, or 552.

**552H Honors Combinatorics** U G 5
Combinatorial mathematics and its connections with geometry, algebra, analysis, and probability. Prereq: A grade of C or above in 4182H, or in both 2182H and 3345; or credit for 264H, or for both 263H and 345; or permission of department. Not open to students with credit for 591H taken in Au10.

**553H Honors Probability** U G 5
Theoretical treatment of probability, with applications within and outside mathematics. Prereq: A grade of C or above in 5520H, or permission of department. Not open to students with credit for 531H or 594H in Au08 or Au07.

**554H Honors Differential Geometry** U G 5
Geometry of curves and surfaces in 3-dimensional space, curvature, geodesics, Gauss-Bonnet Theorem, Riemannian metrics. Prereq: A grade of C or above in 5520H, or in both 2182H and 2568; or credit for 520H, or in both 263.01H and 598; or permission of department. Not open to students with credit for 541H.

**557H Honors Number Theory** U G 5
Elementary analytic and algebraic number theory, tracing its unifying role in the development of mathematics through history.

**559H Honors Algebra I** U G 5
5590H - 5591H includes elementary number theory, group theory, ring theory, abstract linear algebra, field theory, and Galois theory. Prereq: A grade of C or above in 5520H or in 520H, or permission of department. Not open to students with credit for 591H.

**559H Honors Abstract Algebra I** U G 5
Continuation of 5590H: elementary number theory, group theory, ring theory, abstract linear algebra, field theory, and Galois theory. Prereq: A grade of C or above in 5590H or in 591H, or permission of department. Not open to students with credit for 592H.

**5601 Essentials of Numerical Methods** U G 3
Systems of linear equations, linear least squares, eigenvalue problems, nonlinear equations and optimization, interpolation, numerical integration and differentiation, numerical solution for ODEs, IVPs and BVPs.

**5602 Computational Partial Differential Equations** U G 3
Parabolic PDEs: method of lines, stability and convergence; hyperbolic PDEs: shock capturing, flux limiters; elliptic PDEs: direct solvers and iterative methods. Prereq: Under summers 5601 and either 4512 or 4557. Under quarters either 512 or 557, and 556; and either 568 or 572. Not open to students with credit for 608.

**5603 Numerical Linear Algebra** U G 3
Fundamentals of numerical linear algebra; solving square systems; QR factorization and least squares; calculation of eigenvalues; iterative methods for linear systems, iterative methods for eigenvalue problems. Prereq: Under summers 2568 and one of 3607, 5601 or 5602. Under quarters either 568 or 571 and either 608 or 607.

**5630 Life Contingencies I** U G 3
Introduction to the mathematical theory of contingencies. Includes material from examinations by the Society of Actuaries and the Casualty Actuarial Society. Prereq: A grade of C- or above in 3814, or credit for 3818; and a grade of C- or above in 4530, 5530H, or Stat 4201, or credit for 530, 531H, or Stat 420; and enrollment in Actuarial Science major or the MMS program in Financial Math; or permission of department. Not open to students with credit for 631.

**5651 Life Contingencies II** U G 3
Continuation of 5630: Mathematical Theory of Contingencies. Includes material from examinations by the Society of Actuaries and the Casualty Actuarial Society. Prereq: A grade of C- or above in 5630 (631). Open only to Actuarial Science majors, and to MMS students specializing in Financial Math.

**5660 Integrated Molecular and Cellular Biology for Non-Biologists** U G 5
Overview of molecular and cellular biology of single cells, tissues, organisms and their interactions, including genetics and biochemistry of single cells. Prereq: Bio 1101 (101) or permission of instructor. Not open to students with credit for one of McGen 5660 (660), 4500 (500), 4606 (606), 605, or 661. Cross-listed in McGen 5660.

**5710 Topology** U G 3
Topological spaces; continuous maps and metric spaces; connectedness, compactness, countability axioms; metrization, compactification, and convergence; combinatorial, geometric, and algebraic techniques in knot theory; invariants of knots.

**5715 Advanced Mathematical Logic II: Proof Theory** U G 3
Logical calculi; cut elimination and Herbrand’s theorem; ordinal analysis; ordinal analysis of theories of sets; constructive and intuitionistic logics; realizability; proof mining. Prereq: Grad standing, or either 5412 (512) or 557, and 4556 (556), and either 2568 (568) or 572. Not open to students with credit for 665.

**5751 Advanced Mathematical Logic II: Model Theory** U G 3
Construction of models, compactness, Lowenheim-Skolem theorems, uncountability axioms, metrization, compactification, and convergence; combinatorial, geometric, and algebraic techniques in knot theory; invariants of knots. Prereq: Grad standing, or 4547 (547) and either 2568 (568) or 572. Not open to students with credit for 665.

**5801 General Topology and Knot Theory** U G 3
Topological spaces; continuous maps and metric spaces; connectedness, compactness, countability axioms; metrization, compactification, and convergence; combinatorial, geometric, and algebraic techniques in knot theory; invariants of knots. Prereq: Grad standing, or 4547 (547) and either 2568 (568) or 572. Not open to students with credit for 640.

**5801 Advanced Mathematical Logic I: Proof Theory** U G 3
Logical calculi; cut elimination and Herbrand’s theorem; ordinal analysis; ordinal analysis of theories of sets; constructive and intuitionistic logics; realizability; proof mining. Prereq: 5051 (649), or permission of department. Not open to students with credit for 747.

**5801 Advanced Mathematical Logic II: Model Theory** U G 3
Construction of models, compactness, Lowenheim-Skolem theorems, uncountability axioms, metrization, compactification, and convergence; combinatorial, geometric, and algebraic techniques in knot theory; invariants of knots. Prereq: Grad standing, or 5051 (649) or permission of department. Not open to students with credit for 747.

**5803 Advanced Mathematical Logic III: Set Theory** U G 3
Axioms of set theory; ordinal and cardinal numbers; transitive models of ZFC; the constructible universe L and HOD; forcing; large cardinals; descriptive set theory. Prereq: 5051 (649) or permission of department. Not open to students with credit for 747.
Mathematics

7162 Lie Groups and Representation Theory G 3
Basic group theory constructions; passage between a Lie group and its Lie algebra; homogeneous spaces; maximal tori; unitary trick and complete reducibility; classification of irreducible unitary representations; Cartan-Weyl theory. Prereq: 7161 (855) and either 7671 or 758. Not open to students with credit for 855.

7193 Individual Studies in Mathematics G 1 - 9
Individual studies. Prereq: Permission of department. Repeatable. This course is graded S/U.

7194 Group Studies in Mathematics G 1 - 9
Designed to give groups of advanced PhD students an opportunity to pursue special studies not otherwise offered. Prereq: Permission of department. Repeatable.

7211 Functional Analysis I G 3
Linear spaces and linear maps; Hahn-Banach theorem and its applications; normed linear spaces and their duals; Hilbert spaces and applications; weak and weak* topologies; Croquet theorems; bounded linear maps. Prereq: 6212 (751). Not open to students with credit for 857.

7212 Functional Analysis II G 3
Banach algebras, elementary spectral theory; Gelfand's theory of commutative Banach algebras; examples of families of operators; spectral theory of normal, unitary, self-adjoint operators; semigroups of operators; distributions; applications. Prereq: 7211 (857). Not open to students with credit for 961.

7221 Ergodic Theory I G 3
Measure preserving transformations; isomorphism, conjugacy, spectral isomorphism; measure preserving systems with discrete spectrum; hierarchy of mixing properties; invariant measures for continuous transformations; topological and symbolic dynamics. Prereq: 6212 (752). Not open to students with credit for 931.

7222 Ergodic Theory II G 3
Entropy; topological entropy; flows on homogeneous spaces; structure theory of measure preserving systems; applications to combinatorics and number theory. Prereq: 7221 (932).

7412 Ordinary Differential Equations II G 3
Topological equivalence of nonlinear systems; normal forms of Poincare-Dulac-Birkhoff; classification of vector fields near critical points; local bifurcation theory; topological dynamics; limit sets; flows on the torus. Prereq: 6451 (716). Not open to students with credit for 820.

7413 Ordinary Differential Equations III G 3
Structural stability; singularity theory of Thom and Arnold; versal deformations; global deformations at separatrix cycle; Anosov diffeomorphisms; Axiom A; symbolic dynamics. Prereq: 7412 (821). Not open to students with credit for 822.

7452 Partial Differential Equations II G 3
Sobolev spaces, Sobolev inequalities and embedding theorems; Lax-Milgram theorem, Fredholm alternatives, weak compactness; linear elliptic equations: existence, regularity, maximum principles; hyperbolic equations; first order hyperbolic systems. Prereq: 6451 (716) and 6212 (751). Not open to students with credit for 855.

7453 Partial Differential Equations III G 3
Hamak inequalities, De Giorgi-Nash-Moser theory; calculus of variations; monotonicity and sub-sup-solution methods; Pohozaev identity; hyperbolic conservation laws, quasi-linear elliptic and parabolic equations; Schauder theory; strong solutions. Prereq: 7452 (835). Not open to students with credit for 836.

7611 Computational Partial Differential Equations I G 3
Numerical methods for boundary value problems (BVP); extension to separable elliptic PDEs, fast solvers; irregular domains, variable coefficients; iterative methods; diffusion equations; error analysis; variable coefficients in nonlinear problems. Prereq: 6602 (709). Not open to students with credit for 807.

7612 Computational Partial Differential Equations II G 3
Linear hyperbolic equations, finite difference methods; quasi-linear and non-linear equations with shock formation, Lax-Wendroff theorem; flux-limiters, WENO methods; multi-dimensional problems; transport equations; adaptive grids, grid generation. Prereq: 7611 (808). Not open to students with credit for 809.

7651 Applied Complex Variables and Asymptotics I G 3
Contour integration, conformal mapping; asymptotics of integrals; asymptotic properties of Laplace and Fourier transforms; Riemann-Hilbert problems, applications to singular integral equations; introduction to the theory of elliptic functions. Prereq: 5251 (654) and 5201 (651) and 6451 (717). Not open to students with credit for 804.

7652 Applied Complex Variables and Asymptotics II G 3
Asymptotic expansions; Watson's and Borel-Ritt lemma; stationary phase, steepest descent methods; contractive mapping methods; WKBJ and boundary layer methods; analyzable functions, transseries; Borel transform; Borel summability of solutions. Prereq: 7651 (805). Not open to students with credit for 806.

7711 Riemannian Geometry G 3
Comparison theorem for Laplacian; Ricci flow; differential sphere theorem; rigidity theory; Einstein metrics; topics in geometric analysis and Riemannian geometry. Prereq: 6702, 758. Not open to students with credit for 802.

7721 Kahler Geometry G 3
Complex manifolds, analytic varieties; divisors, analytic cycles; holomorphic vector bundles, sheaves, cohomology; compact surfaces; Kahler metrics; Hodge Theory; Hodge decomposition, Kodama Theorems; Harshorne-Frankel and Calabi conjecture. Prereq: 6701 and 6221; or 757 and 753.

7811 Homotopy Theory G 3
Homotopy groups, Whitehead's theorem, CW approximation; homotopy excision, Hurewicz theorem; fibrations, mapping path and loop spaces; fibre bundles, sphere bundles over spheres; obstruction theory, relation to cohomology; Postnikov towers. Prereq: 6802 (758). Not open to students with credit for 802.

7851 Differential Topology I G 3
Whitney Immersion and Embedding Theorems, transverse functions, jet-bundles, Thom transversality; classification of vector bundles, collars, tubular neighborhoods, intersection theory; Morse functions and lemmas, surgery, Smale cancellation. Prereq: 7701 (785) and 6801 (757). Not open to students with credit for 866.

7852 Differential Topology II G 3
DeRahm and Cech cohomology; deRahm Theorem; Grassmannians; Stiefel-Whiteley, Euler, Chern, and Pontryagin classes; Gysin sequence, Thom isomorphism; characteristic numbers, multiplicative sequences, Hirzebruch signature theorem; Chern-Weil Theory. Prereq: 7702 (766) and 6802 (757) and 7851 (867). Not open to students with credit for 868.

7998 Graduate Research G 1 - 16
Graduate Research, primarily for intermediate PhD students participating in research projects other than their thesis work. Prereq: Permission of the department. Repeatable. This course is graded S/U.

8000 Topics in Foundations of Mathematics G 3
Special topics in foundations of mathematics chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8110 Topics in Algebra G 3
Special topics in algebra chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8120 Topics in Number Theory G 3
Special topics in number theory chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8140 Topics in Algebraic Geometry G 3
Special topics in algebraic geometry chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8160 Topics in Representation Theory G 3
Special topics in representation theory chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8210 Topics in Real Analysis G 3
Special topics in real analysis chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8220 Topics in Complex Analysis G 3
Special topics in complex analysis chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8250 Topics in Probability Theory G 3
Special topics in probability theory chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8300 Topics in Financial Mathematics G 3
Special topics in financial mathematics chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8410 Topics in Ordinary Differential Equations G 3
Special topics in ordinary differential equations chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8420 Topics in Partial Differential Equations G 3
Special topics in partial differential equations chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8500 Topics in Combinatorics G 3
Special topics in combinatorics chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.

8610 Topics in Applied Mathematics G 3
Special topics in applied mathematics chosen by the instructor. Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 5 completions.
### Mathematics 331

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tr>
<td>4999</td>
<td>Research with Distinction</td>
<td>U 1 - 5</td>
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<tr>
<td>4999H</td>
<td>Honors Research with Distinction</td>
<td>U 1 - 5</td>
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</tbody>
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### Food Science

**1100 Exploring Meat Science**
- **U 3**
- Basic understanding of global trends with meat science, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.

**2010 Bar-B-Que Science**
- **U 2**
- Investigating methods to prepare various meat products. Students will gain experience in matching proper cooking methods with different muscles to produce wholesome and palatable products. Students will be introduced to product sensory techniques.

**3110 Introductory Meat Science**
- **U 3**
- Analysis of the principles of meat science as related to meat animal value factors, processing technology, and merchandising systems affecting the producer, processor, and consumer.

**3191 Internship in Meat Science**
- **U 2**
- Supervised preemployed employment experience and/or on-site problem solving study program.

**3210 Food Animal Processing**
- **U 3**
- Hands-on application of the procedures involved with food animal harvest, inspection, carcass fabrication and merchandising retail products.

**3310 Meat Animal and Carcass Evaluation**
- **U 3**
- Evaluating the factors that influence the value of meat animals and their resulting carcasses, wholesale and retail cuts in accordance with recognized grading standards; laboratory practice.

**3488 Professional Development in Meat Science**
- **U 1 - 2**
- Participation in structured co-curricular programs leading to professional development.

**4193 Individual Studies**
- **U 1 - 3**
- Special assignments and advanced research; problems assigned after consultation with the instructor in charge.

**4194 Group Studies**
- **U 1 - 3**
- Special topics area group studies finally proposed for a specific semester by an animal science faculty member.

**4510 Processed Meats**
- **U 3**
- Exploring fundamental changes in soft animal tissues resulting from comminution and application of non-meat ingredients and a variety of cooking methodologies to enhance palatability and value.

**5310 Auditing Processing Facilities**
- **U G 2**
- Auditing programs and processes used in the food animal processing industry.

**5410 Meat Industry Tour**
- **U G 2**
- Exploration of meat processing facilities.

**5510 Advanced Meat Science**
- **U G 3**
- Exploration of the antemortem and postmortem biochemical principles in skeletal muscle underlying protein functionality and resulting meat quality.

**5810 Branded Meat Products**
- **U G 4**
- Integration of multiple factors influencing value-added product development including: raw material quality and procurement, processing, packaging, distribution, and complexity of market development and current consumer trends in niche marketing.

**6510 Advanced Meat Technology**
- **U G 3**
- In depth exploration and analysis of the processes influencing the palatability, wholesomeness and value of muscle foods.

### Mechanical Engineering

**2010 Statics**
- **U 2**
- Vector concepts of static equilibrium for isolated and connected bodies, centroids, inertia, truss, frame and machine analysis, and friction.

**2010H Statics**
- **U 2**
- Vector concepts of static equilibrium for isolated and connected bodies, centroids, inertia, truss, frame and machine analysis, friction and virtual work.

**2020 Introduction to Mechanics of Materials**
- **U 3**
- Stress and strain analysis of deformable structural components subjected to unidirectional and combined loads; pressure vessels; stress transformations (Mohr's Circle); beam deflections; column buckling.

**2030 Dynamics**
- **U 3**
- Dynamics of particles and rigid bodies; linear and angular motion; work and energy; and single degree of freedom vibration analysis.

**2040 Statics and Introduction to Mechanics of Materials**
- **U 4**
- Vector concepts of static equilibrium, truss, frame and machine analysis. Stress and strain analysis of deformable structural components; stress transformations, beam deflections; column buckling.

**2193 Individual Studies in Mechanical Engineering**
- **U 1 - 5**
- Designed to give the advanced student opportunity to pursue special studies not otherwise offered.

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*Course prerequisites and credit restrictions vary. Please consult the catalog for detailed information.*
Mechanical Engineering

2194 Group Studies in Mechanical Engineering  U  1 - 5
Special topics in Mechanical Engineering. The particular topic, credit hours, and the instructor will be announced the semester previous to the one in which the course is offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions.

2194H Group Studies in Mechanical Engineering  U  1 - 5
Special topics in mechanical engineering. The particular topic, credit hours, and the instructor will be announced the semester previous to the one in which the course is offered.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions.

2850 Numerical Methods in Mechanical Engineering  U  3
Prereq: Enrollment as MechEng-BS student (No ME pre-majors can enroll in this course), or permission of instructor. Prereq or conc: 2173 (254 or 263) or 2415 (415), or equiv. Not open to students with credit for 250.

2900 Introduction to Design in Mechanical Engineering  U  3
Introduction to the discipline of Mechanical Engineering through a structured design, build, and test sequence. Students will fabricate apparatus which requires a basic understanding of the full scope of Mechanical Engineering.
Prereq: 2010 (410), and Math 2173 (254 or 263) or 2415 (415), and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.

3260 System Dynamics and Vibrations  U  3
Applications of ordinary differential equations, Laplace transforms, transfer function analysis to first and second order systems, and single-degree-of-freedom mechanical and electrical systems. 
Prereq: 2850 (250) and 2900, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor. Prereq or conc: ECE 2300 or 2300.01 or 320. Not open to students with credit for 481 or 465.

3360 System Integration and Control  U  3
Modeling of a variety of multi-domain systems, including electromechanical actuators, principles of feedback control, and analysis of control systems. 
Prereq: 3260 or 3261, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor. Prereq or conc: 3503 (504) or 3504. Not open to students with credit for 482 or 571.

3500 Engineering Thermal Sciences  U  3
Introduction to thermodynamics, fluid mechanics and heat transfer with engineering applications.
Prereq: Math 2174 or 2177 or 2255 (255) or 2415 (415), and Physics 1250 (131). Not open to students with credit for 500 or enrolled in MechEng major.

3501 Introduction to Engineering Thermodynamics  U  3
Principles of engineering thermodynamics from the classical perspective, including first and second laws of thermodynamics, with selected applications.
Prereq: 2900, and Chem 1250 (121), 1220, or 131, or enrollment as MechEng-BS student; or permission of instructor. Not open to students with credit for 3502, 501, or 502, or to MechEng pre-majors.

3503 Introduction to Fluid Mechanics  U  3
A study of the basic concepts, fundamental equations, and applications of fluid mechanics to engineering problems.
Prereq: 2850 (250), and 3501 (501) or 3502, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor. Not open to students with credit for 503 or 524.

3670 Design and Analysis of Machine Elements I  U  4
Design of mechanisms. Application of general mechanical engineering principles to the design and analysis of mechanical components.
Prereq: 2020 (420) and 2030 (430) and 2900, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor. Not open to students with credit for 553 or 561.

3671 Design and Analysis of Machine Elements II  U  3
Continuation of 3670.
Prereq: 3670 or 3676 or equiv, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor. Not open to students with credit for 563.

3870 Introduction to Measurements and Data Analysis in Mechanical Engineering  U  3
Foundation in experimental measurement and data analysis in mechanical engineering; team planning and execution of experiments; technical report writing.
Prereq: Stat 3450 or equiv, and 3260 (482) or 3291, and a second writing course, and enrollment in Mechanical Engineering major; or permission of instructor. Prereq or conc: 3503 (504) or 3504. Not open to students with credit for 570.

4193 Individual Studies in Mechanical Engineering  U  1 - 5
Designed to give the advanced student opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 15 or hrs or 15 completions. This course is graded S/U.

4194 Group Studies in Mechanical Engineering  U  1 - 5
Special topics in mechanical engineering. The particular topic, credit hours, and the instructor will be announced the semester previous to the one in which the course is offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions.

4194H Group Studies in Mechanical Engineering  U  1 - 5
Special topics in mechanical engineering. The particular topic, credit hours, and the instructor will be announced the semester previous to the one in which the course is offered.
Prereq: Honors standing, and enrollment in MechEng major; or permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions.

4505 Introduction to Nuclear Science and Engineering  U  3
Discussion of nuclear energy and nuclear radiation; sources, methods of utilization, and projections for future engineering uses.
Prereq: Math 2173, 2177, 2255 (255), or 2415 (415); and Physics 1251 (133), or permission of instructor. Not open to students with credit for 505 or NuclEn 4505 (505). Cross-listed in NuclEn.

4510 Heat Transfer  U  3
A study of the fundamentals of conduction, convection, and thermal radiation energy transfer with engineering applications.
Prereq: 3503 (504) or 3504, and MechEng-BS student (no pre-majors); or permission of instructor. Not open to students with credit for 510.

4536 Nuclear Reactor Systems  U  3
Introductory course covering concepts of nuclear power reactor systems, thermal and mechanical design aspects, and economics of nuclear power plants. 
Prereq: 4505 (505) or NuclEn 4505 (505); or permission of instructor. Not open to students with credit for 6536 (736), NuclEn 4536 (736), or 6536 (736). Cross-listed in NuclEn.

4578 Senior Program Review  U  0
An interactive assessment of each graduating senior's overall achievements in Mechanical Engineering and their assessment of the program.
Prereq: Enrollment in semester of graduation. This course is graded S/U.

4684 Product Design Capstone I  U  4
Fundamentals of the product design process, from concept creation to final implementation, including product architecture and design for manufacture and assembly. Part I will end with initial build and Part II will continue with implementation and testing.
Prereq: 3761 (563), and 3360 or 3361 (571); and 3870 (570); or conc: 4510 (510), and enrollment as MechEng-BS student; or permission of instructor. Not open to students with credit for 5682 (562) or ISE 5682 (562) or 5560.

4685 Product Design Capstone II  U  2
Fabrication and testing of the product prototype developed in MechEng 4684, Product Design Capstone I.
Prereq: 4684.

4870 Mechanical Engineering Capstone Laboratory  U  2
Builds upon prior laboratory experiences and integrates thermal and mechanical system concepts; focus on problem solving using experimental and analytical/computational methods. 
Prereq: 3360 or 3361 (571), and 3861 (573) and 3870 (570) and 4510 (510), and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor. Not open to students with credit for 512 or 561.

4900 ME Capstone Design I  U  1½
First course of 2-semester senior capstone series. Fundamentals of engineering design process and the technical and professional skills needed in Mechanical Engineering. Lectures, hands-on project.
Prereq: 3761 (563), and 3360 or 3361 (571); and 3870 (570); or conc: 4510 (510); and enrollment as MechEng-BS student; or permission of instructor. Not open to students with credit for Engr 4901 (658), 564, or 565, or MechEng pre-majors.

4901.01 ME Capstone Design II: General Projects  U  1
Second course of 2-semester capstone sequence. Students work on design problems proposed by faculty. Emphasis on problem definition, requirements, and design proposal.
Concur: 4900, and enrollment as MechEng-BS student; or permission of instructor. Not open to MechEng pre-majors. This course is progress graded.

4901.02 ME Capstone Design III: General Projects  U  2½
Third course of 2-semester senior capstone series. Complete work on design problem proposed by faculty. Emphasis on detailed design, prototype, evaluation, and documentation. 
Prereq: 4901.01, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.

4901.02 ME Capstone Design II: Student Design Competitions  U  1
Second course of 2-semester capstone sequence. Students work on design problems arising from various student competitions in engineering. Emphasis on problem definition, requirements, and design proposal.
Concur: 4900, and enrollment as MechEng-BS student; or permission of instructor. Not open to MechEng pre-majors. This course is progress graded.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>4902.02</td>
<td>ME Capstone Design III: Student Design Competitions</td>
<td>U 2½</td>
<td></td>
<td>Third course of 2-semester senior capstone series. Complete work on design project associated with student design competitions. Emphasis on detailed design, prototype, evaluation, and documentation. Prereq: 4902.01, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.</td>
</tr>
<tr>
<td>4903.01</td>
<td>ME Capstone Design II: Industry Projects</td>
<td>U 1</td>
<td></td>
<td>Second course of 2-semester capstone sequence. Students work on design problems sponsored and/or proposed by industry. Emphasis on problem definition, requirements, and design proposal. Concord: 4900, and enrollment as MechEng-BS student; or permission of instructor. Not open to MechEng pre-majors. This course is progress graded.</td>
</tr>
<tr>
<td>4903.02</td>
<td>ME Capstone Design III: Industry Projects</td>
<td>U 2½</td>
<td></td>
<td>Third course of 2-semester senior capstone series. Complete work on design project from industry. Emphasis on detailed design, prototype, evaluation, and documentation. Prereq: 4903.01, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.</td>
</tr>
<tr>
<td>4904.01</td>
<td>ME Capstone Design II: Humanitarian Projects</td>
<td>U 1</td>
<td></td>
<td>Second course of 2-semester capstone sequence. Students work on design problems that have a humanitarian focus. Emphasis on problem definition, requirements, and design proposal. Concord: 4900, and enrollment as MechEng-BS student; or permission of instructor. Not open to MechEng pre-majors. This course is progress graded.</td>
</tr>
<tr>
<td>4904.02</td>
<td>ME Capstone Design III: Humanitarian Projects</td>
<td>U 2½</td>
<td></td>
<td>Third course of 2-semester senior capstone series. Complete work on humanitarian project. Emphasis on detailed design, prototype, evaluation, and documentation. Prereq: 4904.01, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.</td>
</tr>
<tr>
<td>4905.01</td>
<td>ME Capstone Design II: Assistive Devices</td>
<td>U 1</td>
<td></td>
<td>Second course of 2-semester senior capstone series. Students begin to work on assistive devices for persons with disabilities. Emphasis on problem definition, requirements, and design proposal. Concord: 4900, and enrollment as MechEng-BS student; or permission of instructor. Not open to MechEng pre-majors. This course is progress graded.</td>
</tr>
<tr>
<td>4905.02</td>
<td>ME Capstone Design III: Assistive Devices</td>
<td>U 2½</td>
<td></td>
<td>Third course of 2-semester senior capstone series. Complete work on assistive devices for persons with disabilities. Emphasis on detailed design, prototype, evaluation, and documentation. Prereq: 4905.01, and enrollment as MechEng-BS student (No ME pre-majors can enroll in this course); or permission of instructor.</td>
</tr>
<tr>
<td>4906.01</td>
<td>ME Capstone Design II: Special Projects</td>
<td>U 1</td>
<td></td>
<td>Second course of 2-semester senior capstone series. Students begin to work on their design project. Emphasis on problem definition, requirements, design proposal. Prereq: 4900. This course is progress graded.</td>
</tr>
<tr>
<td>4906.02</td>
<td>ME Capstone Design III: Spec Projects</td>
<td>U 2½</td>
<td></td>
<td>Third course of 2-semester senior capstone series. Complete work on design problem proposed by faculty. Emphasis on detailed design, prototype, evaluation, documentation. Prereq: 4906.01.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research in Mechanical Engineering</td>
<td>U 1 - 2</td>
<td></td>
<td>Opportunity for undergraduate students to conduct research in Mechanical Engineering. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4998H</td>
<td>Undergraduate Research in Mechanical Engineering</td>
<td>U 1 - 2</td>
<td></td>
<td>Opportunity for undergraduate Honors program students to conduct research in Mechanical Engineering. Prereq: Honors standing, and enrollment in MechEng major, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999</td>
<td>Mechanical Engineering Undergraduate Research for Thesis</td>
<td>U 1 - 3</td>
<td></td>
<td>Students are offered the opportunity to pursue independent project research. Student presentations and undergraduate thesis writing is included. Prereq: CPHR 3.0 or above, or Sr standing in MechEng major; or permission of instructor. Repeatable to a maximum of 6 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>4999H</td>
<td>Mechanical Engineering Undergraduate Research for Thesis</td>
<td>U 1 - 3</td>
<td></td>
<td>Honors program students are offered the opportunity to pursue independent project research. Student presentations and undergraduate Honors thesis writing is included, to enable graduation with Research Distinction in Mechanical Engineering. Prereq: Honors standing, and CPHR 3.4 or above, and Sr standing in MechEng major; or permission of instructor. Repeatable to a maximum of 6 cr hrs or 4 completions.</td>
</tr>
<tr>
<td>5134</td>
<td>Introduction to Vibrations of Deformable Solids</td>
<td>U 3</td>
<td></td>
<td>Introduction to the analysis of the free and forced transverse vibrations of strings, beams, membranes and plates and the longitudinal and torsional vibrations of prismatic bars. Prereq: 2020 (420) or 2040, and Math 2174, 2177, or 2415 (415), and enrollment in MechEng major; or Grad standing in MechEng. Not open to students with credit for 734.</td>
</tr>
<tr>
<td>5139</td>
<td>Applied Finite Element Method</td>
<td>U 3</td>
<td></td>
<td>Overview of finite element method, description of finite element software, modeling requirements and techniques, analysis using general purpose software, and case studies. Prereq: 2020 (420), 2040, or equiv, and enrollment in MechEng major; or Grad standing in Engineering. Not open to students with credit for 639.</td>
</tr>
<tr>
<td>5144</td>
<td>Engineering Fracture Mechanics</td>
<td>U 3</td>
<td></td>
<td>Fracture and fatigue of solids; stress intensity factors; stability of cracks; compliance and energy methods; plane stress, plane strain effects; crack propagation and arrest criteria. Prereq: 2020 (420) or 2040, and Math 2174, 2177, or 2415 (415); or Grad standing in Engineering. Not open to students with credit for 744.</td>
</tr>
<tr>
<td>5162</td>
<td>Introduction to Laminated Composite Materials</td>
<td>U 3</td>
<td></td>
<td>Introduction to anisotropic material behavior and failure assessment of laminated composite materials. Classical lamination theory, beams, plates and shells. Prereq: 2020 (420) or 2040; or Grad standing in Engineering; or permission of instructor. Not open to students with credit for 662, 762, CivEng 5162, 662, or 762. Cross-listed in CivEng.</td>
</tr>
<tr>
<td>5180</td>
<td>Mechanics of Biomolecular Systems</td>
<td>U 3</td>
<td></td>
<td>Introduction to biomolecules and systems in the context of cellular functions. In particular the course focuses on the physical properties of biomolecules and the physical interactions that mediate their functions. Prereq: Sr or Grad standing in Engineering; or permission of instructor. Not open to students with credit for 694E (Spring 2010).</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies in Mechanical Engineering</td>
<td>U 1 - 5</td>
<td></td>
<td>Special topics in Mechanical Engineering. The particular topic, credit hours, and the instructor will be announced the semester previous to the one in which the course is offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.</td>
</tr>
<tr>
<td>5234</td>
<td>Vehicle Dynamics</td>
<td>U 4</td>
<td></td>
<td>A first course in vehicle dynamics devoted to the basic concepts of rubber wheeled vehicles with an actual driving and demonstrated laboratory. Prereq: 3360 (482) and 3671 (563), or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 654 or 754.</td>
</tr>
<tr>
<td>5240</td>
<td>Vibration and Acoustic Design</td>
<td>U 3</td>
<td></td>
<td>Vibrations of single and multi-degree of freedom discrete systems, vibration isolation and damping system design; vibration and sound measurements; sound waves, acoustic fields; subjective response and acoustic design concepts. Prereq: 3260 (481). Prereq or concur: 3260 (482), or Grad standing in Engineering. Not open to students with credit for 650 or 666.</td>
</tr>
<tr>
<td>5320H</td>
<td>Digital Signal Processing with Mechanical Engineering Applications</td>
<td>U 3</td>
<td></td>
<td>Methodology and practice of computer-aided experimentation and signal processing techniques; frequency analysis, diagnostics, system identification and random data processing. Prereq: 3260 (481), and CPHR 3.5 or above, and Jr, Sr, or Grad standing in MechEng, and permission of department. Not open to students with credit for 680H.</td>
</tr>
<tr>
<td>5339</td>
<td>Simulation Techniques for Dynamic Systems</td>
<td>U 3</td>
<td></td>
<td>Introduction and use of software tools for dynamic system modeling, control system analysis, and design. Application to real world dynamic systems, with emphasis on model development and validation, parameter identification, and results presentation. Prereq: 3360 (571) or equiv, and enrollment in MechEng; or permission of instructor.</td>
</tr>
<tr>
<td>5372</td>
<td>Design and Control of Mechatronic Systems</td>
<td>U 3</td>
<td></td>
<td>Introduction to multi-domain (mechanical, thermal, fluid, electrical, electronic, electromechanical) system design, dynamic modeling, and control system design and analysis techniques. Prereq: 3360 (571) or 3381, or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 672 or 674.</td>
</tr>
<tr>
<td>5374</td>
<td>Smart Materials and Intelligent Systems</td>
<td>U 3</td>
<td></td>
<td>Macromechanical modeling of smart materials including piezoelectrics, magnetostriatics, shape memory alloys, magnetorheological fluids, and active polymers. Constitutive and system-level modeling. Design of smart dynamic systems. Prereq: 3360 (571) or 3381, or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 774.</td>
</tr>
<tr>
<td>5427</td>
<td>Introduction to Turboachinery</td>
<td>U 3</td>
<td></td>
<td>Introduction to analysis and design of turbomachinery. Prereq: 3353 or 3854 (584), or Grad standing in MechEng. Not open to students with credit for 627.</td>
</tr>
</tbody>
</table>
5502 Engineering Thermodynamics U  G  3
Technical elective in Engineering Thermodynamics including energy analysis, non-reacting and reacting gas mixtures, combustion, psychrometrics, chemical and phase equilibrium, thermoeconomics and applications. Prereq: 3501 (501) or 3502, or equiv. Not open to students with credit for 502.

5510H Direct Energy Conversion U  G  4
Introduction to principles and operation of devices that convert thermal, chemical, and electromagnetic energy directly into electricity. Lectures are complemented by hands-on laboratory experience. Prereq: Honors standing, and Physics 1241 or 1251 (133) or equiv. Prereq or concur: 4510 (510), or Grad standing, or permission of instructor. Not open to students with credit for 610H.

5512 Design of Heat Exchangers U  G  2
Design methods, heat transfer and pressure drop in single phase and two phase heat exchangers. Design of single phase and two phase heat exchangers. Prereq: 4510 (510), or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 612.

5530 Internal Combustion Engines U  G  3
Design and operating characteristics of contemporary internal combustion engines, induction/exhaust breathing, boosting, variable valvetrains, combustion and knock, fuel economy, alternative fuels, and advanced powertrains. Prereq: 3501 or 3502 (502), or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 630.

5531 Automotive Powertrain Laboratory U  G  2
An intensive laboratory course focusing on conventional and advanced automotive powertrains. The course typically covers advanced gasoline engines, diesel engines, hybrid powertrains, and electrochemical energy storage. Prereq: 5530 or 630, or permission of instructor. Not open to students with credit for 631.

5539 Applied Computational Fluid Dynamics and Heat Transfer U  G  3
Introduces basic concepts in Computational Fluid Dynamics (CFD) and Computational Heat Transfer (CHT), teaches thermo-fluid analysis of engineering systems, and enhances understanding of fluid flow and heat transfer. Prereq: 3501 or 3502 (502), and 3503 or 3504 (504). Prereq or concur: 4510 (510), or Grad standing in MechEng.

5541 Heating, Ventilating, and Air Conditioning U  G  3
Analysis of components and systems for heating, ventilating and air-conditioning. Prereq: 4510 (510), or Grad standing in MechEng. Not open to students with credit for 641.

5680 Computer Aided Design and Manufacturing U  G  4
Design of machine components, surfaces, and assemblies using parametric and feature-based design principles and advanced design tools. Prereq: 3670 (561), or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 621 or 683.

5682 Fundamentals of Product Design Engineering U  G  4
Fundamentals of the product design process, from concept creation to final implementation, including product architecture and design for manufacture and assembly. Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 682, ISE 5660 (682), or IndEng 682. Cross-listed in ISE 5560.

5700 Introduction to Musculoskeletal Biomechanics U  G  3
Introduction to field of musculoskeletal biomechanics at a level appropriate for advanced undergraduates and early graduate students. Fundamental anatomy and physiology. Mechanics of muscle, tendon, ligament, meniscus, bone. Equations of motion for movement. Introduction to experimental methods. Prereq: 3670, or permission of instructor: Not open to students with credit for 6700.

5751 Design and Manufacturing of Compliant Mechanisms and Robots U  G  3
Introduces methods and theories for kinematic and force analysis, synthesis of rigid body and compliant (flexible) mechanisms and robots. Pseudo-rigid-body model and CAD/CAM software will be used for modeling and analysis study. Students will be required to work on a team project to solve a real world design problem related to mechanisms and robots. Prereq: 3670 or equiv, or Grad standing in Engineering.

5797 Study at a Foreign Institution U  G  1 - 10
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of department chairperson. Repeatable to a maximum of 15 or hrs or 2 completions.

6193 Individual Studies in Mechanical Engineering G  1 - 5
Designed to give the advanced student opportunity to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 15 or hrs or 15 completions. This course is graded S/U.

6194 Group Studies in Mechanical Engineering G  1 - 5
Special topics in Mechanical Engineering. The particular topic, credit hours, and the instructor will be announced the term preceding the one in which the course is offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions.

6501 Gas Dynamics G  3
A study of one-dimensional and two-dimensional steady and one-dimensional unsteady compressible flows. Prereq: 3503 or 3504 (504), and Math 2174, 2255 (255), or 2415 (415); or Grad standing in MechEng or permission of instructor. Not open to students with credit for 701.

6505 Intermediate Fluid Dynamics G  3
Principles and derivations of fundamental equations for incompressible flows with a special emphasis on formulation of problems. Prereq: 3503, or Grad standing in MechEng or AeroEng; or permission of instructor. Not open to students with credit for 705.

6507 Intermediate Numerical Methods G  3
Numerical techniques and computer algorithms to solve initial and boundary value problems relevant to engineering applications, such as heat conduction and mass diffusion. Prereq: 2850 (250), Math 2174 (566), 2415 (415), or 4512 (557 or 512); or Grad standing in MechEng, AeroEng, or NuclEn; or permission of instructor. Not open to students with credit for 707 or NuclEn 6507 (707). Cross-listed in NuclEn.

6510 Intermediate Heat Transfer G  3
In-depth derivation of equations and principles governing heat transfer with an emphasis on formulation of problems. Mass transfer is also introduced. Prereq: Grad standing in MechEng or AeroEng; or permission of instructor. Not open to students with credit for 710.

6515 Introduction to Microfluidics and Nanofluidics G  3
Principles of incompressible fluid mechanics & electrodikinetiic phenomena at the micro & nanoscale; biomedical applications with a laboratory illustrating fabrication techniques & experimental methods. Undergrad students encouraged to seek permission. Prereq: 3503 or 3504 (504) or equiv; Grad standing in Engineering, or permission of instructor. Not open to students with credit for 715 or BiomedE 5663. Cross-listed in BiomedE 5663.

6526 Combustion G  3
Fundamentals of energy conversion through combustion, thermodynamics and chemical kinetics of combustion, premixed flames, deflagration vs. detonation waves, diffusion flames, droplet combustion, and thermal ignition. Prereq: 3503, 3504 (504), or 4510 (510), or permission of instructor. Not open to students with credit for 729.

6536 Nuclear Reactor Systems and Analysis G  3
Intermediate-level course covering thermal and mechanical design aspects of nuclear power plants. The thermodynamics of operating nuclear power plants (BWRs and PWRs) are emphasized. Prereq: 4505 (505) or NuclEn 4505 (505); and MechEng 3501 or 3502 (502), or equiv; or permission of instructor. Not open to students with credit for 736 or NuclEn 6536 (763). Cross-listed in NuclEn.

6537 Nuclear Reactor Thermal Hydraulics G  3
Focuses on heat transfer and fluid flow applications in nuclear power reactor systems, including heat transfer in LWR fuel rods, coolant, and reactor internals. Prereq: 6536 or NuclEn 6536, or equiv, or permission of instructor. Not open to students with credit for 737 or NuclEn 6537 (737). Cross-listed in NuclEn.

6665 Reliability Engineering I G  3
Focuses on system level reliability modeling approaches. Engineering system reliability modeling and prediction; reliability of programmable devices and human reliability; reliability and risk management of engineering systems. Prereq: 3620 (481), ECE 351, or ISE 4120 (510); or Grad standing; or permission of instructor. Not open to students with credit for 776.01.

6666 Reliability Engineering II G  4
Reliability modeling of mechanical and electrical devices, systems, and engineering processes. Reliability of mechanical and electrical devices, systems, and engineering processes Prereq: 5665 (776.01), or permission of instructor. Not open to students with credit for 776.02. This course is available for EM credit.

6700 Introduction to Musculoskeletal Biomechanics G  3

6716 Probabilistic Reliability and Safety Assessment G  3
Methods underlying probabilistic risk assessment (PRA) and how they are used in assessing the public health risk of nuclear systems. Prereq: 4505 (505) or NuclEn 4505 (505), or permission of instructor. Not open to students with credit for 716 or NuclEn 5716 (716). Cross-listed in NuclEn.

7110 Introduction to Continuum Mechanics G  3
Continuum mechanics in Cartesian and general coordinates, vectors and tensors in indicial and direct notation, analysis of deformation and stress, balance principles. Prereq: 2020 (420) or 2040, and Math 2174, 2255 (255), or 2415 (415) or equiv; or Grad standing in Engineering; or permission of instructor. Not open to students with credit for 743 and 840.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>7101</td>
<td>Constitutive Models in Continuum Mechanics</td>
<td>4</td>
<td>Continuum-level constitutive models are developed, starting from a mechanistic point of view. Problems involving elasticity, plasticity, visco-elasticity, &amp; rubber elasticity are discussed. Prereq: 7040, 7100, 740, or 743, or permission of instructor. Not open to students with credit for 847 and 884.</td>
</tr>
<tr>
<td>7163</td>
<td>Advanced Strength of Materials and Elasticity Theory</td>
<td>4</td>
<td>Stress-Strain analysis of elastic solids: curved beams; non-symmetrical bending; non-circular torsion; beams on elastic foundations; load-deflection relations by energy methods; plane problems in elasticity theory; and applications to design Prereq: 2020 (420) or 2040, or equiv, or Math 2174 or 2255 (255) or 2415 (415), or Grad standing in MechEng. Not open to students with credit for 740 or 763.</td>
</tr>
<tr>
<td>7194</td>
<td>Group Studies in Mechanical Engineering</td>
<td>1-5</td>
<td>Special topics in Mechanical Engineering. The particular topic, credit hours, and the instructor will be announced the term previous to the one in which the course is offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions.</td>
</tr>
<tr>
<td>7230</td>
<td>Advanced Dynamics</td>
<td>4</td>
<td>Three-dimensional kinematics and dynamics of particles and rigid bodies using vector (Newton-Euler) and analytical (Lagrange's equations and Hamilton's principle) methods. Rotating systems. Non-holonomic systems. Prereq: Sr or Grad standing. Not open to students with credit for 733 or 735.</td>
</tr>
<tr>
<td>7236</td>
<td>Powertrain Dynamics</td>
<td>3</td>
<td>Overview of dynamics and control of automotive powertrain systems. Emphasis on subsystem interactions. Analytical and numerical methods for dynamics of gas exchange, fueling, combustion and exhaust, and mechanical engine and transmission systems. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 781.</td>
</tr>
<tr>
<td>7250</td>
<td>Vibration of Discrete Systems</td>
<td>3</td>
<td>Concepts of undamped and damped vibrations of single and multi degree of freedom discrete systems. Principles of modal analysis, analytical dynamics and approximate methods. Prereq: 4030 (430), and Math 2174, 2255 (255), or 2415 (415), or Sr or Grad standing in Engineering. Not open to students with credit for 731.</td>
</tr>
<tr>
<td>7259</td>
<td>Sliding Mode Control in Electromechanical Systems</td>
<td>3</td>
<td>Sliding modes an efficient tool to control high order dynamic plants operating under uncertainly conditions. Prereq: 5372 or ECE 5750 (750). Not open to students with credit for 859 or ECE 859 or 7859. Cross-listed in ECE 7859.</td>
</tr>
<tr>
<td>7260</td>
<td>Automotive Noise and Vibration Control I</td>
<td>3</td>
<td>Integrated study of vibrations, acoustics, digital signal processing and machinery dynamics based on case study approach; examination of design, manufacturing, material, performance, and economic considerations. Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 777 or 779.</td>
</tr>
<tr>
<td>7261</td>
<td>Automotive Noise and Vibration Control I with Lab</td>
<td>4</td>
<td>Integrated study of vibrations, acoustics, digital signal processing and machinery dynamics based on case study approach; examination of design, manufacturing, material, performance, and economic considerations. Prereq: Sr or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 777 or 779.</td>
</tr>
<tr>
<td>7262</td>
<td>Automotive Noise and Vibration Control II</td>
<td>3</td>
<td>Integrated study of vibrations, acoustics, signal processing and dynamics based on case study approach; continuation of 7260 with focus on experimental and design methods. Prereq: 7260.01 or 777, or Sr or Grad standing, or permission of instructor. Not open to students with credit for 778 or 779.</td>
</tr>
<tr>
<td>7263</td>
<td>Automotive Noise and Vibration Control II with Lab</td>
<td>4</td>
<td>Integrated study of vibrations, acoustics, signal processing and dynamics based on case study approach; continuation of 7260 with focus on experimental and design methods. Prereq: 7260 or 777, or Sr or Grad standing, or permission of instructor. Not open to students with credit for 778 or 779.</td>
</tr>
<tr>
<td>7290</td>
<td>Digital Control Engineering</td>
<td>3</td>
<td>Theory of digital control engineering and its applications to the control of engineering systems including machines, vehicles, and processes. Prereq: 3360 and 3361, or 482 and 571, or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 778 or 779.</td>
</tr>
<tr>
<td>7292</td>
<td>Control System Labs</td>
<td>2</td>
<td>Hands-on experience in designing, developing, implementing, and analyzing control systems for mechanical systems. Prereq: 5373 (672) or 674. Prereq or concur: 7290, or permission of instructor. Not open to students with credit for 772.</td>
</tr>
<tr>
<td>7370</td>
<td>Measurement Systems and Experimental Techniques</td>
<td>3</td>
<td>A theoretical, experimental, and applied study of measurement instrumentation; emphasis on principles of operation, analysis, design, and laboratory application. Prereq: 3870 (570), or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 671 or 770.</td>
</tr>
<tr>
<td>7380</td>
<td>Lumpeded Parameter Modeling and System Analysis</td>
<td>3</td>
<td>Mathematical model development and response prediction of linear lumped parameter dynamic systems. Input-output and state-space methods are used to develop insights into design, sensor placement and diagnostics, and actuator selection for control. Prereq: Math 2174, 2415 (415), or 4512 (512), or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 780 or 880.</td>
</tr>
<tr>
<td>7383</td>
<td>Electrochemical Energy Conversion and Storage Systems for Automotive Applications</td>
<td>3</td>
<td>Electrochemical energy storage (batteries) and conversion (fuel cells) systems for automotive applications covering state of the art principles of operations and modeling. Prereq: 6526 (726), or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 788 or distance learning version 7383.02.</td>
</tr>
<tr>
<td>7384</td>
<td>Energy Modeling, Simulation, Optimization and Control of Advanced Vehicles</td>
<td>3</td>
<td>Fundamentals of advanced propulsion vehicles (HEV, PHEV, BEV, FCV), covering motivation, architectures, taxonomy and components, energy analysis, modeling, simulation, optimization and supervisory control/energy management principles. Preq: 7383.01, or permission of instructor. Not open to students with credit for 784 or 785.</td>
</tr>
<tr>
<td>7385</td>
<td>Advanced Methods in the Dynamics and Control of Human and Animal Movement</td>
<td>3</td>
<td>Mathematical ideas from control theory, optimization, nonlinear dynamics, and numerical computation that will be used to understand human, animal, and movement behavior and design. Prereq: 2030 (430), Math 2174, 2415 (415), 4568 (568), or 571, or Grad standing in Engineering.</td>
</tr>
<tr>
<td>7440</td>
<td>Internal Combustion Engine Modeling</td>
<td>3</td>
<td>Comprehensive coverage of spark-ignited internal combustion engines modeling (fluid dynamics, thermodynamics and combustion). Additional coverage of compression ignition engine modeling and boosting. Prereq: 5530 or 630 or equiv, or permission of instructor. Not open to students with credit for 730.</td>
</tr>
<tr>
<td>7510</td>
<td>Advanced Heat Transfer</td>
<td>3</td>
<td>Analytical and numerical techniques for advanced topics in conduction, convection, and radiation. Prereq: 6505 (705), 6507 (707), or 6510 (710), or permission of instructor. Not open to students with credit for 807, 808, or 809.</td>
</tr>
<tr>
<td>7511</td>
<td>Computational Fluid Dynamics</td>
<td>3</td>
<td>Advanced numerical methods for solving the Navier-Stokes equations using pressure-based techniques. Prereq: 6507 (707) or AeroEng 5615 (615), or permission of instructor. Not open to students with credit for 811.</td>
</tr>
<tr>
<td>7513</td>
<td>Turbulence</td>
<td>3</td>
<td>A study of fundamentals of turbulent fluid flows and a few canonical flows. Prereq: 6505 (705), or permission of instructor. Not open to students with credit for 813 or AeroEng 7615 (615). Cross-listed in AeroEng 7615.</td>
</tr>
<tr>
<td>7520</td>
<td>Wave Dynamics in Fluids</td>
<td>3</td>
<td>Unsteady flows, small and finite amplitude wave propagation and attenuation in fluids, flow noise, nonlinear flow-acoustic coupling, surge, and wave suppressors. Prereq: 6505 (705), or permission of instructor. Not open to students with credit for 820.</td>
</tr>
<tr>
<td>7526</td>
<td>Advanced Combustion</td>
<td>3</td>
<td>Advanced combustion concepts; chemical kinetics; introduction to turbulent premixed and non- premixed flames; turbulent combustion modeling; multiphase combustion; literature review of recent theoretical, computational, and experimental approaches Prereq: 6526 (726). Prereq or concur: 7513 (813), or permission of instructor. Not open to students with credit for 826.</td>
</tr>
<tr>
<td>7527</td>
<td>Jet Propulsion</td>
<td>3</td>
<td>Characteristics and performance of air breathing flight vehicle power plants and their components (inlets, compressors, combustors, turbines, and nozzles). Prereq: 4510 (510) or AeroEng 4550 (550), or permission of instructor. Not open to students with credit for 727 or AeroEng 8851 (851).</td>
</tr>
<tr>
<td>7538</td>
<td>Advanced Nuclear Reactor Thermal Hydraulics</td>
<td>3</td>
<td>Advanced course focusing on heat transfer and fluid flow applications in LWIR systems with an emphasis on essential thermal hydraulics phenomena related to reactor safety. Prereq: 6537 (737) or NuclEn 6537 (737), or permission of instructor. Not open to students with credit for 738 or NuclEn 7339 (738). Cross-listed in NuclEn.</td>
</tr>
<tr>
<td>7701</td>
<td>Experimental Methods in Movement Biomechanics</td>
<td>3</td>
<td>Lab-based survey of experimental techniques for biomechanical analysis of human movement: force measurement, motion capture, inertia estimation, EMG, strength. Evaluation of validity, accuracy of techniques. Prereq: 6700 (687) or ISE 5600 (660), or permission of instructor.</td>
</tr>
</tbody>
</table>
Advanced Kinematics and Mechanisms  
Kinematic design and analysis of mechanisms. The focus is on kinematic representations of rigid transformations in space, derivation and solution of the kinematic constraint equations. Computer projects involve SolidWorks and Matlab/Mathematica. Prereq: 3671 (563) or Engr 1183, or Grad standing; or permission of instructor. Not open to students with credit for 751.

Mechanics and Control of Robots  
Introduction to the mechanical and mathematical principles of robotics including kinematics, rigid body dynamics, control theory, motion planning, sensors and actuators, legged locomotion and manipulation. Prereq: 2030 (430), Math 2174, 2415 (415), 4568 (568), 571, or equiv, or Grad standing in Engineering. Not open to students with credit for 752.

Form Synthesis, Assembly, and Applied Stress Analysis  
Advanced form synthesis and assembly and applied stress analysis. Emphasis on shape synthesis for minimum weight assemblies and design of parts for optimum utilization of material and maximum ease of assembly. Prereq: 3671 (563), or permission of instructor. Not open to students with credit for 760 or 861.

Optimization Design of Machines and Structures  
Application of optimization techniques to mechanical systems and structures. The structures considered will typically be high performance structures such as in aircraft and spacecraft. Prereq: Sr standing, or permission of instructor. Not open to students with credit for 761 or AAE 7944 (844). Cross-listed in AAE 7944.

Principles and Applications of Tribology  
Mechanisms of friction, wear, and lubrication ranging from macro- to nanoscale that govern interface behavior; applications to friction and wear problems. Prereq: Not open to students with credit for 765 or 767.

Risk and Reliability for Digital Instrumentation and Control Systems  
Modeling of digital instrumentation systems used in nuclear power reactor systems for reliability, safety, risk, and, security assessment. Prereq: 4506 (605) or NuclrEn 4505 (605), or permission of instructor. Not open to students with credit for NuclrEn 7944. Cross-listed in NuclrEn.

Nanotechnology and Biomechanics  
Introduction to nanotechnology, nanorobotics and biotechnology. Nanomechanics of MEMS/NEMS and BioMEMS/BioNEMS materials and devices and an overview and research examples of biomechanics. Prereq: Not open to students with credit for 837.

Continuous Research Topics in Applied Mechanics  
A discussion-based course on the current research literature in applied mechanics. Prereq: Grad standing in MechEng, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

Advanced Topics in Finite Element Method  
State of the art advances in various areas of finite element methods covering a range of topics including element stability, time integration methods, and adaptive methods. Prereq: 7068 (768) or equiv, or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 838.

Nonlinear Finite Element Method  
State of the art theoretical developments and modeling techniques in nonlinear computational mechanics, for problems with geometric and material nonlinearities. Prereq: 7068 (768) and 7100 or 743, or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 842.

Advanced Elasticity  
Elastic wave propagation. Large deformation kinematics and kinetics. Invariance. Integral and pointwise equations of motion. Thermo-elasticity, hypo-elasticity, objective stress rates. Solutions of static and dynamic elastic boundary-value problems. Prereq: 7040 (740), and 7100 or 743; or permission of instructor. Not open to students with credit for both 833 and 843.

Advanced Topics in Continuum Mechanics  
This is a second course in the fracture and failure of materials including elastico-plastic and mixed mode continuum analysis, followed by a study of multi-scale characterization and modeling of failure initiation and growth. Prereq: 7040 or 744, and 7100, or Grad standing in MechEng, or permission of instructor. Not open to students with credit for 844.

Individual Studies in Mechanical Engineering  
Designed to give the advanced student opportunity to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 15 completions. This course is graded S/U.

Group Studies in Mechanical Engineering  
Special topics in Mechanical Engineering. The particular topic, credit hours, and the instructor will be announced the term previous to the one in which the course is offered. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

Continuous Time Optimal Control  
Embraces the three historical trends in dynamic optimization: Calculus of Variations, Pontryagin’s Minimum Principle, and Bellman’s Principle of Optimality. Not only mathematical aspects of the three principles will be taught, but also their strengths and weaknesses - it is often less important to know how to apply a given principle than to know when. Prereq: 5372 or ECE 5551, or permission of instructor. Not open to students with credit for ECE 8250. Cross-listed in ECE 8250.

Nonlinear Dynamics  
Analytical, geometric, and perturbation methods for study of nonlinear mechanical systems, and the dynamical phenomena that arise in nonlinear systems including stability, bifurcations, and chaos. Prereq: 7250 (731), or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 832.

Vibration of Continuous Systems  
Analysis of one, two and three dimensional continuous vibratory systems including strings, beams, membranes, plates and shells using exact and approximate methods with various boundary conditions. Prereq: 4030 (430) or 7250 (731), and Math 2255 (255) or equiv; or permission of instructor. Not open to students with credit for 734.

Advanced Engineering Acoustics  
Acoustic wave equations and harmonic solution; radiation, transmission, absorption and control of sound waves; structural and flow sources; computational and experimental methods; engineering approximations. Prereq: 5240 (668), or Grad standing in Engineering, or permission of instructor. Not open to students with credit for 766.

Diesel Powertrain Systems Control  
Control and estimation system designs for diesel powertrain and after treatment systems. Prereq: 7236 (781), or Grad standing in Engineering, or permission of instructor.

Digital Signal and Random Data Analysis for Mechanical Systems  
Conceptual, measurement, and numerical aspects of digital signal analysis and random data processing: Fourier and wavelet transforms; mechanical system identification and health monitoring methods. Prereq: Grad standing in Eng, or permission of instructor. Not open to students with credit for 870.

Vehicle System Dynamics and Control  
Control and estimation system designs for vehicle systems. Prereq: Grad standing in Engineering, or permission of instructor.

Fault Diagnosis in Dynamic Systems  
Covers the theory and application of fault diagnosis in multi-domain dynamic systems. Theory and case studies drawn from industrial applications. Prereq: 7380 (760), ECE 4551, 5551, 750, AeroEng 4521, or 720, or permission of instructor. Not open to students with credit for 874.

Statistical Thermodynamics  
Micromechanical aspects of thermodynamics for engineering graduate students. Starts with kinetic gas theory and classical statistical theory of independent particles. Derives statistical distribution functions and thermostatistic properties of real substances. Prereq: Grad standing in MechEng or AeroEng, and permission of instructor. Not open to students with credit for 803.

Physical Gas Dynamics  
Physics of nonequilibrium, reacting, ionized gas flows. Analysis of molecular energy transfer processes, chemical reactions, and ionization processes. Applications for hypersonic reentry flows, high-speed flow control, and molecular lasers. Prereq: 8503 (803) or equiv; or permission of instructor. Not open to students with credit for 804.

Advanced Fluid Dynamics  
An advanced study of inviscid and viscous flow and the relationship including exact solutions, two and three dimensional boundary layers, vortices, similarity solutions and separation. Prereq: 8505 (705). Not open to students with credit for 806 or 810.

Optical Techniques in Fluid Flows  
Fundamentals of lasers, optics, and diatomic spectroscopy, and their application to flow and combustion diagnostics. Prereq: Grad standing in Engineering or the Sciences, or permission of instructor. Not open to students with credit for 814.

Advanced Mathematical Methods in Mechanical Engineering  
Fourier series, complex differentiation and integration and transform and Green's function for solution of problems arising in heat transfer, solid mechanics, fluid mechanics; asymptotic analysis. Prereq: 7510, 807, or 850, or equiv; or permission of instructor. Not open to students with credit for 818 or 881.
8527 Advanced Propulsion Problems G 3
Emphasizes a detailed discussion of current problems in air breathing propulsion with major emphasis on technical papers available from the current archival literature.
Prereq: 7027 (727) or AeroEng 7571 (751), or permission of instructor. Not open to students with credit for 827 or AeroEng 8851 (851). Cross-listed in AeroEng 8851.

8603 Irreversible Thermodynamics and Transport of Charge G 3
Heat, and Spin
Othm's, Fourier and Fick's laws, which relate linearly the transport of electrical charge, heat and matter to voltages, temperatures and concentrations gradients, are generalized in the framework of irreversible thermodynamics. The microscopic mechanisms of transport of heat, electrical charge and magnetization by elemental excitations (electrons, phonons and magnons) are explained.
Prereq: 8503 or statistical mechanics, and permission of instructor.

8702 Neurornuscular Biomechanics G 3
Prereq: 6760 or 697, or permission of instructor. Not open to students with credit for 757.

8717 Dynamic Probabilistic Risk Assessment G 3
Review of selected papers on dynamic probabilistic risk assessment.
Prereq: 6716 (716), 6665 (776.01), or 6666 (776.02); or permission of instructor. Not open to students with credit for NucEn 8171. Cross-listed in NucEn.

8888 Mechanical Engineering Graduate Seminar G 1
Lecture and discussion of current topics related to Mechanical Engineering presented by graduate students, staff, and guest speakers. Course does not count toward course work required for MS or PhD degrees.
Prereq: Grad standing in MechEng, AeroEng, or NucEn. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8998 Graduate Research in Mechanical Engineering G 1 - 16
Mechanical Engineering graduate research for thesis. Repeatable. This course is graded S/U.

8999 Mechanical Engineering Research for Dissertation G 1 - 16
Research for dissertation purposes only. Repeatable. This course is graded S/U.

Medical Dietetics

1100 Careers in Dietetics U 1
An introduction to the roles and responsibilities of the dietitian; the educational preparation of the dietitian and employment opportunities.
Prereq: Not open to students with credit for 201.

3100 Human Nutrition and Metabolism U 3
Integration of principles related to foods, nutrients, physiology, and biochemistry as they apply to nutritional care for the promotion of health and prevention of disease.
Prereq: Chem 1210 and Chem 1220, and Biology 1101 or 1113, and HumnNtr 2310, or equiv.; and enrollment in MedDiet or HumnNtr programs; or permission of instructor. Not open to students with credit for 545, or HumnNtr 4609 (610).

4200 Management in Medical Dietetics U 3
The study of the principles of food management systems, including food procurement, food distribution, environment management, facility design, and introductory financial controls in noncommercial foodservice segments.
Prereq: HumnNtr 310 and 420. Not open to students with credit for 420.

4500 Health Promotion and Community Nutrition U 3
Study of community needs assessment, national nutrition policy, design and evaluation of programs and cultural factors to promote the health and nutritional status of the community.
Prereq: 3100. Not open to students with credit for 637.01.

4700 Research Design in Medical Dietetics U 1
Concepts related to the planning, conducting, tabulating and reporting of research in dietetics.
Prereq or Concur: AllMed 680. Enrollment in MedDiet. Not open to students with credit for MedDiet 680.

4900 Nutrition Assessment U 3
Methods of gathering, interpreting, and reporting nutrition assessment data.
Prereq: HumnNtr 310, EEOB 232, Zoology 232, or equiv. Not open to students with credit for 546.

4910 Nut Care Process I U 3
Prereq: Enrollment in MedDiet program. Concur: 4911 and 4912. Not open to students with credit for 519, 520, 521, 530, or 636.

4911 Nutrition Care Process II U 3
Nutrition care process: Principles of individual and group education and nutrition counseling as applied to responsibilities of the dietitian.
Prereq: Enrollment in MedDiet program. Concur: 4010, 4012, or 4911. Not open to students with credit for 519, 520, 521, 530, or 636.

4912 Nutrition Care Process III U 2
Laboratory and experiential application of the nutrition care process for disorders of body weight, musculoskeletal system, cardiovascular system; gastrointestinal tract and endocrine system.
Prereq: Enrollment in MedDiet program; and Concur 4910 and 4911. Not open to students with credit for 519, 520, 521, 530, or 636.

4923 Nutr Car Proc IV U 3
Prereq: A grade of B or above in 4910, 4911, and 4912, and enrollment in MedDiet. Concur: 4914 and 4915. Not open to students with credit for 519, 520, 521, 530, and 636.

4924 Nutrition Care Process V U 3
Nutrition care process: Principles of individual and group education and nutrition counseling as applied to responsibilities of the dietitian.
Prereq: Enrollment in MedDiet. Concur: 4923 and 4925. Not open to students with credit for 519, 520, 521, 530, and 636.

4925 Nutrition Care Process VI U 2
Laboratory and experiential application of the nutrition care process for disorders of hepatobiliary, renal, neurological, respiratory, critical care, cancer, AIDS, and inborn errors of metabolism.
Prereq: Enrollment in MedDiet. Concur: 4923 and 4924. Not open to students with credit for 519, 520, 521, 530, or 636.

5189 Dietetic Professional Practice I U G 1 - 12
Clinical experience in a specific health care system uses inpatient, outpatient, foodservice and community-based dietetic practice. The student works under the direction of Registered Dietitians and the supervision of medical dietetics faculty.
Prereq: Enrollment in the MedDiet program. Repeatable to a maximum of 12 or hrs or 3 completions. This course is graded S/U.

5289 Dietetic Professional Practice II U G 1 - 12
Clinical experience in a specific health care system uses inpatient, outpatient, foodservice and community-based dietetic practice. The student works under the direction of Registered Dietitians and the supervision of medical dietetics faculty.
Prereq: Enrollment in MedDiet program. Repeatable to a maximum of 12 or hrs or 3 completions. This course is graded S/U.

5389 Dietetic Professional Practice III U G 1 - 12
Field experience in a specific health care system uses inpatient, outpatient, foodservice and community-based dietetic practice. The student works under the direction of Registered Dietitians and the supervision of medical dietetics faculty.
Prereq: Enrollment in MedDiet program. Repeatable to a maximum of 12 or hrs or 3 completions. This course is graded S/U.

5489 Dietetic Professional Practice IV U G 1 - 12
Field experience in a specific health care system uses inpatient, outpatient, foodservice and community-based dietetic practice. The student works under the direction of Registered Dietitians and the supervision of medical dietetics faculty.
Prereq: Enrollment in MedDiet program. Repeatable to a maximum of 12 or hrs or 3 completions. This course is graded S/U.

5705 Nutrition and Physical Performance U 2
Integration of nutrition, exercise physiology, and biochemistry. Use of nutrients as fuel, interaction between nutrients and exercise performance, assessment of energy expenditure and nutritional status, interactions among diet, exercise and health.
Prereq: 4609 (610). Not open to students with credit for 705. Cross-listed in HumnNtr.

5800 Advanced Nutrition Therapy in Complex Disease States U G 3
Study of nutrition therapy in disease: interrelationships of nutrition with biochemical, physiological and anatomical changes associated with acute, chronic and terminal illness, surgery and trauma.
Prereq: Credit in general chemistry, biology, physiology, nutritional assessment, nutritional therapy, or education and counseling, or permission of instructor. Not open to students with credit for 645 or 885.

5825 Advanced Practice in Nutrition Assessment and Counseling U G 3
In-depth analysis of the literature and current practice for use in nutrition assessment and counseling for both healthy and medically complex patients with acute, chronic and terminal illnesses.

5850 Advanced Management and Current Topics in Medical Dietetics U G 3
Emphasis on leadership skills for nutrition and dietetics in health care settings.
Prereq: 5189. Not open to students with credit for 645.
### Medical Dietetics

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6189</td>
<td>Medical Dietetics: Clinical Nutrition Practicum</td>
<td>G 1 - 5</td>
<td>This is an advanced, specialized experience to be completed in addition to- and after- all required experiences in health care systems that use inpatient, outpatient, and foodservice and community-based experiences all to achieve course objectives. PreReq: Enrollment in the MedDiet Grad program. Not open to students with credit for 688.03. Repeatable to a maximum of 9 or hrs or 2 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>6200</td>
<td>Community Nutrition and Health</td>
<td>G 3</td>
<td>Methods of discovering problems in community nutrition and practical application of nutrition information for improvement of the nutritional and health status of a diverse population. PreReq: 6300 or Concur. Not open to students with credit for 858.</td>
</tr>
<tr>
<td>6300</td>
<td>Advanced Nutrition and Metabolism</td>
<td>G 3</td>
<td>An in depth examination of the role of nutrients and food components and their impact of body systems and health. PreReq: Grad standing. Not open to students with credit for 857.</td>
</tr>
<tr>
<td>6340</td>
<td>Advanced Maternal and Pediatric Nutrition</td>
<td>G 3</td>
<td>Advanced topics in physiology of pregnancy and lactation, including women with special needs; physiology of neonate, normal growth and development 0-12 months, and nutritional disorders of infancy. PreReq: 5 or hrs of PhysioCB and BioChem and HumnNutr 310 or above; or permission of instructor. Grad standing. Not open to students with credit for 838.</td>
</tr>
<tr>
<td>6350</td>
<td>Nutrition Support in Critical Care</td>
<td>G 3</td>
<td>Advanced study of specialized nutrition support in critical care. PreReq: Nutrition therapy or equiv. Not open to students with credit for 856.</td>
</tr>
<tr>
<td>6900</td>
<td>Nutritional Genomics</td>
<td>G 3</td>
<td>An introduction to nutritional genomics and translational medicine for the prevention and treatment of disease. PreReq: A course in basic nutrition, and 2 courses in Science, Biochemistry, or Physiology; or permission of instructor. Not open to students with credit for 745.</td>
</tr>
</tbody>
</table>

### Medical Laboratory Science

<table>
<thead>
<tr>
<th>Code</th>
<th>Title</th>
<th>Units</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4400</td>
<td>Phlebotomy and the Medical Laboratory Environment</td>
<td>U 1</td>
<td>The principles and practice of sample collection as it relates to clinical laboratory testing and safety in the laboratory environment. PreReq: Admission to Medical Laboratory Science program, or permission of instructor. Not open to students with credit for MedTech 400 and 480.01.</td>
</tr>
<tr>
<td>4405</td>
<td>Phlebotomy and the Medical Laboratory Environment Laboratory</td>
<td>U 1</td>
<td>The practice of sample collection for the clinical laboratory. PreReq: Admission to Medical Laboratory Science program, or permission of instructor. Not open to students with credit for MedTech 400 and 480.02.</td>
</tr>
<tr>
<td>5000</td>
<td>Medical Laboratory Microbiology I</td>
<td>U G 3</td>
<td>Introduce medical bacteriology in the aspects of fundamental epidemiology, disease transmission routes, clinical correlation of microbial diseases, as well as diagnostic tests to identify commonly encountered and clinically important bacteria. PreReq: Microbiol 509, and admission to Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 500.01.</td>
</tr>
<tr>
<td>5000E</td>
<td>Medical Laboratory Microbiology I</td>
<td>U G 3</td>
<td>Introduce medical bacteriology in the aspects of fundamental epidemiology, disease transmission routes, clinical correlation of microbial diseases, as well as diagnostic tests to identify commonly encountered and clinically important bacteria. Honors-embedded course includes an infectious disease project. PreReq: Honors standing, Microbio 4000, and admission to Medical Laboratory Science Program; or permission of instructor. Not open to students with credit for MedTech 500.01.</td>
</tr>
<tr>
<td>5005</td>
<td>Medical Laboratory Microbiology I Laboratory</td>
<td>U G 2</td>
<td>Basic theory and application of clinical laboratory techniques used to identify bacteria pathogenic to humans. PreReq: 4405 and Microbio 4000, and admission to Medical Laboratory Science Program; or permission of instructor. Concur: MedLbS 4400. Not open to students with credit for MedTech 500.02.</td>
</tr>
<tr>
<td>5050</td>
<td>Medical Laboratory Hematology</td>
<td>U G 5</td>
<td>Theory and application of clinical laboratory procedures used to identify and evaluate the formed elements of the blood and hemostatic mechanisms in health and disease. PreReq: Enrollment in Medical Laboratory Science program, or permission of instructor. Not open to students with credit for MedTech 510.01.</td>
</tr>
<tr>
<td>5050E</td>
<td>Medical Laboratory Hematology</td>
<td>U G 5</td>
<td>Theory and application of clinical laboratory procedures used to identify and evaluate the formed elements of the blood and hemostatic mechanisms in health and disease. PreReq: Honors standing, and admission to Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 510.01.</td>
</tr>
<tr>
<td>5055</td>
<td>Medical Laboratory Hematology Laboratory</td>
<td>U G 2</td>
<td>Theory and application of clinical laboratory procedures used to identify and evaluate the formed elements of the blood and hemostatic mechanisms in health and disease. Concur: 4400 and 4405, and admission to Medical Laboratory Science program, or permission of instructor. Not open to students with credit for MedTech 510.02.</td>
</tr>
<tr>
<td>5089</td>
<td>Clinical Practice in Medical Laboratory Science</td>
<td>U G 8%</td>
<td>Application of medical laboratory technique under supervision in clinical laboratories or other non-hospital laboratory settings. PreReq: All courses required in the Medical Laboratory Science Certification curriculum except for MedLbS 5689. Not open to students with credit for MedTech 669 and 679. This course is graded S/U.</td>
</tr>
<tr>
<td>5100</td>
<td>Medical Laboratory Microbiology II</td>
<td>U G 3</td>
<td>Introduce medical mycology, parasitology, and virology in the aspects of fundamental epidemiology, disease transmission routes, clinical correlation of microbial diseases, as well as diagnostic tests to identify commonly encountered and clinically important viruses, fungi and parasites. PreReq: Admission to Medical Laboratory Science Program, or permission of instructor. Not open to students with credit for MedTech 525.01.</td>
</tr>
<tr>
<td>5100E</td>
<td>Medical Laboratory Microbiology II</td>
<td>U G 3</td>
<td>Introduce medical mycology, parasitology, and virology in the aspects of fundamental epidemiology, disease transmission routes, clinical correlation of microbial diseases, as well as diagnostic tests to identify commonly encountered and clinically important viruses, fungi and parasites. PreReq: Honors standing, and admission to Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 525.01.</td>
</tr>
<tr>
<td>5105</td>
<td>Medical Laboratory Microbiology II Laboratory</td>
<td>U G 1</td>
<td>The theory and application of clinical laboratory procedures used to identify fungi, parasites, and viruses pathogenic to humans. PreReq: Admission to Medical Laboratory Science Program, or permission of instructor. Concur: 4400 and 4405. Not open to students with credit for MedTech 525.02.</td>
</tr>
<tr>
<td>5150</td>
<td>Medical Laboratory Microscopy</td>
<td>U G 2</td>
<td>Microscopic analysis of urine and other body fluids including correlational pathophysiology. PreReq: Admission to Medical Laboratory Science program, or permission of instructor. Not open to students with credit for MedTech 570.01.</td>
</tr>
<tr>
<td>5155</td>
<td>Medical Laboratory Microscopy Laboratory</td>
<td>U G 1</td>
<td>Microscopic analysis of urine and other body fluids. PreReq: MedLbS 4400, and admission to Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 570.02.</td>
</tr>
<tr>
<td>5200</td>
<td>Medical Laboratory Immunology</td>
<td>U G 3</td>
<td>Theory, application, and correlation of clinical immunology knowledge and procedures used to evaluate the function of the immune system in health and disease. PreReq: Enrollment in Medical Laboratory Science program, or permission of instructor. Not open to students with credit for MedTech 630.01E.</td>
</tr>
<tr>
<td>5200E</td>
<td>Medical Laboratory Immunology</td>
<td>U G 3</td>
<td>Theory, application, and correlation of clinical immunology knowledge and procedures used to evaluate the function of the immune system in health and disease. PreReq: Honors standing, and admission to Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 630.01.</td>
</tr>
<tr>
<td>5205</td>
<td>Medical Laboratory Immunology Laboratory</td>
<td>U G 1</td>
<td>Theory, application and correlation of clinical immunology knowledge and procedures. PreReq: MedLbS 4400, and admission to Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 630.01.</td>
</tr>
<tr>
<td>5250</td>
<td>Medical Laboratory Immunohematology</td>
<td>U G 4</td>
<td>The theory and practice of blood banking and transfusion medicine. PreReq: 5000, 5050, or 5420, and Enrollment in Medical Laboratory Science program, or permission of instructor. Not open to students with credit for MedTech 635.01.</td>
</tr>
<tr>
<td>5250E</td>
<td>Medical Laboratory Immunohematology</td>
<td>U G 4</td>
<td>The theory and practice of blood banking and transfusion medicine. PreReq: Honors standing, and MedLbS 5000, 5050, and 5220, and enrollment in Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 635.01.</td>
</tr>
<tr>
<td>5255</td>
<td>Medical Laboratory Immunohematology Laboratory</td>
<td>U G 2</td>
<td>Theory and practice of blood banking and transfusion medicine. PreReq: MedLbS 4400, 5200, and 5220, and admission to Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 635.02.</td>
</tr>
<tr>
<td>5300</td>
<td>Medical Laboratory Chemistry</td>
<td>U G 5</td>
<td>Principles in chemical pathology with an emphasis on analysis and correlation of biochemical parameters with disease. PreReq: Chem 2510 (251 and 252) and Biochem 4511 (4511); or MolBiol 3311 and 3312 (MolBiol 311 and 312); and enrollment in Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 645.01.</td>
</tr>
</tbody>
</table>
5305 Medical Laboratory Chemistry Laboratory U G 2
Applications of theory in quality control, method selection and evaluation, and diagnostic techniques in the clinical chemistry.
Prereq: MedLbS 4400, and Chem 2510 (251 and 252) and Biochem 4511 (511), or MolBio 3311 and 3312 (MoBio 311 and 312); and enrollment in Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 645.01.

5350 Professional Issues in Medical Laboratory Science U G 1½
Theory and application of professional, education, and management issues directed specifically towards Medical Laboratory Science.
Prereq: Admission to Medical Laboratory Science program, or permission of instructor. Not open to students with credit for MedTech 620.

5400 Molecular Techniques in Medical Laboratory Science U G 1½
Theory and clinical applications of molecular techniques used in medical laboratory science. Presec: MedLbS 5000, 5050, 5100, 5250, 5300, and MolGen 4500 (500), and enrollment in Medical Laboratory Science program; or permission of instructor. Not open to students with credit for 600.01.

5405 Molecular Techniques in Medical Laboratory Science U G 1½
Theory and clinical applications of molecular techniques used in medical laboratory science. Presec: Honors standing, and MedLbS 5000, 5050, 5100, 5250, 5300, and MolGen 4500 (500), and enrollment in Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 600.02.

5500 Medical Laboratory Hematology II U G 3
Theory and application of clinical laboratory procedures used to identify and evaluate the formed elements of the blood and hemostatic mechanisms in health and disease.
Prereq: MedTech 510.01, and enrollment in Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 615.01.

5505 Medical Laboratory Hematology II U G 1½
Theory and application of clinical laboratory procedures used to identify and evaluate the formed elements of the blood and hemostatic mechanisms in health and disease.
Prereq: Honors standing, and MedTech 510.01, and enrollment in Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 615.01.

5600 Interdisciplinary Studies in Medical Laboratory Science U G 1 - 5
The application of medical laboratory science in interdisciplinary settings. Presec: All Medical Laboratory Science certification track required courses except for MedLbS 5089. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is graded S/U.

5690 Advanced Topics in Medical Laboratory Science U G 1 - 5
Introduction to skills and resources necessary to enhance professional development and facilitate professional goal setting.
Prereq: MedLbS 5590, and enrollment in Medical Laboratory Science program; or permission of instructor. Not open to students with credit for MedTech 695.

5693 Individual Studies U G 1 - 15
Guided study or individual readings, research, or experiences related to medical laboratory science.
Prereq: Admission to Medical Laboratory Science program, or permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

5830 Seminar in Medical Laboratory Science U G 1 - 5
Introduction to the skills and resources necessary to enhance professional development and facilitate professional goal setting.
Prereq: Admission to Medical Laboratory Science program, or permission of instructor. Repeatable to a maximum of 5 cr hrs or 5 completions.

6885 Medical Laboratory Clinical Teaching Practicum G 2 - 5
Supervised experience in clinical education.
Prereq: Admission to Medical Laboratory Science program, or permission of instructor. Repeatable to a maximum of 5 cr hrs or 2 completions. This course is graded S/U.
Individual Studies

7693  Individual Studies  M  3 - 16
Special studies in medicine; nature of life processes; foundational science; clinical science; pathophysiology and manifestation of disease. This is a supervised individualized program. Offered all semesters. Prereq: Enrollment in MD program, and permission of instructor. Repeatable to a maximum of 32 hrs or 2 completions. This course is progress graded (SU).

7700.04  Interprofessional Practicum in Clinical Care: Aging  G  M  2 - 3
Students experience the breadth, scope, and importance of clinical gerontology in an interdisciplinary team setting through leadership and perspectives of academic and community health and social service providers. This course is graded SU.

7710  Health Literacy  M  1 - 2
Examine and analyze issues of low health literacy, including populations at risk, research, measurement tools, writing in plain language; health communication techniques; and organizational approaches. Prereq: Grad standing in Health Sciences Professions, Literary Studies Specialization (ASC), Geriatrics Specialization (College of Medicine), or Teaching (College of Education & Human Ecology), or permission of faculty coordinator. This course is progress graded (SU). Cross-listed in Pharmacy, ArtsSci, Nursing, Medicine, and AllMed.

7711  From the Page to the Bedside: Literature for Physicians  M  1
Study of literary works that engage with issues of illness, treatment, and medical ethics. Repeatable to a maximum of 12 cr hrs. This course is graded SU.

7762  Clinical Foundations I  M  2 - 20
Study of human development, biology, pathophysiology and behavior in a patient-oriented organ-system interdisciplinary manner. Developmental acquisition of the knowledge, skills and attitudes for an effective patient centered clinical encounter. Prereq: Enrollment in College of Medicine. Repeatable to a maximum of 6 completions. This course is progress graded (SU).

7763  Clinical Foundations II  M  2 - 20
Study of human development, biology, pathophysiology and behavior in a patient-oriented organ-system interdisciplinary manner. Developmental acquisition of the knowledge, skills and attitudes for an effective patient centered clinical encounter. Prereq: Enrollment in College of Medicine. Repeatable to a maximum of 6 completions. This course is progress graded (SU).

8864  Med 3 and 4: Clinical Medicine  M  3 - 20
Didactic and clinical instruction in family medicine, internal medicine, neurology, obstetrics and gynecology, pediatrics, psychiatry, and surgery. Experiential learning in the inpatient, outpatient and community setting. Prereq: 7683. Repeatable to a maximum of 12 completions. This course is progress graded (SU).

8764  Clinical Applications  M  3 - 20
Foundational and clinical instruction in family medicine, internal medicine, neurology, obstetrics and gynecology, pediatrics, psychiatry, and psychiatry. Experiential learning in the inpatient, outpatient, and community setting. Prereq: Enrollment in College of Medicine. Repeatable to a maximum of 6 completions. This course is progress graded (SU).

8864  Advanced Clinical Management  M  3 - 20
Development of the knowledge, skills, attitudes and behaviors that are required in rapid management and chronic care scenarios. Focus on team communications in life threatening situations and in coordination of care. Prereq: Enrollment in College of Medicine. Repeatable to a maximum of 6 completions. This course is progress graded (SU).

Medieval and Renaissance Studies

2211  Medieval Kyoto: Portraits and Landscapes  U  3
Exploration of cultural, political and economic life in Kyoto, Japan from ca. 900-1467 with emphasis on role of imperial court and rising warrior class. Taught in English. Not open to students with credit for Medieval 211. GE culture and ideas and diversity global studies course.

2212  Culture of a City-State in the Italian Renaissance  U  3
The study of an Italian Renaissance city-state with attention to its political, social, and economic structure; its religious, intellectual, and artistic activity. Prereq: Not open to students with credit for Medieval 212. GE culture and ideas and diversity global studies course.

2215  Gothic Paris: 1100-1300  U  3
The arts, architecture, poetry, history, music, theology, food, and fashion of Paris in 1100-1300, the age of Gothic cathedrals and the birth of the university. Prereq: Not open to students with credit for Medieval 215. GE culture and ideas and diversity global studies course.

2217  Shakespeare's London  U  3
The history, politics, and culture of London in the age of Shakespeare and the Tudors from the Protestant Reformation to the Great Fire (1666). Prereq: Not open to students with credit for Medieval 217. GE culture and ideas and diversity global studies course.

2510  Court of Charlemagne  U  3
Barbarian invasions, Dark Age church history, Charlemagne's campaigns to rebuild the Empire and thwart Muslim incursions, and the epics that relique it all. Prereq: Not open to students with credit for Medieval 210. GE culture and ideas and diversity global studies course.

2513  Medieval Russia  U  3
The diversity of medieval Russian culture focused on Moscow, Novgorod, and Kiev: religion, society, politics, art, and architecture. Prereq: Not open to students with credit for Medieval 213. GE culture and ideas and diversity global studies course.

2514  Golden Age of Islamic Civilization  U  3
Baghdad 786-861 A.D.: Arab, Persian and Greek contributions to Abbasid society; competing visions of correct Islamic belief; and the coexisting (often conflicting) courtly literature. Prereq: Not open to students with credit for Medieval 214. GE culture and ideas and diversity global studies course.

2516  The Medieval Jewish Experience  U  3
A survey of ten centuries of medieval Jewish culture from the rise of Islam to the death of Shabbetai Zvi, the false Messiah (1676). Prereq: Not open to students with credit for Medieval 216. Hebrew 2216 (216), or JewishSt 2156. GE cultures and ideas and diversity global studies course. Cross-listed in Hebrew 2216 and JewishSt 2156.

2520  Christians, Muslims, and Jews in the Mediterranean World  U  3
An introduction to Mediterranean studies examining relationships between the cultures of the three Religions of the Book (Jews, Christians, Muslims) through art, literature, and history. GE culture and ideas course.

2526  Constantinople: The Imperial Capital of Byzantium  U  3
A survey of Byzantine civilization focusing on life in the capital, literature, and the court, Orthodox Christianity, and the formation of Medieval Europe. Prereq: Not open to students with credit for 226 or Classics 2203, 2526, or 226. GE culture and ideas and diversity global studies course. Cross-listed in Clas.

2610  Science and Technology in Medieval and Renaissance Culture  U  3
The history of science in the medieval and early modern world, including medicine, alchemy, optics, map-making, city-planning, and technology through images, texts, and material culture. GE cultures and ideas course.

2619  Travel and Exploration  U  3
Intercultural contact between Europe (Spain, Portugal, and other nations) and the 'New Worlds' is explored through early modern narratives of travel, conquest, shipwrecks, and captivity. Prereq: Not open to students with credit for Medieval 218. GE culture and ideas and diversity global studies course.

2666  Magic and Witchcraft in the Middle Ages and Renaissance  U  3
A study of the history of witchcraft and magic from 400 to 1700 C.E. within sociological, religious and intellectual contexts. Prereq: Not open to students with credit for Medieval 240. GE culture and ideas and diversity global studies course.

2888  Holy Heroes: Saints' Lives  U  3
Study of popular medieval narrative genre in its cultural context; development of ideals of sanctity in the lives of martyrs, confessors, holy fools, and ascetics. GE lit course.

3194  Group Studies  U  3
Topic varies; special subjects not covered by regular courses. Repeatable to a maximum of 9 cr hrs.

4193  Individual Studies  U  1 - 3
Students may register for individual directed study under this number for work not normally offered in courses. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded SU.

4504  The Arthurian Legends  U  3
The medieval tales of King Arthur's court and the Knights of the Round Table in history, myth, literature, art, and music. Prereq: 6 cr hrs in literature. Not open to students with credit for Medieval 504.

4728  MedievalRenaissance Study Tour  U  3
Study tour offered in conjunction with MRS city courses on Paris, London, Novgorod, and other cities. Repeatable to a maximum of 9 cr hrs. This course is graded SU.

4998  Undergraduate Research  U  1 - 4
Independent study in Medieval and Renaissance culture and civilization. Prereq: 6 cr hrs in Medieval and Renaissance Studies at the 200 level, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded SU.
499H  Honors Research  U  1 - 4
Independent study in Medieval and Renaissance culture and civilization.
Prereq: Honors standing, and 6 or hrs in Medieval and Renaissance Studies at the 2000 level, and permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

4999  Research for Thesis  U  1 - 4
Independent study in Medieval and Renaissance culture and civilization.
Prereq: 6 or hrs in Medieval and Renaissance Studies taken at the 2000 level, and permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

4999H Honors Thesis Research  U  1 - 4
Independent study in Medieval and Renaissance culture and civilization leading to the completion of an undergraduate thesis.
Prereq: Honors standing, 6 or hrs in Medieval and Renaissance Studies at the 2000 level, and permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

5194 Group Studies  U G 3
Interdisciplinary group studies of selected topics in Medieval and Renaissance culture and civilization.
Prereq: 6 or hrs in MedRen at 2000 level or above. Repeatable to a maximum of 9 or hrs.

5610 Manuscript Studies  U G 3
An examination of the development of Latin book production from late antiquity to the Renaissance in the cultural context of the Middle Ages.
Prereq: Jr, Sr, or Grad standing. Not open to students with credit for Medieval 610.

5611 History of the Book Studies  U G 3
A study of the construction and transmission of books during the era of the hand press (c.1455-1800).
Prereq: Jr, Sr, or Grad standing, or permission of instructor. Not open to students with credit for Medieval 611.

5631 Survey of Latin Literature: Medieval and Renaissance  U G 3
Survey of selected authors representative of the Medieval and Renaissance periods of Latin literature with discussion of historical background and critical approaches.
Prereq: Latin 1103, or equiv. Not open to students with credit for Medieval 631.

5605 Advanced Seminar in Medieval and Renaissance Studies  U G 3
Interdisciplinary group studies of selected topics in Medieval and Renaissance culture and civilization, with a focus on research and writing skills. Capstone for MedRen majors.
Prereq: 6 credit hours in MedRen at the 2000 level or above. Repeatable to a maximum of 9 or hrs.

5892 Workshop  U G 1 - 3
Workshop with visiting professor or special opportunities. Not regularly offered. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

7882 Interdepartmental Studies in the Humanities  G 1 - 3
Two or more departments may collaborate in presenting colloquia on studies of mutual interest. Topics to be announced. Repeatable to a maximum of 9 or hrs.

7899 Medieval and Renaissance Colloquia  G 1
Graduate students completing the CMRS Graduate Certificate and GIS participate in Medieval and Renaissance lecture series events, film series, and discussions with visiting faculty.
Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

8193 Individual Studies  G 1 - 3
Students may register for individual directed study under this number for work not normally offered in courses.
Prereq: Permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

Microbiology

2200 Genome Biology  U 1
DNA sequencing and analysis of bacteriophage genomes. Special emphasis on mycobacteriophage as part of the Howard Hughes Medical Institute National Genomics Research Initiative.
Prereq: Biology 1113 with participation in the Howard Hughes Medical Institute National Genomics Research Initiative, or permission of instructor. Cross-listed in Biology 2200.

3194 Group Studies  U G 1 - 3
Study of selected topics in microbial and cellular biology.
Prereq: Permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

3300 The Biology of Pollution  U 2
A general consideration of the interactions of environmental pollutants and biological systems.
Prereq: 3 or hrs in Biology. Not open to students with credit for Microbiol 301.

Medieval and Renaissance Studies  341

4798  Honors Research  U  1 - 4
This course is an interdisciplinary exploration of HIV/AIDS, tracing the evolution of the virus at both the molecular level and within its global historical context. This course is team-taught by a virologist and a historian.
Prereq: English 1110.xx and any History 2000-level course, or permission of instructor. Not open to students with credit for History 3704. Cross-listed in History.

4000 Basic and Practical Microbiology  U 4
Provides an understanding of microorganisms and their interaction with the human experience.
Prereq: 3 or hrs in Biology. Not open to students with credit for Microbiol 509. GE nat sci bio course.

4100 General Microbiology  U 5
Fundamental principles of microbiology and the characteristics of microorganisms with emphasis on their structure, molecular biology, growth, classification, physiology, ecology, biotechnology, ecology, and applied microbiology.
Prereq: Biology 1114 (114) or 1114H (116H). Prereq or conc: Chem 2510 (251). Not open to students with credit for 521.

4102 General Microbiology Bridge Course  U 3
Bridge course for students that have completed MCRBIOl 520 General Microbiology 1, but not yet completed MCRBIOl 521 General Microbiology 2. Topics covered include: physiology, metabolism, ecology, biotechnology, ecology, and applied microbiology.
Prereq: 520. Not open to students with credit for 4100 or 521.

4110 Microbial Pathogenesis and Immunobiology  U 3
This course is graded S/U. Cross-listed in MolGen and Biochem.
Prereq: 4500 (509) or 4100 (520). Not open to students with credit for MicrBiol 524.01.

4112 Microbial Physiology and Diversity  U 3
Principles of microbial growth, metabolism, microbial structure and function, and regulation of microbial metabolism.
Prereq: 4100 (521) and prerequisite or conc: Biochem 4511 (511). Not open to students with credit for MicrBiol 661.

4130 Microbial Genetics  U 3
Structure, maintenance, expression, and exchange of genetic materials in microbial cells.
Prereq: 4100 (521) or MolGen 4500 (500). Not open to students with credit for MicrBiol 581.01.

4140 Molecular Microbiology Laboratory  U 3
Advanced laboratory covering structure, maintenance, expression and exchange of genetic materials in microbial cells and methods in immunobiology.
Prereq or conc: Micro 4130 (Micro 581.01). Not open to students with credit for MicrBiol 582.02.

4193 Individual Studies  U 1 - 3
Study of selected topics in microbial and cellular biology. Outlined by instructor to meet individual student's needs.
Prereq: Permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

4194 Group Studies  U 1 - 3
Study of selected topics in microbial and cellular biology.
Prereq: Permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

4591S DNA Finger Printing Workshops  U 1
A service learning course whereby undergraduates mentor high school students in molecular biology workshops. Undergraduates present workshops in Columbus Public Schools. Sp Sem. Prereq: MolGen 4500 (500) or 4606 (606). Repeatable to a maximum of 3 cr hrs. This course is graded S/U. Cross-listed in MolGen and Biochem.

4797 Study at a Foreign Institution  U 1 - 18
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.
Prereq: Permission of department. Repeatable to a maximum of 36 cr hrs or 2 completions. This course is progress graded (S/U).

4798.01 Study Tour at a Domestic Institution  U 1 - 18
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.
Prereq: Permission of department. Repeatable to a maximum of 36 cr hrs or 2 completions. This course is progress graded (S/U).

4798.02 Study Tour at a Foreign Institution  U 1 - 18
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.
Prereq: Permission of department. Repeatable to a maximum of 36 cr hrs or 2 completions. This course is progress graded (S/U).
4998 Undergraduate Research in Microbiology U 1 - 5
Laboratory and bioinformatics based research in all areas of microbiology. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 8 completions. This course is graded S/U.

4998H Honors Research in Microbiology U 1 - 5
Laboratory and bioinformatics based research in all areas of microbiology. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 8 completions. This course is graded S/U.

4999 Undergraduate Research in Microbiology-Thesis U 1 - 5
Laboratory and bioinformatics based research in all areas of microbiology. Thesis. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U.

4999H Honors Research in Microbiology-Thesis U 1 - 5
Laboratory and bioinformatics based research culminating in an Honors thesis. Prereq: Honors standing, and Jr or Sr standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 2 completions. This course is graded S/U.

5122 Immunology U G 2
Cellular and molecular properties of the immune system. Prereq: 4000 (509) or 4100 (520). Not open to students with credit for MicrBiol 522.01.

5129 Cellular and Molecular Biology of Pathogenic U G 3
Eukaryotes

5147 Eukaryotic Pathogens U G 3
Cellular biology and molecular aspects of parasitism. Prereq: 4100, or permission of instructor. Not open to students with credit for MicrBiol 629.

5149 Introductory Virology U G 3
Basic principles of virology with discussion of structures; virus-host cell interactions, detection, production, and control; animal bacterial, insect, and plant viruses used as examples. Prereq: 4100 (520). Not open to students with credit for MicrBiol 649.

5150 Microbial Ecology U G 3
A study of microbial functions, interactions and diversity as influenced by biological, chemical, and physical factors in the environment. Prereq: Microbiol 4000 (Mircobiol 509) or 4100 (520). Not open to students with credit for 664.

5155 Environmental Microbiology U G 3
The role of microorganisms and underlying biological principles in elemental cycles and degradation of natural and man-made compounds. Prereq: MicroBio 4000 (509) or 4100 (520). Not open to students with credit for 665.

5161H Bioinformatics and Molecular Microbiology U G 3
Application of computational tools to the analysis of microbial genomes and their gene products. Prereq: Honors standing, and MicroBio 4130 (MicroBio 581.01) or MolGen 4500 (500), and Biochem 4511 (611); or permission of instructor. Not open to students with credit for MicrBiol 610H.

5169 Microbial Evolution U G 3
Evolution and evolutionary ecology of bacteria, viruses, and other microorganisms: mutation, selection, gene exchange, macroevolution, social interactions, coevolution, endosymbioses, emerging virulence, and increasing complexity. Prereq: 6 cr hrs in Biology, or permission of instructor. Not open to students with credit for 5169H (MicroBio 669H).

5169H Microbial Evolution U G 3
Evolution and evolutionary ecology of bacteria, viruses, and other microorganisms: mutation, selection, gene exchange, macroevolution, social interactions, coevolution, endosymbioses, emerging virulence, and increasing complexity. Prereq: Honors standing, and 6 cr hrs of Biology; or permission of instructor. Not open to students with credit for 5169H, or MicrBio 669H or 669H.

5536 Food Microbiology Lecture U G 3
Microorganisms in relation to the production, processing, and handling of food with emphasis on food transmitted pathogens and minimizing public health risks. Prereq: 4000 (509), 4100 (520), or permission of instructor. Not open to students with credit for MicroBio 636.01 or FDSCTE 636.01. Cross-listed in FDSCTE 5536.

5546 Food Microbiology Laboratory U G 3
Laboratory training for determining the microbiological safety and quality of food with emphasis on handling pathogens and observing analyzer's safety. Prereq: 5536 (636.01) or FDSCTE 5536 (636.01). Not open to students with credit for 636.02 or FDSCTE 636.02. Cross-listed in FDSCTE 5546.

5800 Organelle Biology U G 2
Structure and function of plastids and mitochondria, apicoplasts and hydrogenosomes. Prereq: MolGen 4500 (500), 4500E, or 4506 (606), or permission of instructor. Cross-listed in MolGen.

6010 Principles of Microbiology G 2
Principles of Microbiology: research practices, conduct and expectations for graduate students, and an introduction to microbiology through landmark papers in the field. Prereq: Grad standing, or permission of instructor.

6020 Microbial Physiology and Biochemistry G 3
Principles of microbial growth, metabolism, microbial structure and function, regulation of microbial metabolism and an introduction to the diversity of microorganisms. Prereq: Grad standing, or permission of instructor. Not open to students with credit for MicrBio 661 or 720.

6080 Advanced Microbial Genetics G 3
Molecular mechanisms of gene regulation and gene transfer in prokaryotes. Prereq: 4130, or permission of instructor. Not open to students with credit for MicrBio 680.

6193 Individual Studies G 1 - 5
Topics in Microbiology outlined by instructor to meet individual student's needs. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 6 completions. This course is graded S/U.

6798 Research Principles and Techniques in Microbiology G 1 - 6
Research principles and techniques in microbiology for MS and PhD students in microbiology: laboratory rotations. Prereq: Permission of instructor. Repeatable to a maximum of 25 cr hrs or 5 completions. This course is graded S/U.

6798.01 Study Tour at a Foreign Institution G 1 - 18
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of department. Repeatable to a maximum of 36 cr hrs or 2 completions. This course is progress graded (S/U).

6798.02 Study Tour at a Foreign Institution G 1 - 18
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Prereq: Permission of department. Repeatable to a maximum of 36 cr hrs or 2 completions. This course is progress graded (S/U).

7010 Cellular and Molecular Immunology G 3
Cellular and molecular mechanisms of immune response, cell recognition and communication, molecular biology of cell recognition structures, cytokines, and effector mechanisms. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 701 or MVIMG 7010 (701). Cross-listed in MVIMG.

7020 Physiology Meets Pathogenesis G 2
The physiological basis for growth and virulence of microbes in the host. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 702.

7023 Molecular Immunology G 1
Molecular biological properties of antibodies, T-cell receptors, cytokines, complement and MHC. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 723.01.

7050 Fermentation Biotechnology G 3
Fundamentals of modern fermentation technology and industrial microbiology, with emphasis on product formation, culturing techniques, and computer-controlled fermentation. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 750.

7060 Advanced Topics in Microbial Immunology G 2
Specialized metabolic pathways, regulation and control mechanisms, and bacterial biochemistry. Prereq: 6202, or permission of instructor. Not open to students with credit for 760.

7193 Individual Studies G 1 - 5
Enrollment in non-thesis master's program and written permission of instructor. Not open to thesis MS candidates or PhD candidates. Outlined by instructor to meet individual student's needs. Prereq: Permission of instructor. Not open to Plan A thesis MS or PhD candidates. Repeatable to a maximum of 30 cr hrs or 6 completions. This course is graded S/U.
7536  Advanced Food Microbiology I  G  2
Food borne microbes of significance to health and industrial applications, metabolic pathways enabling these organisms survival in the environment and hosts, approaches for studying food-borne microorganisms.
Prereq: 5536 (Micrbiol 636.01) or FdScTe 5536 (636.01), and Microbio 4100 (Micrbiol 520) or permission of instructor. Not open to students with credit for Micrbiol 736 or FdScTe 7536 (736). Cross-listed in FdScTe.

7600  First Year Student Orientation  G  1
Orientation for first-year students in Microbiology and partner graduate programs; lectures on topics important for successful graduate school experience; training in presenting scientific work, training in research ethics.
Prereq: Not open to students with credit for OSBP 7600 (760), MCDBio 7600, MoGen 7600, or Biophys 7600. This course is graded S/U. Cross-listed in Biophys, MCDBio, MoGen, and OSBP.

7724  Molecular Pathogenesis  G  3
In-depth presentation and discussion of the molecular and cellular mechanisms of pathogenesis, emphasizing current research in the field.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 724 or IBGP 7240 (724). Cross-listed in IBGP 7240.

7889  Host-Pathogen Interactions: Research Seminar  G  1
Faculty, students, and outside speakers will give research presentations on microbial-host interactions.
Prereq: Permission of instructor. Not open to students with credit for Micrbiol 795 or IBGP 7950. Repeatable to a maximum of 20 cr hrs. This course is graded S/U. Cross-listed in IBGP 7950.

7899  Microbiology Colloquium  G  1
Microbiology Colloquium.
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

7998  Research in Microbiology  G  1 - 8
Research in microbiology for graduate students prior to completing the Candidacy Examination.
Prereq: Permission of instructor. Not open to students who have passed the Candidacy Examination. Repeatable to a maximum of 60 or hrs or 12 completions. This course is graded S/U.

7999  Research in Microbiology MS Thesis  G  1 - 8
Research in Microbiology toward completion of a MS thesis.
Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 3 completions. This course is graded S/U.

8010  Selected Topics in Advanced Immunology  G  3
Advanced topics in immunology. Students will gain significant insight into immunological concepts of infectious diseases, transplant, cancer, mucosal immunity, allergy, & autoimmunity. Two or three topics discussed in depth, topics alternate yearly.
Prereq: 7010. Repeatable to a maximum of 6 or hrs or 12 completions. This course is graded S/U. Cross-listed in MVIMG 8010.

8032  Advanced Cellular Immunology  G  1
Student presentations of primary literature with emphasis on genetic, biochemical, and cellular aspects of signal transduction by receptors of hematopoietic cells.
Prereq: 7010, or permission of instructor; Not open to students with credit for 832.

8050  The RNA World  G  2
Evolution, structure and function of RNA with topics including RNA catalysis, RNA editing and modification, ribosomes, ribozymes, tRNA, telomerase, tmRNA, and alternative translation strategies.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 850.

8193  Individual Studies  G  1 - 5
Selected topics in microbiology outlined by instructor to meet individual student's needs.
Prereq: Permission of instructor. Not open to MS candidates. Repeatable to a maximum of 30 cr hrs or 6 completions. This course is graded S/U.

8194  Group Studies  G  1 - 5
Group work on special topics in microbial or cellular biology.
Prereq: Permission of instructor. Repeatable to a maximum of 15 or hrs or 3 completions.

8899  Seminar in Microbiology  G  1
Seminar in Microbiology.
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8999  Research in Microbiology  G  1 - 8
Research for doctoral dissertation only.
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

1100.01  Boot Camp Style Physical Fitness Training  U  1
Introduction to U.S. Army "Boot Camp" style physical fitness training. Teamwork and motivation combine with U.S. Army instructors to generate tough, non-nonsense, non-stop mental and physical training.
Au, Sp Sems. Prereq: Students must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

1100.02  Basic Mountaineering Course  U  1
Training in the fundamental knowledge and skills required to successfully conduct basic U.S. Army mountaineering and rappelling. Students must sign waivers provided by the OSU Area Recreation Center (ARC) and the U.S. Army Cadet Command.
Au, Sp Sems. Prereq: Students must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, students must sign waivers provided by the OSU Area Recreation Center (ARC) and the U.S. Army Cadet Command. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

1101  Introduction to Leadership and Military Officerships  Foundations I  U  1
Introduction to the personal challenges and competencies that are critical for effective leadership. Students learn how developing time and stress management skills, and physical fitness relate to leadership and the Army Profession. No military obligation is required. This course is open to all OSU students.
Prereq: All Cadets enrolled in a Military Science course must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: marching, laboratory, and field training exercises.

1102  Introduction to Leadership and Military Officerships  Foundations II  U  1
The organization and branches of the Army, basic military skills, and fundamentals of leadership. Students explore dimensions of leadership values, attributes, skills, and actions in the context of Squad level tactics. No military obligation is required. This course is open to all OSU students.
Prereq: All Cadets enrolled in a Military Science course must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: marching, laboratory, and field training exercises.

2001  Individual Leadership I  U  2
This course is designed to develop individual leadership skills and inspire self-confidence through experiential learning activities, using critical reasoning and problem solving skills, while applying communication and conflict resolution skills.
Prereq: All Cadets enrolled in Military Science courses must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: physical fitness training, laboratory, and field exercise training.

2002  Individual Leadership II  U  2
The course places emphasis on teamwork in developing effective leadership skills, self confidence, critical reasoning, problem solving skills, and applying communication and conflict resolution skills during training exercises.
Prereq: All Cadets enrolled in Military Science courses must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: physical fitness training, laboratory, and field exercise training.

3001  Military Operations at a Small Unit Level I  U  3
This is an academically challenging course where students will study, practice, and apply the fundamentals of Army leadership, Officership, Army values and ethics, personal development, and small unit tactics at the team and squad level.
Prereq: Permission of department chairperson or instructor. This is the first course for the junior and senior level Army ROTC program that leads to a commission as a Second Lieutenant in the U.S. Army. Students pursuing a minor only in Military Science must meet with the Admissions and Scholarship Officer for approval of the Military Science only program.

3002  Military Operations at a Small Unit Level II  U  3
Emphasis on leadership, planning, coordinating, navigating, motivating and leading a team or squad in execution of a tactical mission during a classroom Practical Exercise, a Leadership Lab, or a Situational Training Exercise in a field environment.
Prereq: 3001, or permission of instructor. All Cadets enrolled in Military Science courses must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: physical fitness training, laboratory, and field exercise training.

4001  Developing Adaptive Leaders I  U  3
Practical application of adaptive leadership that transitions the focus of student learning from being trained, mentored and evaluated as an MS III Cadet to learning how to train, mentor and evaluate underclass Cadets.
Prereq: 2002, or permission of chairman. All Cadets enrolled in a Military Science course must have a physician complete a Department of the Army DA Form 345-R, Medical Fitness Statement for Enrollment in Basic Course, Senior ROTC, in order to participate in any Army ROTC physical activity including: marching, laboratory, and field training exercises.
### 344 Military Science

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Molecular and Cellular Biochemistry

3311 Fundamentals of Medical Biochemistry I
Prereq: Chem 1110 (102), 1210 (121), or 1220. Not open to students with credit for 311.

3312 Fundamentals of Medical Biochemistry and Molecular Biology II
A continuation of 3311. Energy production; the chemistry and metabolism of carbohydrates, lipids and amino acids; nucleic acids and protein biosynthesis; integration and control of metabolic pathways, and the biochemistry of body fluids.
Prereq: MolBioC 3311.

4998 Undergraduate Research
Undergraduate research or study in an area of cellular and/or molecular biochemistry under the direction of a department faculty member.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions.

4998H Undergraduate Research for an Honors Program
Undergraduate research or study in an area of cellular and/or molecular biochemistry under the direction of a department faculty member.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

5193 Individual Studies
Qualified students can conduct a minor investigation under the direction of a faculty member.
Prereq: Course work in Biochemistry, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

5733 Human Genetics
The principles of human genetics covering mapping of disease genes, defects causing human disease, the cloning of disease genes, gene therapy, transgenes, and specific pathological mechanisms. Open to seniors who have completed the prerequisites.
Prereq: MolGen 4500 (500) or 4066 (608), or equiv. Not open to students with credit for 733, MolGen 5733 (733), or Pathol 5733 (733). Cross-listed in MolGen and Pathol.

6701 Advanced Biochemistry: Molecular Biology
An advanced treatment of the biochemical principles of gene and genome function.
Prereq: Biochem 5615 and MolGen 4500, or equivs. Concur: MolBiol 6761 or Biochem 6761; or permission of instructor. Not open to students with credit for Biochem 6701, Microbio 6580, 6010, or MolGen 5701. Cross-listed in Biochem.

6761 Advanced Biochemistry: Macromolecular Structure and Function
An advanced treatment of the physical and chemical properties, biological function, and structural biology of proteins and nucleic acids.
Prereq: Biochem 5615 (615), and Chem 4250 (250), 2550 (255) and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 6761 (761 and 766), Chem 761 and 766, or Biochem 6761 (761 and 766). Cross-listed in Biochem.

Modern Greek

345 Modern Greek Literature
Advanced study of specific literary periods, figures, and/or topics, involving extensive reading and discussion of appropriate primary and secondary source materials.
Prereq: 3 cr hrs of MdrnGrk literature at the 5000 level or equiv. Repeatable to a maximum of 9 cr hrs.

5510 Contemporary Greek Prose
Reading and analysis of short stories and novels representative of major developments and trends in Greek prose of the 19th and 20th centuries.
Prereq: 4002. Not open to students with credit for 651.

5520 Contemporary Greek Poetry
Reading and analysis of short and longer poems representative of major developments and trends in Greek poetry of the 19th and 20th centuries.
Prereq: Not open to students with credit for 652.

5797 Study at a Foreign Institution
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs.
Prereq: Permission of dept chairperson. Repeatable to a maximum of 27 cr hrs or 27 completions. This course is progress graded.

8110 Seminar
Advanced study of specific topic, involving extensive reading and discussion of appropriate primary and secondary source materials.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.

8999 Dissertation Research in Modern Greek
Research for dissertation purposes only.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

Molecular Genetics

5210 Studies in Modern Greek Literature
Advanced study of specific literary periods, figures, and/or topics, involving extensive reading and discussion of appropriate primary and secondary source materials.
Prereq: 3 cr hrs of MdrnGrk literature at the 5000 level or equiv. Repeatable to a maximum of 9 cr hrs.

6762 Advanced Biochemistry: Enzymes
An advanced treatment of enzymology and enzyme mechanisms.
Prereq: Biochem 5615 (615), and Chem 2520 (253), 2550 (255), and 4210 (521), or equiv; or permission of instructor. Not open to students with credit for 762, Chem 7622, or Biochem 6762 (762). Cross-listed in Biochem.

6763 Advanced Biochemistry: Membranes and Lipids
An advanced treatment of membranes structure, function and lipids.
Prereq: Biochem 5615, and Chem 2520, 2550, and 4210; or equivs, or permission of instructor. Not open to students with credit for Biochem 6763. Cross-listed in Biochem.

6785 DNA Microarray Technology
Covers the major areas of microarray technology, including theory, target preparation and labeling, manufacturing methods, imaging, and analysis and mining of data. Offered every other year.
Prereq: BioChem 511 or equiv. Not open to students with credit for 785.

6850 Research in Progress Seminars
Seminar presentations from faculty laboratories of ongoing research.
Prereq: Grad standing. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7806 Gene Expression: Transcriptional Control
Intensive study of problems in the general areas of transcriptional control of gene expression.
The course consists of student presentations and class evaluations of recently published results in these fields.
Prereq: 6 cr hrs at Grad level, or permission of instructor. Not open to students with credit for MolGen 880.00. Cross-listed in MolGen 7806.

7807 Gene Expression: Post-Transcriptional Control
Intensive study of problems in the general area of post-transcriptional control of gene expression.
The course consists of student presentations and class evaluations of recently published results in these fields.
Prereq: 6 cr hrs at the Grad level, or permission of instructor. Not open to students with credit for MolGen 880.00. Cross-listed in MolGen and VelBio.

7823 Control of Cell Growth and Proliferation
Role of cell stress response, cytoplasmic signaling molecules, transcription factors and chromatin remodeling complexes in the regulation of cell growth, cell death, and in mechanisms causing cancer. Lectures and student presentations.
Prereq: 1 yr of Grad Biochem, or permission of instructor.

7828 Signaling Pathways and Human Disease
Current concepts of signal transduction and its role in controlling genes involved in various disease states, including cardiovascular diseases, neurological diseases, and cancer.
Prereq: 1 yr of Grad Biochem, or permission of instruction.

7831 Eukaryotic Genome: Structure & Expression
Current research on the structure and expression of genes in higher eukaryotes. Course includes student critiques and presentations of research papers.
Prereq: Biochem 5701 or MolGen 5701 or equiv. Not open to students with credit for 831, MV/MG 831, or MolGen 831.

7840 Practical Macromolecular Crystallography
Practical aspects of using x-ray crystallography to determine the three dimensional structures of macromolecules. Includes use of molecular structuring software.
Prereq: 1 yr of Grad Biochem, or permission of instructor.

9996 Research Not for Dissertation or Thesis Purposes
Research for other purposes than dissertation or thesis in this department. Generally for students in other departments needing research experience or study of a specialized nature.
Prereq: Grad standing. Repeatable to a maximum of 24 cr hrs or 3 completions. This course is graded S/U.

9999 Research in Molecular and Cellular Biochemistry
Research for dissertation or thesis purposes only. Offered all semesters.
Prereq: Grad standing. Repeatable to a maximum of 72 cr hrs or 6 completions. This course is graded S/U.
Molecular Genetics

1101 Introduction to Plant Biology: Plants, People, and the Environment

Plants and their relationships to humans and the biosphere; plant structure and function, growth and development; plant genetics and biotechnology; plant diversity and evolution; practical and economic uses of plants.

Prereq: Not open to students with credit for Biology 1101 (101), 1113 (113), 1113H (115H), 1114 (114), 1114H (116H), PlantBio 101, or 102. This course is available for EM credit. GE nat sci bio course. NS Adms Cond course.

1301 Bridge Course for PCMB 102

This is a bridge course that substitutes for PCMB 102 Introduction to Plant Biology II: Plants, People and the Environment under the quarter system.

Prereq: PlantBio 101. Not open to students with credit for 1101, PlantBio 102, Biology 1101 (101), 1113 (113), 1114 (114), 1113H (115H), or 1114H (116H). This course is available for EM credit. GE nat sci bio course. NS Adms Cond course.

2220H Introduction to Molecular Life Sciences: Research Opportunities and Career Options

Faculty presentations and facility tours to introduce first- and second-year students to research opportunities in molecular life sciences.

Prereq: Honors standing, and Biology 1101 (101), 1113 (113), or 1113H (115H), and 3 additional cr hrs in Biological Sciences; or permission of instructor. Not open to students with credit for 220H.

3300 General Plant Biology

Plant structure and function; growth and development; diversity, reproduction, and evolution of lower and flowering plants; people, the biosphere, and plant diversity.

Prereq: Biology 1101 (101), 1113 (113), or 1113H (115H). Not open to students with credit for PlantBio 300 or HCS 300. GE nat sci bio course.

3436 Introductory Plant Physiology

Topics in plant physiology at the introductory level: diffusion, transpiration, water stress, translocation, photosynthesis, plant growth hormones, tropisms, flowering, and fruit development.

Prereq: Biology 1113 (133), 1113H (115H), 1114 (114), 1114H (116H), and 6 cr hrs in Chem. Not open to students with credit for PlantBio 436, 630, or 631.

4500 General Genetics

The principles of genetics, including molecular genetics, transmission genetics of prokaryotes and eukaryotes, developmental and non-chromosomal genetics, recombinant DNA and genomics, and the genetics and evolution of populations.

Prereq: Biology 1101 (101), 1113 (113), or 1113H (115H), and 3 additional sem cr hrs in Biological Sciences. Not open to students with credit for 4606, 500, 500H, 605, or 606.

4500E General Genetics

The principles of genetics, including molecular genetics, transmission genetics of prokaryotes and eukaryotes, developmental and non-chromosomal genetics, recombinant DNA and genomics, and the genetics and evolution of populations.

Prereq: Biology 1101 (101), 1113 (113), or 1113H (115H), and 3 additional cr hrs in the Biological Sciences. Not open to students with credit for MolGen 4606 (605) and 606, 500, or 500H.

4501 General Genetics Laboratory

MolGen 4501 Laboratory complements the MolGen 4500 lecture course. It provides a laboratory experiences in a wide range of molecular genetic laboratory techniques and approaches, and utilization of relevant genetic model systems.

Prereq: Or concert: 4500 or 4500E, or permission of instructor. Not open to students with credit for 5601 (601) or 5602 (602).

4503 Molecular Genetics Writing Project

Practice in searching, reading, and analyzing literature in molecular genetics, and in written and oral presentation.

Prereq: 4500 (500), 4606, or 605. Not open to students with credit for 503.

4591S DNA Fingerprinting Workshops in Columbus Public Schools

A service learning course whereby undergraduates mentor high school students in molecular biology workshops.

Prereq: MolGen 4500 (500) or 4606 (606). Repeatable to a maximum of 3 or hrs. This course is graded S/U. Cross-listed in Biochem and MicrBio.

4606 Molecular Genetics

A comprehensive genetics course for majors covering transmission and molecular genetics; DNA replication, repair and mutation; transcription and translation; analysis and manipulation of genes at the molecular level.

Prereq: Biology 1113 (113), 1113H (115H), 1114 (114), 1114H (116H), or Chem 1210 (121) or equiv, or permission of instructor. Not open to students with credit for 605 or 606; or 4500 (500) unless waived by instructor.

4998 Undergraduate Research in Molecular Genetics

Undergraduate research in molecular genetics.

Prereq: Permission of instructor. Repeatable to a maximum of 20 or hrs or 8 completions. This course is graded S/U.

4998H Undergraduate Research in Molecular Genetics

Undergraduate research in molecular genetics.

Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 20 or hrs or 8 completions. This course is graded S/U.

4999 Thesis Research in Molecular Genetics

A program of reading and research leading to a senior thesis.

Prereq: Sr standing, and permission of instructor. Repeatable to a maximum of 10 or hrs or 2 completions. This course is graded S/U.

4999H Thesis Research in Molecular Genetics

A program of reading and research leading to a senior honors thesis.

Prereq: Honors standing, and Sr standing, and permission of instructor. Repeatable to a maximum of 10 or hrs or 2 completions. This course is graded S/U.

5193 Individual Studies

Problem may be selected in the fields of molecular genetics, genomics, cell biology, developmental biology and plant sciences.

Prereq: at least 10 credit hours in biological sciences and permission of instructor. Repeatable to a maximum of 10 or hrs or 4 completions. This course is graded S/U.

5194 Group Studies

Group study of special topics in the fields of molecular genetics, genomics, cell biology, developmental biology, and plant sciences.

Prereq: Permission of instructor. Repeatable to a maximum of 8 or hrs or 4 completions.

5601 Eukaryotic Molecular Genetics Lab

Current laboratory techniques used in the genetic, cellular, and molecular analyses of yeast, Drosophila, and other model systems.

Prereq: 4500 (505) or 4606 (606), and Biochem 4511 (511) or equiv, or permission of instructor. Not open to students with credit for 601.

5602 Eukaryotic Cell and Developmental Biology Laboratory

Laboratory course emphasizing techniques and methods central to cell and developmental biology of eukaryotes.

Prereq: 4500 (505) or 4606 (606), and Biochem 4511 (511) or equiv, or permission of instructor. Not open to students with credit for 602.

5607 Cell Biology

Analysis of the structure and function of animal and plant cells and their components.

Prereq: 4500 (505), 4606E, or 4606 (606). Not open to students with credit for 607, 607H, 607E.

5607E Cell Biology

Analysis of the structure and function of animal and plant cells and their components.

Prereq: 4500 (505) or 4606 (606). Not open to students with credit for 5607 (607) or 5607H (607H).

5608 Genes and Development

Analysis of animal and plant development using modern genetic approaches.

Prereq: 4500 (505), 4606E, or 4606 (606). Not open to students with credit for 5608E or 608.

5608E Genes and Development

Analysis of animal and plant development using modern genetic approaches.

Honors Embedded includes a faculty led recitation that explores developmental biology topics from the primary literature.

Prereq: 4500 (505) or 4606 (606). Not open to students with credit for 5607 (607) or 5607H (607H).

5623 Genetics and Genomics

A survey and discussion of genomic studies applied to fungal, animal, or plants systems.

Prereq: 4500 (505), 4606E (606), 5607 (607), or 5608 (608), or Grad standing. Not open to students with credit for PlantBio 623.

5630 Plant Physiology

Advanced study of plant physiology; regulation of plant growth and development, hormones, and stress physiology.

Prereq: 3300, 4500 (500), 4606 (606), PlantBio 300, HCS 300, Biology 1114 (114), 1114H (116H), or permission of instructor. Not open to students with credit for PlantBio 630 or 631.

5632 Insect Molecular Genetics

Structure, genetics, and methodology of insect genes and genomes.

Prereq: 4500 (505) or 4606 (606). Not open to students with credit for Entomol 632 or Entomol 632.

5643 Plant Anatomy

The structure, function, and development of cells, tissues, and organs of vascular plants.

Prereq: 3300, Biology 1114 (114), 1114H (116H), or PlantBio 300, and 10 or hrs in Life Sciences; or permission of instructor. Not open to students with credit for PlantBio 643.

5645 Quantitative, Population, and Evolutionary Genetics

The genetics of populations, including quantitative, population, and evolutionary genetics.

Prereq: 4500 (505) or 4606 (606). Not open to students with credit for 645 or EEB 640.
Analysis and Interpretation of Biological Data  
Methods of analyzing biological data including: sampling, descriptive statistics, distributions, analysis of variance, inference, regression, and correlation. Emphasizes practical applications of statistics in the biological sciences.  
PreReq: Math 1149 or 1150 (150) or equiv, and 10 semester cr hrs at the 3000-level (or 300 level in the quarter system) or above in Agricultural or Biological Sciences. Not open to students with credit for 6550.

Integrated Molecular and Cellular Biology for Non-Biologists  
Overview of molecular and cellular biology of single cells, tissues, organisms and their interactions, including genetics and biochemistry of single cells.  
PreReq: Biology 1101 (101) or equiv, or permission of instructor. Not open to students with credit for 4500 (600), 4606 (606), 6605, 6606, 6601, or Math 5660. Cross-listed in Math.

Frontiers in Life Sciences Research: Genomics, Proteomics, and Bioethics  
As genomes are being sequenced at a rapid pace, students in life sciences need to stay abreast of the tools required to exploit genomic information. Covers the theoretical underpinnings of modern tools used in proteomics, genetics and genomics. Ethical issues associated with the remarkable advances in modern biology will be discussed. Includes videoconferencing with peers in India.  
PreReq: 4500 (500), 4606 (606), Biochem 4511 (511), or 5615 (615). Not open to students with credit for Biochem 5694. This course is graded S/U. NS Admis Cond course. Cross-listed in Biochem.

Systems of Genetic Analysis  
Analysis of select fungal, invertebrate, vertebrate, and plant model systems used in modern experimental genetics.  
PreReq: 4500 (500), 4606 (606), 5607 (607), or 5608 (608), or Grad standing, or permission of instructor. Not open to students with credit for 700.

DNA Transactions and Gene Regulation  
Understanding mechanisms of DNA replication, DNA repair and recombination, transcription, translation, regulation of gene expression, and the experimental approaches to these topics.  
PreReq: 4500 (500), 4606 (606), Biochem 4511 (511), or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for Biochem 5701 (701) or 702. Cross-listed in Biochem.

Advances in Cell Biology  
An advanced study of selected key areas of research in eukaryotic cell biology.  
PreReq: 4500 (500), 4606 (606), 5607 (607), or 5608 (608), or Grad standing, or permission of instructor. Not open to students with credit for 705.

Developmental Genetics  
An advanced study of the regulation of developmentally significant genes and cellular interactions involved in differentiation and pattern formation in invertebrate, vertebrate, and plant model organisms.  
PreReq: 4500 (500), 4606 (606), 5701, 5608 (608), 5607 (607), or 5700, or permission of instructor. Not open to students with credit for 715.

Human Genetics  
The principles of human genetics covering mapping of disease genes, defects causing human disease, the cloning of disease genes, gene therapy, transgenes, and specific pathological disorders.  
PreReq: 4500 (500), 4606 (606), or equiv, and Sr standing; or Grad standing; or permission of instructor. Not open to students with credit for 735. Cross-listed in MolBioC and Pathol.

Plant Biochemistry  
Focus on biochemical processes unique to plants, including photosynthesis, respiration, carbon fixation and carbohydrate metabolic networks, cell wall and lipid synthesis, and nitrogen and sulfur assimilation for macromolecular synthesis.  
PreReq: Biochem 4511 (511), or equiv. Not open to students with credit for PlntBio 735 or 736. Cross-listed in Biochem.

Current Topics in Signal Transduction  
A discussion of signal transduction mechanisms in animal, fungal, and plant systems.  
PreReq: 5607 (607), 5608 (608), 5607E, 5608E, 607H, Biochem 4511 (511) (511), or Grad standing, or permission of instructor. Not open to students with credit for PlntBio 796.

Study at a Foreign Institution  
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.  
PreReq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions. This course is graded S/U.

Study Tour: Domestic  
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.  
PreReq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions. This course is graded S/U.

Organelle Biology  
Structure and function of plastids and mitochondria, apicoplasts and hydrogenosomes.  
PreReq: 4500 (500), 4605E, or 4606 (606), or permission of instructor. Cross-listed in Microbio.
348 Molecular Virology, Immunology, and Medical Genetics

5000 Evolution of Emerging Viruses

Emphasis on the biochemical, molecular, cellular, clinical, epidemiological and etiological aspects of emerging and re-emerging human viruses and unconventional agents and their associated diseases. 2 years in the Biological Sciences is recommended.
Prereq: Biology 101 and Chem 101, or equiv. Not open to students with credit for 600. NS Admins Cond course.

5696 Sexuality, Health and Sexually-Transmitted Pathogens

Examination of aspects pertaining to sexual health and the pathogenic agents transmitted by sexual contact that pose a risk to sexual well being. Basic chemistry, biology, and a general microbiology course are recommended, but not required.

6930 Individual Studies

Individual minor investigation in the field of virology, immunology, microbial pathogenesis or cancer genetics. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

7010 Cellular and Molecular Immunology

Cellular and molecular mechanisms of immune response, cell recognition and communication, molecular biology of cell recognition structures, cytokines, and effector mechanisms.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for MVIMG 701. Cross-listed in Microbio.

7340 Human Cancer Genetics and Epigenetics

Covers classic and recent research papers and topics in human cancer genetics and epigenetics. Students will develop critical analytic and presentation skills by reading, discussing and debating relevant scientific literature and writing essays.
Prereq: IBGP 701, MolGen701, MCDBio 701, or OSBP 701. Repeatable to a maximum of 4 cr hrs. This course is graded S/U. Cross-listed in IBGP, MolGen, and MCDBio.

7470 Fundamentals of Muscle Biology

Team-taught course focusing on the didactic approach to understanding skeletal muscle from the basic structure-function relationship to the molecular mechanisms that underlie muscle diseases and strategies on how to model and treat these pathologies.
Prereq: Not open to students with credit for 747.

7741 Molecular Biology and Pathogenesis of Viruses

An integrated study of the molecular mechanisms of virus replication and host-virus relationships that control virus pathogenesis or use as a therapeutic agent.
Prereq: Grad standing, or permission of instructor. Cross-listed in MolGen and VetBio.

7931 Student Seminar in Molecular Virology, Immunology and Medical Genetics

Student and post-doctoral presentations of research. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8010 Selected Topics in Advanced Immunology

Students will gain significant insight into immunological concepts of infectious diseases, transplant, cancer, mucosal immunity, allergy and autoimmunity. Two or three topics discussed in depth, topics alternate yearly.
Prereq: 7010. Repeatable to a maximum of 6 cr hrs. This course is graded S/U. Cross-listed in Microbio and VetBio.

8040 Mass Spectrometry and Proteomics

An overview of mass spectrometry based proteomics in the biological sciences. Will cover topics related to qualitative and quantitative mass spectrometry.

8142 Current Topics Immunology

Journal club format course discussing immunology from a historical perspective, identifying critical discoveries that provide an understanding of how the immune system functions and how these findings influence our research methods and concepts today.

This course is graded S/U.

8270 Biochemical Mechanisms of Carcinogenesis

Provide students with an overview of fundamental mechanisms leading to cancer. This will be done through review of current and classic literature.
Prereq: Course work in one year of Grad level Biochem, or permission of instructor. Cross-listed in MCDBio 8270.

8310 Current Topics in Human Cancer and Human Genetics

Covers the current literature in the topics of cancer and other human genetic diseases and develop presentation skills relating to topics summarized from the literature.
Prereq: Course work at Grad level equivalent to 1st year Medicine. This course is progress graded (S/U).

8500 Advanced Seminar in Molecular Virology Immunology and Medical Genetics

Advanced seminar topics related to molecular virology, immunology, pathogenesis or genetics. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

8740 Advanced Topics in Molecular Biology of DNA Repair

Graduate level course to highlight advanced topics in molecular biology of DNA repair as it relates to cancer. Mechanisms of DNA repair and DNA damage signaling pathways will be covered. The course will be both didactic and seminar presentations.
Prereq: Grad standing, or permission of instructor.

8845 The History of Immunology

Understand immunology and pertinent research, students must understand its history so to appreciate where the field of immunology started, the progress and discoveries made. MVIMG 7010 is recommended but not required.
This course is graded S/U.

8999 Research in Molecular Virology, Immunology and Medical Genetics

Research for thesis or dissertation purposes only.
Prereq: Grad standing in MVIMG. This course is graded S/U.

Molecular, Cellular, and Developmental Biology

6193 Individual Studies

Individual studies of publications, current research, or research techniques in areas of molecular, cellular, or developmental biology.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

7600 First-Year Student Orientation

Orientation for first-year students in MCDB and partner graduate programs, lectures on topics important for successful graduate experience, training in presenting scientific work, and training in research ethics.
Prereq: Not open to students with credit for Biophys, MolGen, or Microbio 7600, or OSBP 7600 (760). This course is graded S/U. Cross-listed in Biophys, MolGen, OSBP, and Microbio.

7780 MCDB Laboratory Rotations

Laboratory research procedures, literature readings, and discussions to familiarize students with specific research areas.
Prereq: Grad standing in MCDBio. Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

7890 Seminar in Molecular, Cellular, and Developmental Biology

Seminar including students, faculty, and outside invited speakers.
Prereq: Grad standing in MCDBio. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

7891 Presentation in Molecular, Cellular, and Developmental Biology Seminar

Seminar including students, faculty, and outside invited speakers. Taken terms the student is presenting.
Prereq: Grad standing in MCDBio. Repeatable to a maximum of 6 cr hrs.

Music

1021 Elementary Music Theory and Aural Training for Non-Majors

An introduction to the fundamentals of music, music reading, and aural musicianship.
Prereq: Enrollment in non-Music major. Not open to students with credit for 1121 (121).

1101.01 Beginning Piano I - Group Instruction

Group instruction for students who have had no previous piano study.
Prereq: Not open to students with credit for 101.01, or Music majors. VSP Admins Cond course.

1101.02 Beginning Voice I - Group Instruction

Group instruction for students who have had no previous voice study.
Prereq: Not open to Music majors. Repeatable to a maximum of 4 cr hrs or 2 completions.
VSP Admins Cond course.

1101.35 Beginning Guitar I - Group Instruction

Introduction course in guitar for the non-music major. Includes chording, strumming and melodic playing.
Prereq: Not open to Music majors. Repeatable to a maximum of 4 cr hrs. VSP Admins Cond course.

1101.41 Beginning Flute I - Group Instruction

Study of proper technique, standard repertoire, and playing in flute ensemble.
Prereq: Intermediate level flute skills. Not open to Music majors. Repeatable to a maximum of 4 cr hrs. This course is graded S/U. VSP Admins Cond course.

1102.01 Beginning Piano II: Group Instruction

Intermediate course in piano for the non-music major.
Prereq: 1101.01 (101.01). Not open to Music majors. Repeatable to a maximum of 4 cr hrs. VSP Admins Cond course.

1102.02 Beginning Voice II: Group Instruction

Intermediate course in voice for the non-music major.
Prereq: 1101.02 (101.02). Not open to students with credit for 102.02, or Music majors. VSP Admins Cond course.

1102.35 Beginning Guitar II - Group Instruction

Intermediate course in guitar for the non-music major. Includes chording, strumming and melodic playing.
Prereq: 1101.35 (101.37). Not open to Music majors. Repeatable to a maximum of 4 cr hrs. VSP Admins Cond course.
1110.11 Applied Music (Prospective Majors) - Piano
Elementary applied piano course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.12 Applied Music (Prospective Majors) - Jazz Piano
Elementary applied jazz piano course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.21 Applied Music (Prospective Majors) - Voice
Elementary applied voice course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.31 Applied Music (Prospective Majors) - Violin
Elementary applied violin course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.32 Applied Music (Prospective Majors) - Viola
Elementary applied viola course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.33 Applied Music (Prospective Majors) - Cello
Elementary applied cello course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.34 Applied Music (Prospective Majors) - Double Bass
Elementary applied double bass course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.35 Applied Music (Prospective Majors) - Guitar
Elementary applied guitar course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.36 Applied Music (Prospective Majors) - Jazz Bass
Elementary applied jazz bass course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.37 Applied Music (Prospective Majors) - Jazz Guitar
Elementary applied jazz guitar course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.41 Applied Music (Prospective Majors) - Flute
Elementary applied flute course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.42 Applied Music (Prospective Majors) - Oboe
Elementary applied oboe course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.43 Applied Music (Prospective Majors) - Clarinet
Elementary applied clarinet course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.44 Applied Music (Prospective Majors) - Bass Clarinet
Elementary applied bass clarinet course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.45 Applied Music (Prospective Majors) - Saxophone
Elementary applied saxophone course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.46 Applied Music (Prospective Majors) - Bassoon
Elementary applied bassoon course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.47 Applied Music (Prospective Majors) - Jazz Saxophone
Elementary applied jazz saxophone course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.51 Applied Music (Prospective Majors) - Horn
Elementary applied horn course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.52 Applied Music (Prospective Majors) - Trumpet
Elementary applied trumpet course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.53 Applied Music (Prospective Majors) - Trombone
Elementary applied trombone course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.54 Applied Music (Prospective Majors) - Euphonium
Elementary applied euphonium course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.55 Applied Music (Prospective Majors) - Tuba
Elementary applied tuba course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.56 Applied Music (Prospective Majors) - Jazz Trumpet
Elementary applied jazz trumpet course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.57 Applied Music (Prospective Majors) - Jazz Trombone
Elementary applied jazz trombone course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.71 Applied Music (Prospective Majors) - Percussion
Elementary applied percussion course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.72 Applied Music (Prospective Majors) - Jazz Percussion
Elementary applied jazz percussion course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1110.91 Applied Music (Prospective Majors) - Harp
Elementary applied harp course restricted to prospective music majors whose audition scores indicate the need for systematic instruction to prepare for 2201. Prereq: By audition only. Repeatable to a maximum of 4 cr hrs.

1121 Elementary Music Theory and Aural Training
An introduction to the fundamentals of music, music reading, and aural musicianship. Prereq: Not open to students with credit for 121. VSP Admis Cond course.

2021 Music Theory I for Non-Majors
Elements of music and musical notation; analytical concepts and terminology; fundamentals of counterpoint and melody; extensive practice through written drill and creative projects. Prereq: Passing of Theory Placement Exam, and permission of instructor. Not open to music majors.

2022 Music Theory II for Non-Majors
Principles of diatonic harmony, nonchordal melodic elements, and homophonic phrase structures; extensive practice in part-writing, analysis, and creative application. Prereq: 2021, 2221, or 2222, and enrollment in non-Music major. Not open to students with credit for 223.
Applied Music (Secondary): Cello  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music (Secondary): Double Bass  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music (Secondary): Guitar  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music (Secondary): Jazz Bass  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music (Secondary): Jazz Guitar  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music (Secondary): Jazz Saxophone  
Instruction in applied saxophone to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

Applied Music (Secondary): Jazz Trombone  
Instruction in applied jazz trombone to develop musicianship, performance, and knowledge of music literature. Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

Applied Music - Principal - Bass Clarinet  
Instruction in applied bass clarinet to develop musicianship, performance, and knowledge of music literature. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music - Principal - Cello  
Instruction in applied cello to develop musicianship, performance, and knowledge of music literature. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music - Principal - Clarinet  
Instruction in applied oboe to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

Applied Music - Principal - Flute  
Instruction in applied flute to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

Applied Music - Principal - Horn  
Instruction in applied horn to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

Applied Music - Principal - Jazz Bass  
Instruction in applied jazz bass to develop musicianship, performance, and knowledge of music literature. Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

Applied Music - Principal - Jazz Guitar  
Instruction in applied jazz guitar to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

Applied Music - Principal - Piano  
Instruction in applied piano to develop musicianship, performance, and knowledge of music literature. Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

Applied Music - Principal - Violin  
Instruction in applied violin to develop musicianship, performance, and knowledge of music literature. Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

Applied Music - Principal - Viola  
Instruction in applied viola to develop musicianship, performance, and knowledge of music literature. Prereq: Enrollment in Music major. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.

Applied Music - Secondary - Bassoon  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music - Secondary - Bass Clarinet  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music - Secondary - Bassoon  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music - Secondary - Clarinet  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music - Secondary - Clarinet  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music - Secondary - Double Bass  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music - Secondary - Euphonium  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music - Secondary - Flute  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music - Secondary - Guitar  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.

Applied Music - Secondary - Harp  
Fundamental applied music instruction in areas other than a student's major or principal area. Prereq: Enrollment in Music major. Repeatable to a maximum of 12 cr hrs or 12 completions.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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<tbody>
<tr>
<td>2201.46</td>
<td>Applied Music - Principal - Bassoon</td>
<td>U 2</td>
<td>Instruction in applied bassoon to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.</td>
</tr>
<tr>
<td>2201.47</td>
<td>Applied Music - Principal - Jazz Saxophone</td>
<td>U 2</td>
<td>Instruction in applied jazz saxophone to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.</td>
</tr>
<tr>
<td>2201.51</td>
<td>Applied Music - Principal - Horn</td>
<td>U 2</td>
<td>Instruction in applied horn to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.</td>
</tr>
<tr>
<td>2201.52</td>
<td>Applied Music - Principal - Trumpet</td>
<td>U 2</td>
<td>Instruction in applied trumpet to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.</td>
</tr>
<tr>
<td>2201.53</td>
<td>Applied Music - Principal - Trombone</td>
<td>U 2</td>
<td>Instruction in applied trombone to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.</td>
</tr>
<tr>
<td>2201.54</td>
<td>Applied Music - Principal - Euphonium</td>
<td>U 2</td>
<td>Instruction in applied euphonium to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.</td>
</tr>
<tr>
<td>2201.55</td>
<td>Applied Music - Principal - Tuba</td>
<td>U 2</td>
<td>Instruction in applied tuba to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.</td>
</tr>
<tr>
<td>2201.56</td>
<td>Applied Music - Principal - Jazz Trumpet</td>
<td>U 2</td>
<td>Instruction in applied jazz trumpet to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.</td>
</tr>
<tr>
<td>2201.57</td>
<td>Applied Music - Principal - Jazz Trombone</td>
<td>U 2</td>
<td>Instruction in applied jazz trombone to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.</td>
</tr>
<tr>
<td>2201.71</td>
<td>Applied Music - Principal - Percussion</td>
<td>U 2</td>
<td>Instruction in applied percussion to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.</td>
</tr>
<tr>
<td>2201.91</td>
<td>Applied Music - Principal - Harp</td>
<td>U 2</td>
<td>Instruction in applied harp to develop musicianship, performance, and knowledge of music literature. Prereq: Admission to the School of Music by audition. Repeatable to a maximum of 6 cr hrs. This course is available for EM credit.</td>
</tr>
<tr>
<td>2202</td>
<td>Sight-reading for Pianists</td>
<td>U 1</td>
<td>Developing tactile and visual skills at the keyboard, ensemble sight-reading duets, two-piano scores, vocal and instrumental accompanying, transposition, and figured bass realization. Prereq: Enrollment in Performance major with specialization in piano. Repeatable to a maximum of 2 cr hrs.</td>
</tr>
<tr>
<td>2203.01</td>
<td>Chorale</td>
<td>U ½ - 2</td>
<td>A selected group of mixed voices which performs an extensive repertoire in concerts both on and off campus. Prereq: Admission to the School of Music by audition, and permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VPA Admis Cond course.</td>
</tr>
<tr>
<td>2203.02</td>
<td>Symphonic Choir</td>
<td>U ½ - 2</td>
<td>Symphonic Choir is a concert organization whose members perform a variety of literature. Prereq: Admission by audition only. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2203.03</td>
<td>University Chorus</td>
<td>U ½ - 2</td>
<td>Selected choral works are studied and performed. Prereq: Admission by audition only. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2203.04</td>
<td>Men's Glee Club</td>
<td>U ½ - 2</td>
<td>Study and performance of choral literature for men's voices. Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2203.05</td>
<td>Women's Glee Club</td>
<td>U ½ - 2</td>
<td>Study and performance of choral literature for women's voices. Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2203.06</td>
<td>Mastersingers</td>
<td>U ½ - 1</td>
<td>Study and performance of choral literature for small mixed ensemble. Prereq: Admission by audition only. Repeatable to a maximum of 8 cr hrs or 8 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2203.07</td>
<td>Ladies First</td>
<td>U ½ - 1</td>
<td>Study and performance of small ensemble choral literature for women's voices. Prereq: Admission by audition only. Repeatable to a maximum of 8 cr hrs or 8 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2203.08</td>
<td>Statesmen</td>
<td>U ½ - 1</td>
<td>Study and performance of small ensemble choral literature for men's voices. Prereq: Admission by audition only. Repeatable to a maximum of 8 cr hrs or 8 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2204.01</td>
<td>University Wind Symphony</td>
<td>U ½ - 2</td>
<td>Preparation and performance of traditional and contemporary literature for symphonic band. Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2204.02</td>
<td>University Symphonic Band</td>
<td>U ½ - 2</td>
<td>Preparation and performance of traditional and contemporary literature for symphonic band. Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2204.03</td>
<td>Collegiate Winds</td>
<td>U ½ - 2</td>
<td>Preparation and performance of traditional, contemporary, and educational literature for concert band. Prereq: Admission by audition only. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2204.04</td>
<td>University Band</td>
<td>U ½ - 2</td>
<td>Offers students an opportunity to perform symphonic band literature. Prereq: Prior high school instrumental experience; no formal audition required. Repeatable to a maximum of 16 cr hrs or 8 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2205.01</td>
<td>University Marching Band</td>
<td>U ½ - 2</td>
<td>The University Marching Band is a selected group of brass and percussion players that performs at football games, rallies, and concerts during Autumn semester. Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 5 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2205.02</td>
<td>Athletic Band</td>
<td>U ½ - 2</td>
<td>Athletic band provides spirited music for various sporting events (men's and women's basketball, spring football games), as well as several concerts. Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 24 cr hrs or 12 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2206.01</td>
<td>University Jazz Ensemble</td>
<td>U ½ - 2</td>
<td>A select group devoted to arranging, rehearsing, and performing jazz literature with an emphasis on contemporary works. Prereq: Open to all students by audition and/or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VSP Admis Cond course.</td>
</tr>
<tr>
<td>2206.02</td>
<td>Jazz Lab Ensemble</td>
<td>U ½ - 2</td>
<td>An ensemble devoted to the study and performance of music in various styles of jazz. Prereq: Open to students by audition and/or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VPA Admis Cond course.</td>
</tr>
<tr>
<td>2206.03</td>
<td>Jazz Workshop Ensemble</td>
<td>U ½ - 2</td>
<td>An ensemble devoted to the study and performance of music in various jazz, jazz rock, blues, and pop styles. Prereq: Open to students by audition and/or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions. VPA Admis Cond course.</td>
</tr>
</tbody>
</table>
2207.01 University Percussion Ensemble U ½ - 2
A laboratory and performance ensemble whose literature consists of original and transcribed works for percussion instruments alone or with percussion as a dominant feature. Prereq: Enrollment in Music major. Repeatable to a maximum of 20 cr hrs or 10 completions. VSP Admis Cond course.

2207.02 Steel Pan Ensemble U ½ - 1
A laboratory and performance experience on authentic steel pans, concentrating on traditional music of Trinidad, as well as contemporary arrangements. Repeatable to a maximum of 10 cr hrs or 10 completions. VSP Admis Cond course.

2208.01 Small Ensemble: Piano U ½ - 1
Intensive study of ensemble works for piano. Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.

2208.02 Small Ensemble: Voice U ½ - 1
Intensive study of ensemble works for voice. Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.

2208.03 Small Ensemble: Strings U ½ - 1
Intensive study of ensemble works for strings. Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.

2208.04 Small Ensembles: Woodwinds U ½ - 1
Intensive study of ensemble works for woodwinds. Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.

2208.05 Small Ensembles: Brass U ½ - 1
Intensive study of ensemble works for brass. Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.

2208.06 Small Ensembles: Jazz Combos U ½ - 1
Small groups devoted to the study and performance of music in the various jazz combo styles. Prereq: Admission by audition, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

2208.07 Small Ensemble: Percussion U ½ - 1
Intensive study of ensemble works for percussion. Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.

2208.16 Small Ensemble: Gospel Choir U 1
Study and performance of gospel and spiritual choir literature for mixed chorus. Repeatable to a maximum of 10 cr hrs.

2208.20 African Performing Ensemble U ½ - 1
Ensemble dedicated to performing African-derived music. Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.

2208.21 Slavic Performing Ensemble U ½ - 1
Ensemble dedicated to performing Slavic music. Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.

2208.99 Small Ensemble: Miscellaneous U ½ - 1
Intensive study of ensemble works for varied ensembles. Prereq: Admission by audition, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. VSP Admis Cond course.

2209 Jazz Improvisation I U 2
Fundamentals of jazz improvisation; seventh chord structures major, minor, pentatonic and blues scales; jazz patterns and phrasing; analysis and improvisation of blues and II-V progressions. Prereq: 2221. Not open to students with credit for 209. This course is available for EM credit.

2213 First Year Voice Seminar U 1
Introduction to issues and materials related to a career in solo voice performance. Prereq: Open to Music majors only.

2215.01 University Symphony Orchestra U ½ - 2
The University Orchestra is an 85-piece orchestra of full instrumentation devoted to the preparation of standard and modern literature. Prereq: Admission by audition. Repeatable to a maximum of 24 cr hrs or 12 completions. VSP Admis Cond course.

2215.02 First Year Orchestra U ½ - 2
Rehearsal and performance experience for non-music majors who played an orchestral instrument in high school. Prereq: Must have played an orchestral instrument in high school. Not open to Music majors. Repeatable to a maximum of 4 cr hrs or 2 completions. VSP Admis Cond course.

2216.11 Applied Music (Non Major): Piano U 2
Course provides fundamental applied piano instruction in piano for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.12 Applied Music (Non Major): Jazz Piano U 2
Course provides fundamental studio instruction in jazz piano for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.21 Applied Music (Non Major): Voice U 2
Course provides fundamental studio instruction in voice for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.31 Applied Music (Non Major): Violin U 2
Course provides fundamental studio instruction in violin for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.32 Applied Music (Non Major): Viola U 2
Course provides fundamental studio instruction in viola for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.33 Applied Music (Non Major): Cello U 2
Course provides fundamental studio instruction in cello for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.34 Applied Music (Non Major): Double Bass U 2
Course provides fundamental studio instruction in double bass for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.35 Applied Music (Non Major): Guitar U 2
Course provides fundamental studio instruction in classical guitar for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.36 Applied Music (Non Major): Jazz Bass U 2
Course provides fundamental studio instruction in jazz bass for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.37 Applied Music (Non Major): Jazz Guitar U 2
Course provides fundamental studio instruction in jazz guitar for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.41 Applied Music (Non Major): Flute U 2
Course provides fundamental studio instruction in flute for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.42 Applied Music (Non Major): Oboe U 2
Course provides fundamental studio instruction in oboe for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.43 Applied Music (Non Major): Clarinet U 2
Course provides fundamental studio instruction in clarinet for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.44 Applied Music (Non Major): Bass Clarinet U 2
Course provides fundamental studio instruction in bass clarinet for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.45 Applied Music (Non Major): Saxophone U 2
Course provides fundamental studio instruction in saxophone for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.46 Applied Music (Non Major): Bassoon U 2
Course provides fundamental studio instruction in bassoon for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.47 Applied Music (Non Major): Jazz Saxophone U 2
Course provides fundamental studio instruction in jazz saxophone for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.
2216.51 Applied Music (Non Major): Horn
Course provides fundamental studio instruction in horn for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.52 Applied Music (Non Major): Trumpet
Course provides fundamental studio instruction in trumpet for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.53 Applied Music (Non Major): Trombone
Course provides fundamental studio instruction in trombone for non-majors and minors. Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

2216.54 Applied Music - Non Major - Euphonium
Course provides fundamental studio instruction in euphonium for non-majors and minors. Prereq: Enrollment in Music Major, and permission of instructor. Repeatable to a maximum of 16 cr hrs.

2216.55 Applied Music - Non Major - Tuba
Course provides fundamental studio instruction in tuba for non-majors and minors. Prereq: Enrollment in Music Major, and permission of instructor. Repeatable to a maximum of 16 cr hrs.

2216.56 Applied Music - Non Major - Jazz Trumpet
Course provides fundamental studio instruction in jazz trumpet for non-majors and minors. Prereq: Enrollment in Music Major, and permission of instructor. Repeatable to a maximum of 16 cr hrs.

2216.57 Applied Music - Non Major - Jazz Trombone
Course provides fundamental studio instruction in jazz trombone for non-majors and minors. Prereq: Enrollment in Music Major, and permission of instructor. Repeatable to a maximum of 16 cr hrs.

2216.71 Applied Music - Non Major - Percussion
Course provides fundamental studio instruction in percussion for non-majors and minors. Prereq: Enrollment in Music Major, and permission of instructor. Repeatable to a maximum of 16 cr hrs.

2216.72 Applied Music - Non Major - Jazz Percussion
Course provides fundamental studio instruction in jazz percussion for non-majors and minors. Prereq: Enrollment in Music Major, and permission of instructor. Repeatable to a maximum of 16 cr hrs.

2216.91 Applied Music - Non Major - Harp
Course provides fundamental studio instruction in harp for non-majors and minors. Prereq: Enrollment in Music Major, and permission of instructor. Repeatable to a maximum of 16 cr hrs.

2220 Introduction to Music Technology
Introduction to the use of technology in the practice and study of music. Prereq: Open to music majors only, or permission of instructor. Not open to students with credit for 220. This course is available for EM credit.

2221 Music Theory I
Elements of music and musical notation; analytical concepts and terminology; fundamentals of counterpoint and melody; extensive practice through written drill and creative projects. Prereq: Open to Music majors only. Not open to students with credit for 221. This course is available for EM credit.

2222 Music Theory II
Principles of diatonic harmony, nonchordal melodic elements, and homophonic phrase structures; extensive practice in part-writing, analysis, and creative application. Prereq: 2221, 2021, or 222, and enrollment in Music major. Not open to students with credit for 222. This course is available for EM credit.

2224 Aural Training I
Training in aural musicianship and music reading; practical application through solfège, dictation and keyboard drill. Prereq: Passing theory placement test. Not open to students with credit for 224. This course is available for EM credit.

2225 Aural Training II
A continuation of 2224 introducing more challenging diatonic materials. Prereq: 2225 or 2224, and 2221, 2221.01 or 222. Not open to students with credit for 225 and 226. This course is available for EM credit.

2231 Jazz Theory
The forms and compositional techniques of jazz, including chord progression formulas, chord alteration, lead-sheet paraphrasing, counterpoint and bass-line construction, and creative application. Prereq: 2222 and 2225. Not open to students with credit for 231.

2232 Jazz Keyboard Harmony
Designed to provide students with piano skills that directly relate to other jazz areas such as composition, arranging, and improvisation. Prereq: 2231 and 2231.01. Not open to students with credit for 232.

2240 Music History I
The development of western art music from ancient times to 1700. Prereq: Music major, or permission of instructor. Not open to students with credit for 240.

2241 Music History II
The development of European and American art music from 1700 to 1900. Prereq: 2240, and Music major; or permission of instructor. Not open to students with credit for 241.

2242 Music History III
The development of European and American art music in the 20th and 21st centuries. Prereq: 2241, and Music major; or permission of instructor. Not open to students with credit for 242.

2243.01 Music History Transition I: Bridge
The development of European and American art music of the Baroque to early Romantic eras. Prereq: 240, and Music major; or permission of instructor.

2243.02 Music History Transition II: Bridge
The development of European and American art music from the late Romantic era to the 21st century. Prereq: 2243.01, and Music major; or permission of instructor.

2244 African-American Musical Traditions
A study of selective genres and styles of music originating primarily in the African-American experience. Prereq: Not open to students with credit for 244 or AfrAmASt 244. VSP Admis Cond course.

2250 Music Cultures of the World
A survey of musical cultures outside the Western European tradition of the fine arts. Prereq: Not open to students with credit for 250. GE VPA and diversity global studies course. VSP Admis Cond course.

2251 The World of Classical Music
An introduction to the world of classical music and to its genres, composers, styles, societies, and historical periods. No music background is required. Prereq: Not open to students with credit for 251 or Music majors. GE VPA and diversity global studies course. VSP Admis Cond course.

2251E The World of Classical Music
An introduction to the world of classical music and to its genres, composers, styles, societies, and historical periods. No music background is required. Music 2251E is an honors embedded course. Prereq: Honors standing or permission of instructor. Not open to students with credit for 251 or Music majors. GE VPA and diversity global studies course. VSP Admis Cond course.

2252 History of Rock 'n' Roll
The history and culture of rock 'n' roll. Prereq: Not open to students with credit for 252. GE VPA course.

2253 Introduction to Jazz
A study of the characteristics, styles, structures of jazz, and jazz performers. Prereq: Not open to students with credit for 253 or to Music majors. GE VPA course.

2261.01 KeyBoard Skills I
Beginning group piano instruction for music majors. Prereq: Piano major. Conour: 2221. Not open to keyboard majors or students with credit for 261.01. This course is available for EM credit.

2261.03 String Techniques I
Applied music methods and materials for strings. Prereq: Music major. Not open to students with credit for 261.03. This course is available for EM credit.

2261.04 Oboe/Bassoon Techniques
Pedagogical and performance techniques for oboe and bassoon. Prereq: Music major. Not open to students with credit for 261.46 or 261.42. This course is available for EM credit.

2261.07 Percussion Techniques
Percussion instruction for BME majors. Prereq: Music major. Not open to students with credit for 261.07. This course is available for EM credit.
Basic conducting skill development emphasizing pulse, rhythm and physical coordination.
Prereq: Enrollment in Music major. Not open to students with credit for 261.11. This course is available for EM credit.

Basic choral conducting skill development emphasizing pulse, rhythm and physical coordination.
Prereq: Enrollment in Music major. This course is available for EM credit.

Winds, Strings, and Percussion Techniques
Prereq: Music major. Not open to instrumental majors or students with credit for 261.99. This course is available for EM credit.

Intermediate group piano instruction for music majors.
Prereq: 2261.01 (261.01), and Music major. Not open to piano majors or students with credit for 262.01. This course is available for EM credit.

Pedagogical and performance techniques for string instruments.
Prereq: 2261.03, and Music major. Not open to students with credit for 262.03. This course is available for EM credit.

Functional knowledge of wind, strings, and percussion instruments.
Prereq: Music major. Not open to instrumental majors or students with credit for 261.99. This course is available for EM credit.

Intermediate group piano instruction for music majors.
Prereq: 2261.01 (261.01), and Music major. Not open to students with credit for 262.01. This course is available for EM credit.

Pedagogical and performance techniques for flute, clarinet, and saxophone.
Prereq: Music major. Not open to students with credit for 262.04. This course is available for EM credit.

Pedagogical and performance techniques for brass instruments.
Prereq: Music major. Not open to students with credit for 262.05. This course is available for EM credit.

Conducting instruction applied to band, orchestra, and ensemble literature and performance.
Prereq: 2261.11 (261.11), and Music major. Not open to students with credit for 660. This course is available for EM credit.

Conducting instruction applied to choral literature and performance problems.
Prereq: 2261.12, and Music major. Not open to students with credit for 661. This course is available for EM credit.

Conducting instruction applied to orchestral literature and performance.
Prereq: 2261.11 (261.11), and Music major. This course is available for EM credit.

Intermediate group piano instruction for music majors.
Prereq: 2262.01, and Music major. Not open to students with credit for 263.01. This course is available for EM credit.

Vocal pedagogy, anatomy, and physiology of the vocal mechanism.
Prereq: Music major. Not open to students with credit for 263.02. This course is available for EM credit.

Intermediate group piano instruction for music majors.
Prereq: 2263.01, and Music major. Not open to students with credit for 264.01. This course is available for EM credit.

The organization, development, and pedagogy for the applied string instrument studio.
Prereq: 2201, or permission of instructor; Not open to students with credit for 267.

Development of practical skills in identifying and correcting minor repair problems on band and orchestral instruments and their accessories.
Prereq: 2262.04 and 2262.05, or permission of instructor. Not open to students with credit for 268.

An introductory survey of the patterns and practices associated with the intersection of music, commerce, and society from the early 19th century to the present.
Prereq: Not open to students with credit for 271.

Examines the aesthetic and historical evolution of Rhythm and Blues; Black music tradition including Bebop, Rock and Rap and Hip hop redefining American popular culture post WWII.
Prereq: Not open to students with credit for 288 or AfrAm/St 2298 (288). GE VPA and diversity soc div in the US course. Cross-listed in AfrAm/St.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3341</td>
<td>American Popular Music</td>
<td>U 3</td>
<td><strong>Prereq:</strong> English 1110, 1110.01, 1110.02 or 1110.03, or equiv. Not open to students with credit for 2252 (252) or 341. GE VPA course.</td>
<td>Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>3341E</td>
<td>American Popular Music</td>
<td>U 3</td>
<td><strong>Prereq:</strong> English 1110, 1110.01, 1110.02, or 1110.03, or equiv, or permission of instructor. Not open to students with credit for 2252 (252) or 341. GE VPA course.</td>
<td>Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>3342</td>
<td>Introduction to Opera</td>
<td>U 3</td>
<td><strong>Prereq:</strong> English 1110 (110) or 1111 (111). Not open to students with credit for 342. GE VPA course.</td>
<td>Study of selected topics in music history and world music. Repeatable to a maximum of 15 cr hrs. GE VPA course.</td>
</tr>
<tr>
<td>3343</td>
<td>Music, Body and Brain</td>
<td>U 3</td>
<td><strong>Prereq:</strong> English 1110 or equiv. GE VPA course.</td>
<td>Study of selected topics in music. GE VPA course.</td>
</tr>
<tr>
<td>3344</td>
<td>Topics in Music History</td>
<td>U 3</td>
<td><strong>Prereq:</strong> Not open to students with credit for 345.01H. Repeatable to a maximum of 15 cr hrs. GE VPA course.</td>
<td>Study of selected topics in music history and world music. Repeatable to a maximum of 15 cr hrs. GE VPA course.</td>
</tr>
<tr>
<td>3347</td>
<td>From Bach to Beethoven</td>
<td>U 3</td>
<td><strong>Prereq:</strong> English 1110 (110) or 1111 (111). Not open to students with credit for 347. GE VPA course.</td>
<td>Study of selected topics in music history and world music. Repeatable to a maximum of 15 cr hrs. GE VPA course.</td>
</tr>
<tr>
<td>3348</td>
<td>Music on the Move in a Globalized World</td>
<td>U 3</td>
<td><strong>Prereq:</strong> English 1110 (110) or 1111 (111), or equiv. Not open to students with credit for 348. GE VPA and diversity global studies course.</td>
<td>Study of selected topics in music history and world music. Repeatable to a maximum of 15 cr hrs. GE VPA course.</td>
</tr>
<tr>
<td>3349</td>
<td>The Beatles in 20th Century Music</td>
<td>U 3</td>
<td><strong>Prereq:</strong> English 1110 (110) or 1111 (111), or equiv. Not open to students with credit for 349. GE VPA course.</td>
<td>Study of selected topics in music history and world music. Repeatable to a maximum of 15 cr hrs. GE VPA course.</td>
</tr>
<tr>
<td>3350</td>
<td>The British Invasion: Exploring the impact of British</td>
<td>U 3</td>
<td><strong>Prereq:</strong> GPA 3.0 in respective major, and Soph standing or above. GE VPA and education abroad course.</td>
<td>Study of selected topics in music history and world music. Repeatable to a maximum of 15 cr hrs. GE VPA course.</td>
</tr>
<tr>
<td>3351</td>
<td>The World of Music</td>
<td>U 3</td>
<td><strong>Prereq:</strong> Soph standing or above in Music. Not open to students with credit for 2250 or 351.</td>
<td>Study of selected topics in music history and world music. Repeatable to a maximum of 15 cr hrs. GE VPA course.</td>
</tr>
<tr>
<td>3370</td>
<td>Music for Elementary Teachers</td>
<td>U 2</td>
<td><strong>Prereq:</strong> Not open to students with credit for 370.</td>
<td>Study of selected topics in music history and world music. Repeatable to a maximum of 15 cr hrs. GE VPA course.</td>
</tr>
<tr>
<td>3372</td>
<td>Music for Teachers of Young Children</td>
<td>U 2</td>
<td><strong>Prereq:</strong> Not open to students with credit for 372.</td>
<td>Study of selected topics in music history and world music. Repeatable to a maximum of 15 cr hrs. GE VPA course.</td>
</tr>
<tr>
<td>3373</td>
<td>Music for Special Education Teachers</td>
<td>U 2</td>
<td><strong>Prereq:</strong> Jr or Sr standing, and enrollment in Special Education major. Not open to students with credit for 373.</td>
<td>Study of selected topics in music history and world music. Repeatable to a maximum of 15 cr hrs. GE VPA course.</td>
</tr>
<tr>
<td>3401.11</td>
<td>Applied Music - Principal - Piano</td>
<td>U 2</td>
<td><strong>Prereq:</strong> 2201 (201), and enrollment in Music major. Not open to students with credit for 401.11. Repeatable to a maximum of 6 cr hrs.</td>
<td>Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>3401.12</td>
<td>Applied Music - Principal - Jazz Piano</td>
<td>U 2</td>
<td><strong>Prereq:</strong> 2201(201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.</td>
<td>Repeatable to a maximum of 6 cr hrs.</td>
</tr>
</tbody>
</table>

**Course Descriptions:**

- **American Popular Music:** Historical survey of American popular music, with emphasis on the 20th century.
- **Applied Music - Principal - Voice:** Applied voice instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 2201 (201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.
- **Applied Music - Principal - Violin:** Applied violin instruction to develop musicianship, performance, and knowledge of music literature. Prereq: Music 2201 (201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.
- **Applied Music - Principal - Viola:** Applied viola instruction to develop musicianship, performance, and knowledge of music literature. Prereq: Music 2201 (201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.
- **Applied Music - Principal - Cello:** Applied cello instruction to develop musicianship, performance, and knowledge of music literature. Prereq: Music 2201 (201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.
- **Applied Music - Principal - Double Bass:** Applied double bass instruction to develop musicianship, performance, and knowledge of music literature. Prereq: Music 2201 (201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.
- **Applied Music - Principal - Bass Clarinet:** Applied bass clarinet instruction to develop musicianship, performance, and knowledge of music literature. Prereq: Music 2201 (201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.
- **Applied Music - Principal - Bass Guitar:** Applied bass guitar instruction to develop musicianship, performance, and knowledge of music literature. Prereq: Music 2201 (201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.
- **Applied Music - Principal - Bass Clarinet:** Applied bass clarinet instruction to develop musicianship, performance, and knowledge of music literature. Prereq: Music 2201 (201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.
- **Applied Music - Principal - Saxophone:** Applied saxophone instruction to develop musicianship, performance, and knowledge of music literature. Prereq: Music 2201 (201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>3401.51</td>
<td>Applied Music - Principal - Horn</td>
<td>U 2</td>
<td>Applied horn instruction to develop musicianship, performance, and knowledge of music literature.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Prereq: Music 2201 (201), and enrollment in Music major. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>3401.52</td>
<td>Applied Music (Principal): Trumpet</td>
<td>U 2</td>
<td>Applied trumpet instruction to develop musicianship, performance, and knowledge of music literature.</td>
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<tr>
<td></td>
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<td>Prereq: 2201 (201). Open only to music majors. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>3401.53</td>
<td>Applied Music (Principal): Trombone</td>
<td>U 2</td>
<td>Applied trombone instruction to develop musicianship, performance, and knowledge of music literature.</td>
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<td></td>
<td>Prereq: 2201 (201). Open only to music majors. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>3401.54</td>
<td>Applied Music (Principal): Euphonium</td>
<td>U 2</td>
<td>Applied euphonium instruction to develop musicianship, performance, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>3401.55</td>
<td>Applied Music (Principal): Tuba</td>
<td>U 2</td>
<td>Applied tuba instruction to develop musicianship, performance, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>3401.56</td>
<td>Applied Music (Principal): Jazz Trumpet</td>
<td>U 2</td>
<td>Applied jazz trumpet instruction to develop musicianship, performance, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>3401.57</td>
<td>Applied Music (Principal): Jazz Trombone</td>
<td>U 2</td>
<td>Applied jazz trombone instruction to develop musicianship, performance, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>3401.59</td>
<td>Applied Music (Principal): Jazz Percussion</td>
<td>U 2</td>
<td>Applied jazz percussion instruction to develop musicianship, performance, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>3401.91</td>
<td>Applied Music (Principal): Harp</td>
<td>U 2</td>
<td>Applied harp instruction to develop musicianship, performance, and knowledge of music literature.</td>
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<tr>
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<td></td>
<td>Prereq: 2201 (201). Open only to Music majors. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>3402.11</td>
<td>Applied Music (Principal): Piano</td>
<td>U 4</td>
<td>Piano instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>3402.12</td>
<td>Applied Music (Principal): Jazz Piano</td>
<td>U 4</td>
<td>Jazz piano instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Jazz Studies: Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>3402.21</td>
<td>Applied Music (Principal): Voice</td>
<td>U 4</td>
<td>Voice instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.31</td>
<td>Applied Music (Principal): Violin</td>
<td>U 4</td>
<td>Violin instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.32</td>
<td>Applied Music (Principal): Viola</td>
<td>U 4</td>
<td>Viola instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.33</td>
<td>Applied Music (Principal): Cello</td>
<td>U 4</td>
<td>Cello instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.34</td>
<td>Applied Music (Principal): Double Bass</td>
<td>U 4</td>
<td>Double Bass instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.36</td>
<td>Applied Music (Principal): Jazz Bass</td>
<td>U 4</td>
<td>Jazz Bass instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Jazz Studies: Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.37</td>
<td>Applied Music (Principal): Jazz Guitar</td>
<td>U 4</td>
<td>Jazz Guitar instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Jazz Studies: Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>3402.41</td>
<td>Applied Music (Principal): Flute</td>
<td>U 4</td>
<td>Flute instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.42</td>
<td>Applied Music (Principal): Oboe</td>
<td>U 4</td>
<td>Oboe instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.43</td>
<td>Applied Music (Principal): Clarinet</td>
<td>U 4</td>
<td>Clarinet instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.44</td>
<td>Applied Music (Principal): Bass Clarinet</td>
<td>U 4</td>
<td>Bass Clarinet instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.45</td>
<td>Applied Music (Principal): Saxophone</td>
<td>U 4</td>
<td>Saxophone instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.46</td>
<td>Applied Music (Principal): Bassoon</td>
<td>U 4</td>
<td>Bassoon instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3402.47</td>
<td>Applied Music (Principal): Jazz Saxophone</td>
<td>U 4</td>
<td>Jazz Saxophone instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td></td>
<td>Prereq: 2201 (201). Open only to BM in Jazz Studies: Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>3402.51</td>
<td>Applied Music (Principal): Horn</td>
<td>U 4</td>
<td>Horn instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
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<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>3402.52</td>
<td>Applied Music (Principal): Trumpet</td>
<td>U 4</td>
<td>Trumpet instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
</tr>
<tr>
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<td></td>
<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>3402.53</td>
<td>Applied Music (Principal): Trombone</td>
<td>U 4</td>
<td>Trombone instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
</tr>
<tr>
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<td></td>
<td></td>
<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>3402.54</td>
<td>Applied Music (Principal): Euphonium</td>
<td>U 4</td>
<td>Euphonium instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
</tbody>
</table>
Applied Music (Principal): Tuba

Tuba instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Jazz Trumpet

Jazz trumpet instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.
Prereq: 2201 (201). Open only to BM in Jazz Studies: Performance majors. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Jazz Trombone

Jazz trombone instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.
Prereq: 2201 (201). Open only to BM in Jazz Studies: Performance majors. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Percussion

Percussion instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Jazz Percussion

Jazz percussion instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.
Prereq: 2201 (201). Open only to BM in Jazz Studies: Performance majors. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Harp

Harp instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Piano

Applied piano instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music majors only. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Jazz Piano

Applied jazz piano instruction in the BA curriculum to develop musicianship, performance and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Voice

Applied voice instruction in the BA curriculum to develop musicianship, performance and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Violin

Applied violin instruction in the BA curriculum to develop musicianship, performance and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Viola

Applied viola instruction in the BA curriculum to develop musicianship, performance and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Cello

Applied cello instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Double Bass

Applied double bass instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Bass Clarinet

Applied bass clarinet instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Bassoon

Applied bassoon instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Trumpet

Applied trumpet instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music (Principal): Horn

Applied horn instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Trumpet

Applied trumpet instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Euphonium

Applied euphonium instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Bass Clarinet

Applied bass clarinet instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Harp

Harp instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Tuba

Tuba instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Violin

Applied violin instruction in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music majors only. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Cello

Applied cello instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Double Bass

Applied double bass instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Bassoon

Applied bassoon instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Trumpet

Applied trumpet instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Horn

Applied horn instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Harp

Harp instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Tuba

Tuba instruction to develop professional qualities of musicianship, technique, and knowledge of music literature.
Prereq: 2201 (201). Open only to BM in Performance majors. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Violin

Applied violin instruction in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music majors only. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Cello

Applied cello instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.

Applied Music - Principal - Double Bass

Applied double bass instruction required in the BA curriculum to develop musicianship, performance, and knowledge of music literature.
Prereq: 2201 (201). Open to BA in Music students only. Repeatable to a maximum of 12 cr hrs.
### Music

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>3403.72</td>
<td>Applied Music - Principal - Jazz Percussion</td>
<td>U 2</td>
<td></td>
<td>Applied jazz percussion instruction in the BA curriculum to develop musicianship, performance and knowledge of music literature. Prereq: 2201 (201), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>3403.91</td>
<td>Applied Music - Principal - Harp</td>
<td>U 2</td>
<td></td>
<td>Applied harp instruction in the BA curriculum to develop musicianship, performance and knowledge of music literature. Prereq: 2201 (201), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>3421</td>
<td>Music Theory III</td>
<td>U 2</td>
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<td>Principles of 18th- and 19th-century chromatic harmony and modulation; extensive practice in part-writing, analysis, and creative application. Prereq: 2222, and enrollment in Music major. Not open to students with credit for 421.</td>
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<tr>
<td>3422</td>
<td>Music Theory IV</td>
<td>U 2</td>
<td></td>
<td>Introduction to the study of the structural principles and forms of homophonic music; Extensive practice through written drill, analysis and creative projects; composition techniques in 20th century music. Prereq: 3421, and enrollment in Music major. Not open to students with credit for 422.</td>
</tr>
<tr>
<td>3424</td>
<td>Aural Training III</td>
<td>U 2</td>
<td></td>
<td>Intensive training in aural musicianship and music reading; practical application through solfège, dictation, and keyboard drill. Prereq: 2225. Not open to students with credit for 425.</td>
</tr>
<tr>
<td>3425</td>
<td>Aural Training IV</td>
<td>U 2</td>
<td></td>
<td>Advanced training in aural musicianship and music reading; practical application through solfège, dictation, and keyboard drill. Prereq: 3424. Not open to students with credit for 425.</td>
</tr>
<tr>
<td>3427</td>
<td>Keyboard Harmony I</td>
<td>U 2</td>
<td></td>
<td>Systematic review and utilization of basic harmonic materials at the keyboard. Prereq: 3422. Not open to students with credit for 427.</td>
</tr>
<tr>
<td>3428</td>
<td>Keyboard Harmony II</td>
<td>U 2</td>
<td></td>
<td>Introduction and practical experience at score reading at the keyboard. Prereq: 3427. Not open to students with credit for 428.</td>
</tr>
<tr>
<td>3431</td>
<td>Protest in American Music</td>
<td>U 3</td>
<td></td>
<td>Examines the relationship between and among music, media technologies, and both mass and social media from musical, textual, political, economic and social perspectives. Prereq: Not open to students with credit for 431.</td>
</tr>
<tr>
<td>3432</td>
<td>Spectacle: Music and Public Amusements in America</td>
<td>U 3</td>
<td></td>
<td>Examines the relationship between public amusements and music essential to understanding American entertainment and commerce, the changing character of leisure, and the evolving American identity. Prereq: 2222. Not open to students with credit for 432.</td>
</tr>
<tr>
<td>3433</td>
<td>Scoring for Small Jazz Ensembles</td>
<td>U 2</td>
<td></td>
<td>Scoring projects for jazz combos of various sizes and instrumentation. Prereq: 3422. Not open to students with credit for 433.02.</td>
</tr>
<tr>
<td>3434</td>
<td>Scoring for Large Jazz Ensembles</td>
<td>U 2</td>
<td></td>
<td>Scoring projects for the stage band, with concentration on voicing, ranges, doublings, balance, and notational procedures. Prereq: 3433. Not open to students with credit for 433.03.</td>
</tr>
<tr>
<td>3446</td>
<td>Jazz Styles and Analysis</td>
<td>U 3</td>
<td></td>
<td>Stylistic variants of jazz involving technical and structural aspects so that the student may recognize, play, and score them authentically. Prereq: Permission of instructor. Not open to students with credit for 446.</td>
</tr>
<tr>
<td>3578</td>
<td>Introduction to General Music in Grades K-8</td>
<td>U 2</td>
<td></td>
<td>Functional music making and introduction to K-8 methods. Prereq: Not open to students with credit for 578.</td>
</tr>
<tr>
<td>4193</td>
<td>Individual Studies</td>
<td>U 1 - 3</td>
<td></td>
<td>Independent study on a special problem or topic in music. Prereq: Permission of instructor. Open to Music majors only. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4194</td>
<td>Group Studies</td>
<td>U 1 - 3</td>
<td></td>
<td>Group study of various topics in music. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.</td>
</tr>
<tr>
<td>4500.01</td>
<td>Review of Music Analysis Techniques</td>
<td>U 2</td>
<td></td>
<td>Review of selected music topics; intended for beginning graduate students in music. Prereq: Grad standing, or permission of instructor for undergrads. Repeatable to a maximum of 4 cr hrs.</td>
</tr>
<tr>
<td>4500.02</td>
<td>Review of Music History</td>
<td>U 2</td>
<td></td>
<td>Review of selected music topics; intended for beginning graduate students in music. Prereq: Grad standing, or permission of instructor for undergrads. Repeatable to a maximum of 4 cr hrs.</td>
</tr>
<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Units</td>
<td>Prerequisites</td>
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<tr>
<td>4501.52</td>
<td>Applied Music - Principal - Trumpet</td>
<td>U 2</td>
<td>Applied trumpet instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4501.53</td>
<td>Applied Music - Principal - Trombone</td>
<td>U 2</td>
<td>Applied trombone instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4501.54</td>
<td>Applied Music - Principal - Euphonium</td>
<td>U 2</td>
<td>Applied euphonium instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4501.55</td>
<td>Applied Music - Principal - Tuba</td>
<td>U 2</td>
<td>Applied tuba instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4501.56</td>
<td>Applied Music - Principal - Jazz Trumpet</td>
<td>U 2</td>
<td>Applied jazz trumpet instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4501.57</td>
<td>Applied Music - Principal - Jazz Trombone</td>
<td>U 2</td>
<td>Applied jazz trombone instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4501.58</td>
<td>Applied Music - Principal - Percussion</td>
<td>U 2</td>
<td>Applied percussion instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4501.59</td>
<td>Applied Music - Principal - Jazz Percussion</td>
<td>U 2</td>
<td>Applied jazz percussion instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4501.91</td>
<td>Applied Music - Principal - Harp</td>
<td>U 2</td>
<td>Applied harp instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3401 (401), and enrollment in BA in Music. Repeatable to a maximum of 6 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4502.11</td>
<td>Applied Music - Principal - Piano</td>
<td>U 4</td>
<td>Applied piano instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4502.12</td>
<td>Applied Music - Principal - Jazz Piano</td>
<td>U 4</td>
<td>Applied piano instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4502.21</td>
<td>Applied Music - Principal - Voice</td>
<td>U 4</td>
<td>Applied voice instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4502.31</td>
<td>Applied Music - Principal - Violin</td>
<td>U 4</td>
<td>Applied violin instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4502.32</td>
<td>Applied Music - Principal - Viola</td>
<td>U 4</td>
<td>Applied viola instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4502.33</td>
<td>Applied Music - Principal - Cello</td>
<td>U 4</td>
<td>Applied cello instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4502.34</td>
<td>Applied Music - Principal - Double Bass</td>
<td>U 4</td>
<td>Applied double bass instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4502.36</td>
<td>Applied Music - Principal - Jazz Bass</td>
<td>U 4</td>
<td>Applied jazz bass instruction to develop musicianship, performance, and knowledge of music literature. Prereq: 3402 (402), and enrollment in BA in Music. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
</tbody>
</table>
360 Music

4502.91 Applied Music (Principal): Harp  U  4
Applied harp instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 3402 (402). Open only to Music majors. Repeatable to a maximum of 12 cr hrs.

4505 Junior Recital  U  0
Required junior recital for the Bachelor of Music and Bachelor of Music Education degrees.
Prereq: 4501 and 4502. Repeatable to a maximum of 4 completions. This course is graded S/U.

4510 Jazz Improvisation III  U  2
Advanced techniques of improvisation; the use of modal devices, complex meters, and innovative forms; concern for speed, endurance, energy levels, and problems of unaccompanied performance.
Prereq: 3210. Not open to students with credit for 510.

4524 Orchestration I  U  2
A fundamental course in scoring for the instruments of the orchestra and band in transcriptions and arrangements.
Prereq: 3422. Not open to students with credit for 524.

4531 Elementary Studies in Counterpoint  U  2
A fundamental course in counterpoint including study of the basic principles of 16th-century polyphony.
Prereq: 3422. Not open to students with credit for 531.

4533 Jazz Composition  U  3
Designed to develop the skills necessary for composing/arranging for small, mixed, and large jazz ensembles.
Prereq: 3434. Not open to students with credit for 533.

4555 Composition I  U  2
A fundamental course in composition, with emphasis on creative writing in the small forms.
Prereq: 3422. Not open to students with credit for 555.

4555.01 Studies in Musicology: Music Before 1600  U  3
Introduction to specialized topics and issues in historical musicology and ethnomusicology.
Prereq: Admission to BM in Musicology, or permission of instructor.

4555.02 Studies in Musicology: Music from 1600 to 1800  U  3
Introduction to specialized topics and issues in historical musicology and ethnomusicology.
Prereq: Admission to BM in Musicology, or permission of instructor.

4555.03 Studies in Musicology: Music from 1800 to the Present  U  3
Introduction to specialized topics and issues in historical musicology and ethnomusicology.
Prereq: Admission to BM in Musicology, or permission of instructor.

4555.04 Studies in Musicology: Russian Art Music  U  3
Introduction to specialized topics and issues in historical musicology and ethnomusicology.
Prereq: Admission to BM in Musicology, or permission of instructor.

4555.05 Studies in Musicology: Music’s Meanings  U  2 - 3
A variety of approaches to how music conveys meaning, focusing in particular on the capacity of music to allude to other aspects of human experience, such as dance, storytelling, drama, and visual imagery.
Prereq: Admission to BM in Musicology, or permission of instructor.

4555.06 Studies in Musicology: Music Research Methods and Bibliography  U  3
Survey of the methods and materials for conducting research projects in today’s interdisciplinary computerized environment.
Prereq: Admission to BM in Musicology, or permission of instructor.

4555.07 Studies in Musicology: Introduction to Ethnomusicology  U  2
Introduces students to the development, major topics, and methods in the field of ethnomusicology.
Prereq: Admission to BM in Musicology, or permission of instructor.

4555.08 African Music: Ideas Forms and Trajectories  U  3
Introduction to specialized topics and issues in historical musicology and ethnomusicology.
Prereq: Admission to BM in Musicology, or permission of instructor.

4555.09 Studies in Musicology: Chinese Music  U  3
This course is an introduction to the history, theory and practice of Chinese music, with special reference to the socio-cultural conditions of its development.
Prereq: Admission to BM in Musicology, or permission of instructor.

4555.10 Studies in Musicology: Music of the Arabic and Indian Traditions  U  3
An introduction to the history, theory and practice of Arabic and Indian music, with special reference to the socio-cultural conditions of their development and their historical connections.
Prereq: Admission to BM in Musicology, or permission of instructor.

4555.11 Studies in Musicology: Cognitive Ethnomusicology  U  3
This course is an introduction to cognitive approaches in ethnomusicology, their historic and current developments, and their position between anthropological and cognitive sciences.
Prereq: Admission to BM in Musicology, or permission of instructor.

4566 Jazz Pedagogy  U  2
Organization and operation of the public school jazz ensemble.
Prereq: Not open to students with credit for 566.

4572 Teaching General Music in Secondary Schools  U  2
The role of music in adolescents’ general education and the development of competencies essential to teaching.
Prereq: Professional standing in Music Education. Not open to students with credit for 572.

4574 Teaching Choral Music I  U  2
Comprehensive choral music education, rehearsal techniques, and concert preparation.
Prereq: Professional standing in Music Education. Not open to students with credit for 574.

4575 Teaching Choral Music II  U  2
Curriculum planning for elementary through high school choirs, ethical and social issues, and survey of OMEA and world choral music repertoire.
Prereq: Professional standing in Music Education. Not open to students with credit for 575.

4576 Teaching Instrumental Music in Elementary and Middle Schools  U  2
The role of instrumental music instruction in education, techniques of teaching instrumental music, study of music appropriate to musical organizations in elementary and middle schools.
Prereq: 2261.03 (261.03), 2261.04 (261.42 and 261.46), 2261.07 (261.07), 2262.03 (262.03),
2262.04 (262.04), and 2262.05 (262.05), and professional standing in Music Education.
Not open to students with credit for 576.

4577 Teaching Instrumental Music in Secondary Schools  U  2
The role of instrumental music instruction in public education, techniques of teaching instrumental music, study of music appropriate to musical organizations in secondary schools.
Prereq: 2261.03 (261.03), 2261.04 (261.42 and 261.46), 2261.07 (261.07), 2262.03 (262.03),
2262.04 (262.04), and 2262.05 (262.05), and professional standing in Music Education.
Not open to students with credit for 576.

4579 Teaching General Music in Elementary Schools II: Planning and Practicum  U  2
A study of Kodaly and intermediate Orff methodologies; the planning and implementation of musical experiences for children in elementary schools.
Prereq: Professional standing in Music Education. Not open to students with credit for 579.

4586 Student Teaching in Music in Elementary Schools  U  6
Assignment to area elementary schools for teaching observations.
Prereq: Professional standing in Music Education. Repeatable to a maximum of 12 cr hrs.
This course is graded S/U.

4587 Student Teaching in Music in Secondary Schools  U  6
Assignment to area secondary schools for observation.
Prereq: Professional standing in Music Education. Repeatable to a maximum of 12 cr hrs.
This course is graded S/U.

4601.11 Applied Music (Principal): Piano  U  2
Advanced piano instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open to BME majors only. Repeatable to a maximum of 8 cr hrs.

4601.12 Applied Music (Principal): Jazz Piano  U  2
Advanced jazz piano instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501), and enrollment in BM major. Repeatable to a maximum of 8 cr hrs.

4601.21 Applied Music (Principal): Voice  U  2
Advanced voice instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors only. Repeatable to a maximum of 8 cr hrs.

4601.31 Applied Music (Principal): Violin  U  2
Advanced violin instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.32 Applied Music (Principal): Viola  U  2
Advanced viola instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.
4601.33 Applied Music (Principal): Cello
Advanced cello instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.34 Applied Music (Principal): Double Bass
Advanced double bass instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.35 Applied Music (Principal): Guitar
Advanced guitar instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.36 Applied Music (Principal): Bass
Advanced bass instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.37 Applied Music (Principal): Jazz Guitar
Advanced jazz guitar instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.41 Applied Music (Principal): Flute
Advanced flute instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.42 Applied Music (Principal): Oboe
Advanced oboe instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.43 Applied Music (Principal): Clarinet
Advanced clarinet instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.44 Applied Music (Principal): Bass Clarinet
Advanced bass clarinet instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.45 Applied Music (Principal): Saxophone
Advanced saxophone instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.46 Applied Music (Principal): Bassoon
Advanced bassoon instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.47 Applied Music (Principal): Jazz Saxophone
Advanced jazz saxophone instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.51 Applied Music (Principal): Horn
Advanced horn instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.52 Applied Music (Principal): Trumpet
Advanced trumpet instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.53 Applied Music (Principal): Trombone
Advanced trombone instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.54 Applied Music (Principal): Euphonium
Advanced euphonium instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501), and enrollment in Music Education major. Repeatable to a maximum of 8 cr hrs.

4601.55 Applied Music (Principal): Tuba
Advanced tuba instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.56 Applied Music (Principal): Jazz Trumpet
Advanced jazz trumpet instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.57 Applied Music (Principal): Jazz Trombone
Advanced jazz trombone instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.71 Applied Music (Principal): Percussion
Advanced percussion instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4601.91 Applied Music (Principal): Harp
Advanced harp instruction to develop musicianship, performance, and knowledge of music literature.
Prereq: 4501 (501). Open only to BME majors. Repeatable to a maximum of 8 cr hrs.

4602.11 Applied Music (Principal): Piano
Advanced piano instruction to develop professional qualities of musicianship, technique, and literature.
Prereq: 4502 (502). Open to BM majors only. Repeatable to a maximum of 12 cr hrs.

4602.12 Applied Music - Principal - Jazz Piano
Advanced jazz piano instruction to develop professional qualities of musicianship, technique, and literature.
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.21 Applied Music - Principal - Voice
Advanced voice instruction to develop professional qualities of musicianship, technique, and literature.
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.31 Applied Music - Principal - Violin
Advanced violin instruction to develop professional qualities of musicianship, technique and literature.
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.32 Applied Music - Principal - Viola
Advanced viola instruction to develop professional qualities of musicianship, technique and literature.
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.33 Applied Music - Principal - Cello
Advanced cello instruction to develop professional qualities of musicianship, technique and literature.
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.34 Applied Music - Principal - Double Bass
Advanced double bass instruction to develop professional qualities of musicianship, technique and literature.
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.36 Applied Music - Principal - Jazz Bass
Advanced jazz bass instruction to develop professional qualities of musicianship, technique, and literature.
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.37 Applied Music (Principal): Jazz Guitar
Advanced jazz guitar instruction to develop professional qualities of musicianship, technique and literature.
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.41 Applied Music - Principal - Flute
Advanced flute instruction to develop professional qualities of musicianship, technique and literature.
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.42 Applied Music - Principal - Oboe
Advanced oboe instruction to develop professional qualities of musicianship, technique and literature.
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.43 Applied Music - Principal - Clarinet
Advanced clarinet instruction to develop professional qualities of musicianship, technique and literature.
Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.
4602.44 Applied Music - Principal - Bass Clarinet  U  4
Advanced bass clarinet instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.45 Applied Music - Principal - Saxophone  U  4
Advanced saxophone instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.46 Applied Music - Principal - Bassoon  U  4
Advanced bassoon instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.47 Applied Music - Principal - Jazz Saxophone  U  4
Advanced jazz saxophone instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.51 Applied Music - Principal - Horn  U  4
Advanced horn instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.52 Applied Music - Principal - Trumpet  U  4
Advanced trumpet instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.53 Applied Music - Principal - Trombone  U  4
Advanced trombone instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.54 Applied Music - Principal - Euphonium  U  4
Advanced euphonium instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.55 Applied Music - Principal - Tuba  U  4
Advanced tuba instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.56 Applied Music - Principal - Jazz Trumpet  U  4
Advanced jazz trumpet instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.57 Applied Music - Principal - Jazz Trombone  U  4
Advanced jazz trombone instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.71 Applied Music - Principal - Percussion  U  4
Advanced percussion instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.72 Applied Music - Principal - Jazz Percussion  U  4
Advanced jazz percussion instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4602.91 Applied Music - Principal - Harp  U  4
Advanced harp instruction to develop professional qualities of musicianship, technique, and literature. Prereq: 4502 (502), and enrollment in BM major. Repeatable to a maximum of 12 cr hrs.

4605 Senior Recital  U  6
Required senior recital for the Bachelor of Music in Performance degree. Prereq: 4602. Repeatable to a maximum of 4 completions. This course is graded S/U.

4611 Piano Pedagogy I  U  3
An analysis of teaching techniques and materials for individual and group instruction in piano with an emphasis on the elementary and intermediate levels. Prereq: 4501.11 (501.11), or permission of instructor. Not open to students with credit for 611.

4679.01 Music Theory Senior Project  U  2
Preparation of senior paper and presentation of paper. Prereq: Music Theory major, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4679.02 Composition Senior Project  U  2
Preparation of senior composition and half recital of student's composition. Prereq: Music Composition major, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4679.03 Senior Composition Project: Jazz Studies  U  2
Preparation of senior composition and half recital of student's composition. Prereq: Jazz Composition major, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4679.04 Senior Thesis: Musicology  U  2
Preparation of senior thesis paper, or presentation of senior thesis. Prereq: Musicology major, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4679.05 Senior Pedagogy Project  U  2
Senior project in Music Pedagogy. Prereq: Enrollment in a performance major, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4699 Undergraduate Scholarship: Research and Creative Activity in Music  U  1 - 12
Undergraduate research or creative activities in varying topics. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 4 completions. This course is graded S/U.

4699H Honors Undergraduate Scholarship: Research and Creative Activity in Music  U  1 - 12
Honors undergraduate scholarship: Research and Creative Activity in Music. Honors Standing, and permission of instructor. Repeatable to a maximum of 24 cr hrs or 4 completions.

4895 Seminar in Music  U  1 - 3
Colloquia, workshops, and special topics seminars in music. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.

4998 Undergraduate Research Non-Thesis  U  1 - 5
Research projects determined by instructor. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions. This course is graded S/U.

4999 Undergraduate Research Thesis  U  1 - 5
Research projects determined by thesis subject. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions.

4999H Honors Undergraduate Research Thesis  U  1 - 5
Research projects determined by thesis subject. Prereq: Honors Standing, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions.

5177 Alexander Technique  U  G  1 - 2
The relationship of kinesesthetic perception and the postural reflexes to physical coordination in performance. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. Cross-listed in Dance and Theatre.

5187 Advanced Alexander Technique  U  G  1 - 2
Advanced study in Alexander Technique. Prereq: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions.

5184 Group Studies  U  G  1 - 3
Group study of various topics in music. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

5313 Opera Chorus  U  G  3
A selected group of mixed voices which rehearses and performs selected operatic repertoire in conjunction with the OSU Opera. Instruction and experience in preparation for opera performance, including study of operatic choral literature. Prereq: Audition and permission of the Director of Opera or the Director of Choral Activities. Repeatable to a maximum of 15 cr hrs.

5415 Diction for Choral Music Educators  U  G  2
Offers a survey of lyric diction to acquaint future singers, teachers, and choral conductors with basic concepts and skills for the English, German, French, Latin, and Italian languages. Students will review the rules and symbols of the International Phonetic Alphabet (IPA). Prereq: Open to music education majors and graduate choral conducting students.

5591 Career Development in Music  U  G  3
Survey of music marketplace, opportunities, and career strategies. Prereq: Open to music majors only. Not open to students with credit for 591.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Title</th>
<th>Credits</th>
<th>Type</th>
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</thead>
<tbody>
<tr>
<td>5603.01</td>
<td>Topics in Percussion: Instrument Repair and Logistics</td>
<td>U G 2</td>
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<tr>
<td></td>
<td>Study of the numerous ways to repair various percussion instruments.</td>
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<td>Types of instruments and their manufacturers.</td>
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<td></td>
<td>Prereq: Enrollment in Music major with a specialization in percussion.</td>
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<tr>
<td>5603.02</td>
<td>Drum Set: Technique, Styles and History</td>
<td>U G 2</td>
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<td></td>
<td>Explore and obtain performance skills, concepts and historical knowledge pertaining to the drum set.</td>
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<td></td>
<td>Prereq: Enrollment in Music major with a specialization in classical percussion.</td>
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<tr>
<td>5603.03</td>
<td>Hand Drumming: Global Percussion</td>
<td>U G 2</td>
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<td></td>
<td>Explore and obtain basic performance skills and concepts with various hand drumming techniques from around the world.</td>
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<td></td>
<td>Prereq: Enrollment in Music major with a specialization in classical percussion.</td>
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<tr>
<td>5607</td>
<td>Performance Enhancement I</td>
<td>U G 1</td>
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<td></td>
<td>Skills and techniques designed to enhance the quality of public performances. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.</td>
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<tr>
<td>5608</td>
<td>Performance Enhancement II</td>
<td>U G 1</td>
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<tr>
<td></td>
<td>Advanced skills and techniques designed to enhance the quality of public performances.</td>
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<td></td>
<td>Prereq: 5607 (607), or permission of instructor. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.</td>
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<td>5620</td>
<td>Extended Tonality from Wagner to Hindemith: Theory and Analysis</td>
<td>U G 2</td>
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<td></td>
<td>Systematic analytic observation of tonal art music from the last decades of the nineteenth century to World War II.</td>
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<td>Prereq: 3422. Not open to students with credit for 620.</td>
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<tr>
<td>5621</td>
<td>Theory and Analysis: 17th-18th Centuries</td>
<td>U G 2</td>
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<td></td>
<td>Analysis of representative works from the 17th-18th century, introducing relevant theoretical concepts.</td>
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<td>Prereq: 3422, or a score in the upper third on the graduate placement exam. Not open to students with credit for 621.</td>
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<tr>
<td>5622</td>
<td>Theory and Analysis: 19th Century</td>
<td>U G 2</td>
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<td></td>
<td>Analysis of representative works from the 19th century, introducing relevant theoretical concepts.</td>
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<td></td>
<td>Prereq: 3422, or a score in the upper third on the graduate placement exam. Not open to students with credit for 622.</td>
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<tr>
<td>5623</td>
<td>Theory and Analysis: 20th Century</td>
<td>U G 2</td>
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<td></td>
<td>Analysis of representative works from the 20th century, introducing relevant theoretical concepts.</td>
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<td></td>
<td>Prereq: 3422, or a score in the upper third on the graduate placement exam. Not open to students with credit for 623.</td>
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<tr>
<td>5625</td>
<td>Orchestration II</td>
<td>U G 2</td>
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<td></td>
<td>Study of 20th-century orchestral techniques, including readings in recent literature on timbre and timbre perception; scoring of transcriptions and students' compositions for various ensembles.</td>
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<td>Prereq: 4524. Not open to students with credit for 625.</td>
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<tr>
<td>5630</td>
<td>Composers Seminar</td>
<td>U G 2</td>
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<td></td>
<td>Contemporary topics in composition and theory; presentation, performance, and criticism of student compositions and papers.</td>
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<td>Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
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<tr>
<td>5631</td>
<td>Intermediate Studies in Counterpoint</td>
<td>U G 2</td>
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<tr>
<td></td>
<td>Counterpoint based on the polyphonic style of the 18th century.</td>
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<td>Prereq: 4531, or permission of instructor. Not open to students with credit for 631.</td>
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<tr>
<td>5635</td>
<td>Composition II</td>
<td>U G 2 - 3</td>
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<td></td>
<td>Practice in creative writing; analysis, and evaluation; employment of contemporary methods of composition.</td>
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<td>Prereq: 4535, or permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.</td>
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<tr>
<td>5636.01</td>
<td>Introduction to Electronic Music Synthesis</td>
<td>U G 3</td>
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<tr>
<td></td>
<td>Techniques of composition with electronic media, history, literature, and criticism; score preparation.</td>
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<td>Prereq: 3422, or permission of instructor. Not open to students with credit for 636.</td>
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<tr>
<td>5636.02</td>
<td>Electronic Music Synthesis</td>
<td>U G 3</td>
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<tr>
<td></td>
<td>Principles of audio engineering, relationships to other communications media.</td>
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<td></td>
<td>Prereq: 5636.01, or permission of instructor. Not open to students with credit for 636.</td>
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<tr>
<td>5637.01</td>
<td>Composition with Electronic Media I</td>
<td>U G 3</td>
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<tr>
<td></td>
<td>Individual composition projects with electronic media.</td>
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<td></td>
<td>Prereq: 4535 and 5636.02. Repeatable to a maximum of 18 cr hrs.</td>
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<tr>
<td>5637.02</td>
<td>Composition with Electronic Media II</td>
<td>U G 3</td>
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<tr>
<td></td>
<td>Individual advanced composition projects with electronic media.</td>
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<td></td>
<td>Prereq: 5637.01. Repeatable to a maximum of 18 cr hrs.</td>
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<tr>
<td>5638</td>
<td>Audio Recording</td>
<td>U G 3</td>
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<tr>
<td></td>
<td>Audio recording; microphones and microphone placement; multiple-track recording; mixing; equalization and special effects.</td>
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<td></td>
<td>Prereq: Course work in Circuit Analysis from Electric Engineering or equiv, or permission of instructor. Not open to students with credit for 638.</td>
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<tr>
<td>5639</td>
<td>Audio Recording Laboratory</td>
<td>U G 3</td>
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<tr>
<td></td>
<td>Creating an audio recording; familiarity with the recording studio and console, use and placement of microphones; multiple-track recording equalization and special effects; mixing.</td>
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<td></td>
<td>Prereq: 5638, or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>5646</td>
<td>History of Music in the United States</td>
<td>U G 2</td>
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<tr>
<td></td>
<td>A survey of music in the United States from colonial times until the present.</td>
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<td>Prereq: Jr, Sr, or Grad standing. Not open to students with credit for 646.</td>
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<td>5648</td>
<td>Western Art Music I</td>
<td>U G 2</td>
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<tr>
<td></td>
<td>A survey focused on repertory and historical issues, with principal emphasis on instrumental genres. Music from 1700 to early 20th century.</td>
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<td></td>
<td>Prereq: 2241, and Grad standing, and enrollment in Music Major. Not open to students with credit for 648.</td>
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<tr>
<td>5649</td>
<td>Western Art Music II</td>
<td>U G 2</td>
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<tr>
<td></td>
<td>A survey focused on repertory and historical issues, with principal emphasis on instrumental genres. Music from 1870 to the present.</td>
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<td>Prereq: 2242; or Grad standing, and enrollment in Music Major. Not open to students with credit for 649.</td>
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<tr>
<td>5650</td>
<td>History of Choral Music</td>
<td>U G 2</td>
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<tr>
<td></td>
<td>Survey of the history and stylistic development of choral music.</td>
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<td></td>
<td>Prereq: 2242; or Grad standing, and enrollment in Music Major. Not open to students with credit for 650.</td>
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<tr>
<td>5651</td>
<td>History of Opera</td>
<td>U G 2</td>
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<tr>
<td></td>
<td>Survey of the history and stylistic development of opera.</td>
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<td></td>
<td>Prereq: 2242, or Grad standing in Music. Not open to students with credit for 651.</td>
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<tr>
<td>5652</td>
<td>18th- and 19th-Century Song Literature</td>
<td>U G 2</td>
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<td></td>
<td>Study of selected 18th and 19th century song literature.</td>
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<td>Prereq: 3422 and 2242, or 2243:02; or Grad standing. Not open to students with credit for 652.</td>
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<tr>
<td>5653.01</td>
<td>Piano Literature I</td>
<td>U G 3</td>
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<td></td>
<td>A study of the formal structures of piano literature from the pre-piano period through the works of Beethoven.</td>
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<td>Prereq: 3422. Not open to students with credit for 653.</td>
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<tr>
<td>5653.02</td>
<td>Piano Literature II</td>
<td>U G 3</td>
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<td></td>
<td>A study of the piano sonata and other characteristic forms from post-Beethoven to the present time.</td>
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<td>Prereq: 3422. Not open to students with credit for 653.</td>
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<tr>
<td>5655</td>
<td>20th- and 21st-Century Song Literature</td>
<td>U G 2</td>
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<tr>
<td></td>
<td>The study of selected 20th and 21st century song literature.</td>
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<td></td>
<td>Prereq: 5652, or Grad standing. Not open to students with credit for 655.</td>
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<td>5662</td>
<td>Choral Repertoire</td>
<td>U G 3</td>
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<tr>
<td></td>
<td>Reading and study of sacred and secular choral literature.</td>
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<td>Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
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<tr>
<td>5663</td>
<td>School Orchestra Literature</td>
<td>U G 2</td>
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<tr>
<td></td>
<td>Examines orchestral repertoire for study in elementary, middle, and high school orchestra programs, and develops strategies for teaching these pieces.</td>
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<td>Prereq: Enrollment in Music major. Not open to students with credit for 663.</td>
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<tr>
<td>5664</td>
<td>School Wind Band Repertoire</td>
<td>U G 2</td>
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<td></td>
<td>Examines wind band repertoire appropriate for study in elementary, middle and high school band programs and develops strategies for teaching these pieces.</td>
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<td>Prereq: Enrollment in Music major. Not open to students with credit for 664.</td>
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<td>5666</td>
<td>Marching Band Techniques</td>
<td>U G 2</td>
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<td>A study of the marching band including laboratory work in marching techniques, computerized charting, and show design.</td>
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<td>Prereq: Soph, Jr, or Sr standing, and enrollment in Music Major. Not open to students with credit for 666.</td>
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<tr>
<td>5674</td>
<td>Meaning and Identity in Russian Opera</td>
<td>U G 3</td>
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<td></td>
<td>Study of Russian opera from 1838-1938 in relation to concurrent literary, cultural and social developments.</td>
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<td>Prereq: Not open to students with credit for 674 or Russian 5674 (674). Cross-listed in Russian.</td>
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<td>5675</td>
<td>Music in the Russian Folk Tradition</td>
<td>U G 3</td>
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<td>An interdisciplinary study of traditional music of Russian peasants.</td>
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<td>Prereq: Jr, Sr, or Grad standing. Not open to students with credit for 675.</td>
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</table>
364 Music

5677.01 Multimdia for Musicians I  U G  3
Designed to provide musicians with the tools to create multimedia works for use in music education, research, or as a creative medium.
Prereq: 2220 (220) or 5676 (876), or permission of instructor. Not open to students with credit for 677.

5677.02 Multimdia for Musicians II  U G  3
Continuation of 5677.01; designed to provide musicians with the tools to create multimedia works for use in music education, research, or as a creative medium.
Prereq: 5677.01. Not open to students with credit for 677.

5756 Improvisation with Orff Instruments  U G  2
A study of the development of children's musical concepts through improvisation experiences and the use of Orff instruments.
Prereq: Permission of instructor. Not open to students with credit for 756.

5765 Literature for Vocal Music Education  U G  2
A study of vocal literature of various cultures and historic periods for use with choral groups in the secondary music program.
Prereq: 4575 (575); or Grad Standing, and enrollment in Music major. Not open to students with credit for 756.

5772 Music in Early Childhood  U G  3
Analysis of research, principles, and practices in early childhood music and application to programs of learning for young children.
Prereq: Permission of instructor. Not open to students with credit for 772.

5797 Study at a Foreign Institution  U G  1 - 12
An opportunity to study at a foreign institution and receive Ohio State credit for that work.
Prereq: Permission of dept chair. Repeatable to a maximum of 72 cr hrs or 6 completions. This course is progress graded.

5798 Study Tour  U G  1 - 3
Specialized academic or performance study tour.
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.

6193 Individual Studies  G  1 - 3
Independent study on a special problem or topic in music.
Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

6200.11 Applied Music (Secondary): Piano  G  2
Secondary applied music instruction on piano with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.

6200.12 Applied Lesson (Secondary): Jazz Piano  G  2
Applied jazz piano study with special emphasis on literature and pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.

6200.21 Applied Music (Secondary): Voice  G  2
Secondary applied music instruction on voice with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.

6200.31 Applied Music (Secondary): Violin  G  2
Secondary applied music instruction on violin with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.

6200.32 Applied Music (Secondary): Viola  G  2
Secondary applied music instruction on viola with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.

6200.33 Applied Music (Secondary): Cello  G  2
Secondary applied music instruction on cello with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is available for EM credit.

6200.34 Applied Music (Secondary): Double Bass  G  2
Secondary applied music instruction on double bass with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.

6200.36 Applied Music (Secondary): Jazz Bass  G  2
Secondary applied music instruction on jazz bass with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.

6200.37 Applied Music (Secondary): Jazz Guitar  G  2
Secondary applied music instruction on jazz guitar with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.

6200.41 Applied Music (Secondary): Flute  G  2
Secondary applied music instruction on flute with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.

6200.42 Applied Music (Secondary): Oboe  G  2
Secondary applied music instruction on oboe with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs.

6200.43 Applied Music (Secondary): Clarinet  G  2
Secondary applied music instruction on clarinet with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 hrs or cr.

6200.44 Applied Music (Secondary): Bass Clarinet  G  2
Secondary applied music instruction on bass clarinet with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.45 Applied Music - Secondary - Saxophone  G  2
Secondary applied music instruction on saxophone with an emphasis on pedagogy.
Prereq: Grad standing in Music, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.46 Applied Music (Secondary): Bassoon  G  2
Secondary applied music instruction on bassoon with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.47 Applied Music (Secondary): Jazz Saxophone  G  2
Secondary applied music instruction on saxophone with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.51 Applied Music (Secondary): Horn  G  2
Secondary applied music instruction on horn with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.52 Applied Music (Secondary): Trumpet  G  2
Secondary applied music instruction on trumpet with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.53 Applied Music (Secondary): Trombone  G  2
Secondary applied music instruction on trombone with emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.54 Applied Music (Secondary): Euphonium  G  2
Secondary applied music instruction on euphonium with emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.55 Applied Music (Secondary): Tuba  G  2
Secondary applied music instruction on tuba with emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.56 Applied Music (Secondary): Jazz Trumpet  G  2
Secondary applied music instruction on jazz trumpet with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.57 Applied Music (Secondary): Jazz Trombone  G  2
Secondary applied music instruction on jazz trombone with emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.71 Applied Music (Secondary): Percussion  G  2
Secondary applied music instruction on percussion with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.72 Applied Music (Secondary): Jazz Percussion  G  2
Secondary applied music instruction on jazz percussion with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6200.91 Applied Music (Secondary): Bassoon  G  2
Secondary applied music instruction on bassoon with an emphasis on pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6216.11 Applied Music (Secondary): Trumpet  G  2
Applied jazz piano study with special emphasis on literature and pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6216.12 Applied Music (Secondary): Jazz Piano  G  2
Applied jazz piano study with special emphasis on literature and pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6216.21 Applied Music (Secondary): Voice  G  2
Applied voice study with special emphasis on literature and pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6216.31 Applied Music (Non Major): Violin  G  2
Applied violin study with special emphasis on literature and pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6216.32 Applied Music (Non Major): Viola  G  2
Applied viola study with special emphasis on literature and pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.

6216.33 Applied Music (Non Major): Cello  G  2
Applied cello study with special emphasis on literature and pedagogy.
Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 12 or hrs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6216.34</td>
<td>Applied Music (Non Major): Double Bass</td>
<td>G 2</td>
<td>Applied double bass study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.35</td>
<td>Applied Music (Non Major): Guitar</td>
<td>G 2</td>
<td>Applied guitar study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.37</td>
<td>Applied Music (Non Major): Jazz Guitar</td>
<td>G 2</td>
<td>Applied jazz guitar study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.41</td>
<td>Applied Music (Non Major): Flute</td>
<td>G 2</td>
<td>Applied flute study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.42</td>
<td>Applied Music (Non Major): Oboe</td>
<td>G 2</td>
<td>Applied oboe study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.43</td>
<td>Applied Music (Non Major): Clarinet</td>
<td>G 2</td>
<td>Applied clarinet study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.44</td>
<td>Applied Music (Non Major): Bass Clarinet</td>
<td>G 2</td>
<td>Applied bass clarinet study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.46</td>
<td>Applied Music (Non Major): Bassoon</td>
<td>G 2</td>
<td>Applied bassoon study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.47</td>
<td>Applied Music (Non Major): Jazz Saxophone</td>
<td>G 2</td>
<td>Applied jazz saxophone study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.51</td>
<td>Applied Music (Non Major): Horn</td>
<td>G 2</td>
<td>Applied horn study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.52</td>
<td>Applied Music (Non Major): Trumpet</td>
<td>G 2</td>
<td>Applied trumpet study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.53</td>
<td>Applied Music (Non Major): Trombone</td>
<td>G 2</td>
<td>Applied trombone study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.54</td>
<td>Applied Music (Non Major): Euphonium</td>
<td>G 2</td>
<td>Applied euphonium study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.55</td>
<td>Applied Music (Non Major): Tuba</td>
<td>G 2</td>
<td>Applied tuba study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.56</td>
<td>Applied Music (Non Major): Jazz Trumpet</td>
<td>G 2</td>
<td>Applied jazz trumpet study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.57</td>
<td>Applied Music (Non Major): Jazz Trombone</td>
<td>G 2</td>
<td>Applied jazz trombone study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.71</td>
<td>Applied Music (Non Major): Percussion</td>
<td>G 2</td>
<td>Applied percussion study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.72</td>
<td>Applied Music (Non Major): Jazz Percussion</td>
<td>G 2</td>
<td>Applied jazz percussion study with special emphasis on literature and pedagogy.</td>
</tr>
<tr>
<td>6216.91</td>
<td>Applied Music (Non Major): Harp</td>
<td>G 2</td>
<td>Applied harp study with special emphasis on literature and pedagogy.</td>
</tr>
</tbody>
</table>
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6999 Research for Master's Thesis G 1 - 6
Research projects determined by thesis subject. Repeatable to a maximum of 36 cr hrs or 6 completions. This course is graded S/U.

7194 Graduate Group Studies G 1 - 3
A specialized topic in music taught in a group setting. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.

7203.01 Chorale G 1 - 2
Study and performance of advanced choral repertoire. Prereq: Audition and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

7203.02 Symphonic Choir G 1 - 2
Study and performance of intermediate choral repertoire. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

7203.03 University Chorus G 1 - 2
Study and performance of beginning choral repertoire. Prereq: Audition and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

7203.04 Men's Glee Club G 1 - 2
Study and performance of advanced repertoire for men's chorus. Prereq: Audition and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

7203.05 Women's Glee Club G 1 - 2
Study and performance of advanced repertoire for women's chorus. Prereq: Audition and permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

7203.06 Mastersingers G 1
Study and performance of repertoire determined by specific ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs.

7203.07 Ladies First G 1
Study and performance of repertoire appropriate for women's chamber ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs.

7203.08 Statesmen G 1
Study and performance of repertoire appropriate for men's chamber ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs.

7204.01 Wind Symphony G 1 - 2
Study and performance of repertoire appropriate for wind ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.

7204.02 Symphonic Band G 1 - 2
Study and performance of repertoire for symphonic band. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.

7204.03 Collegiate Winds G 1 - 2
Study and performance of repertoire determined by specific ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.

7204.04 University Band G 1 - 2
Study and performance of repertoire determined by specific ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.

7205.01 Univ. Marching Band G 1 - 2
Study and performance of repertoire for marching band. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.

7205.02 Athletic Band G 1 - 2
Study and performance of repertoire for athletic band. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.

7206.01 Jazz Ensemble G 1 - 2
Study and performance of repertoire determined by specific ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.

7206.02 Jazz Lab Ensemble G 1 - 2
Study and performance of repertoire determined by specific ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.

7206.03 Jazz Workshop Ensemble G 1 - 2
Study and performance of repertoire determined by specific jazz ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

7207.01 Percussion Ensemble G 1
Study and performance of repertoire determined by specific percussion ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs.

7207.02 Steel Pan Ensemble G 1
Study and performance of repertoire for steel pan ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs.

7208.02 Small Ensemble: Voice G 1
Study and performance of repertoire determined by specific vocal ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs.

7208.03 Small Ensemble: Strings G 1
Study and performance of repertoire determined by specific string ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs.

7208.04 Small Ensemble: Woodwinds G 1
Study and performance of repertoire determined by specific woodwind ensemble. Prereq: Grad standing, audition, and permission of instructor. Repeatable to a maximum of 10 cr hrs.

7208.05 Small Ensemble: Brass G 1
Study and performance of repertoire determined by specific brass ensemble. Prereq: Grad standing, audition, and permission of instructor. Repeatable to a maximum of 10 cr hrs.

7208.06 Small Ensemble: Jazz Combo G 1
Study and performance of repertoire determined by specific jazz ensemble. Prereq: Grad standing, audition, and permission of instructor. Repeatable to a maximum of 10 cr hrs.

7208.16 Small Ensemble: Gospel Choir G 1
Study and performance of gospel and spiritual choir literature for mixed chorus. Repeatable to a maximum of 10 cr hrs.

7208.80 Sonic Arts Ensemble G 1
Sonic Arts Ensemble is an ensemble - based course focused on the use of the computer and/or electronic technologies in music performance and music composition, along with the development of new technologies (software and hardware) for sonic arts performance. Prereq: Admission by audition. Repeatable to a maximum of 10 cr hrs.

7208.99 Small Ensemble: Miscellaneous G 1
Study and performance of repertoire determined by specific ensemble. Prereq: Audition and permission of instructor. Repeatable to a maximum of 10 cr hrs.

7215.01 University Symphony Orchestra G 1 - 2
The University Orchestra is an 85-piece orchestra of full instrumentation devoted to the preparation of standard and modern literature. Prereq: Admission by audition. Repeatable to a maximum of 24 or 12 completions.

7611 Piano Pedagogy II G 3
An analysis of repertoire for piano study at the intermediate and early advanced levels. Prereq: Grad standing. Not open to students with credit for 612.

7612 Piano Pedagogy III G 3
An analysis of the development of piano technique through readings in pedagogical treatises and applications in standard piano repertoire from various style periods. Prereq: 7611. Not open to students with credit for 613.

7715 Structure and Function of the Singing Mechanism G 3
Anatomy and acoustics of the voice as they relate to developmental vocal pedagogy. Prereq: Grad standing. Not open to students with credit for 715.

7727 Keyboard Harmony for Graduate Students G 2 - 3
Application of keyboard musicianship, including sight reading, harmonization of melodies, improvisation, transposition, realization of figured bass and modulation. Prereq: 2264.01 (264.01), 3422 (422), or equivalent with permission of instructor. Not open to students with credit for 727.

7730 Introduction to Musicology G 3
Introduction to the materials, issues and methodologies of musicology. An introduction to musicology focused on sounding music and music contexts. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 730.01 or 730.02.

7740 Studies in Music before 1600 G 3
Introduction to scholarly issues in the music of the Middle Ages and the Renaissance. Prereq: 2243 (243) or equiv, 4531 (531) or equiv, and grad standing. Not open to students with credit for 740 or 741.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7740</td>
<td>Basic Concepts in Music Education</td>
<td>3</td>
<td>The principles of music education and of the educational and cultural objectives derived from related disciplines which give direction and purpose to the music education program. Prereq: 4586 (586) or 4587 (587), or equivalent. Not open to students with credit for 760.</td>
</tr>
<tr>
<td>7760</td>
<td>Introduction to Scholarly Issues in Music Education</td>
<td>3</td>
<td>An introduction to scholarly issues of music of the Baroque and Classic eras. Prereq: 2243 (243) or equiv, 4531 or equiv, and grad standing. Not open to students with credit for 742 or 743.</td>
</tr>
<tr>
<td>7761</td>
<td>Principles of Music Learning</td>
<td>3</td>
<td>Analysis of the learning process in music as related to problems of music instruction in the public school. Prereq: 4586 (586) or 4587 (587), or equivalent. Not open to students with credit for 761.</td>
</tr>
<tr>
<td>7762</td>
<td>Principles and Practices in Elementary School Music</td>
<td>2</td>
<td>Analysis and appraisal of the music program in elementary schools including the relationship of music to the total school program. Prereq: 3578 (578). Not open to students with credit for 762.</td>
</tr>
<tr>
<td>7763</td>
<td>Literature of Elementary School Music</td>
<td>2</td>
<td>A critical study of folk and art music of various cultures and historic periods for the general vocal and listening activities of the integrated curriculum. Prereq: 3578 (578). Not open to students with credit for 763.</td>
</tr>
<tr>
<td>7764</td>
<td>Principles and Practices in Vocal Music Education</td>
<td>2</td>
<td>Analysis and appraisal of the organization, purpose, and development of the vocal music program in secondary schools. Prereq: 4575 (575). Not open to students with credit for 764.</td>
</tr>
<tr>
<td>7765</td>
<td>The Principles of Music Learning</td>
<td>2</td>
<td>Study of current concepts in organizing and teaching general music in the secondary school. Prereq: 4572 (572) or equiv. Not open to students with credit for 766.</td>
</tr>
<tr>
<td>7770</td>
<td>Principles and Practices in Instrumental Music Education</td>
<td>2</td>
<td>Study and preparation for teaching instrumental music in the public schools. Prereq: 4577 (577). Not open to students with credit for 768.</td>
</tr>
<tr>
<td>7776</td>
<td>Literature for Instrumental Music Education</td>
<td>2</td>
<td>Introduces and reviews pedagogical techniques and instructional strategies for the teaching of brass, woodwind, percussion and string instruments. Prereq: 4577 (577). Not open to students with credit for 770.</td>
</tr>
<tr>
<td>7777</td>
<td>Introduction to Research in Music Education</td>
<td>3</td>
<td>Overview of issues, principles, practices, and research related to the music education of exceptional persons. Prereq: Permission of instructor. Not open to students with credit for 773.</td>
</tr>
<tr>
<td>7780</td>
<td>Introduction to Music for Exceptional Learners</td>
<td>3</td>
<td>Principles and practices of music classroom management; directive teaching emphasizing clarity of objectives, assessment, and systematic instructional procedures for skill and concept teaching. Prereq: Permission of instructor. Not open to students with credit for 774.</td>
</tr>
<tr>
<td>7780.05</td>
<td>Piano Accompanying Practicum</td>
<td>1 - 2</td>
<td>Study of skills needed for success as a collaborative pianist. Prereq: Grad standing in Piano, or permission of instructor. Repeatable to a maximum of 20 cr hrs or 10 completions.</td>
</tr>
<tr>
<td>7780.11</td>
<td>Opera Scenes</td>
<td>3</td>
<td>Performance ensemble class devoted to rehearsing and performing scenes from operatic literature. Prereq: 6710 (710), and admission by audition; or permission of instructor. Repeatable to a maximum of 24 cr hrs.</td>
</tr>
<tr>
<td>7780.12</td>
<td>Opera Performance</td>
<td>3</td>
<td>Performance ensemble class devoted to the rehearsing and performance of full length operas; advanced rehearsal and performance techniques of operatic literature. Prereq: 6710 (710), and admission by audition; or permission of instructor. Repeatable to a maximum of 18 cr hrs.</td>
</tr>
<tr>
<td>7780.20</td>
<td>African Performing Ensemble</td>
<td>1</td>
<td>Study and performance of repertoire determined by specific ensemble. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 or 6 cr hrs.</td>
</tr>
<tr>
<td>7780.21</td>
<td>Slavic Performing Ensemble</td>
<td>1</td>
<td>Study and performance of repertoire determined by specific ensemble. Prereq: Grad standing, and permission of instructor. Repeatable to a maximum of 10 or 6 cr hrs.</td>
</tr>
<tr>
<td>7780.22</td>
<td>Bibliography for Musicologists</td>
<td>3</td>
<td>Intensive survey of bibliographic methods and materials in music research. Prereq: Grad standing in musicology.</td>
</tr>
<tr>
<td>7785</td>
<td>Cognitive Ethnomusicology</td>
<td>3</td>
<td>Topics and issues in historical musicology and ethnomusicology. Prereq: Grad standing.</td>
</tr>
<tr>
<td>7770</td>
<td>Chinese Music</td>
<td>3</td>
<td>History theory and practices of Chinese music culture with special reference to the socio-cultural conditions of their development. Prereq: Grad standing. Not open to students with credit for 787.01.</td>
</tr>
<tr>
<td>7778</td>
<td>Music of the Arab and Indian Traditions</td>
<td>3</td>
<td>History theory and practices of Arab and Indian music cultures with special reference to the socio-cultural conditions of their development. Prereq: Grad standing. Not open to students with credit for 787.02 or 787.03.</td>
</tr>
<tr>
<td>7779</td>
<td>African Music: Ideas Forms and Trajectories</td>
<td>3</td>
<td>Examination of compositional choices and performance conventions in selected musical traditions from Africa. Prereq: 2251 (251), 6572, or AAEmASt equivalent; and Grad standing, or permission of instructor. Not open to students with credit for 789 or AAEmASt 789.</td>
</tr>
<tr>
<td>7790</td>
<td>Problems in Vocal Music Education</td>
<td>3</td>
<td>Study of problems encountered in teaching, supervising, and organization of the vocal music program. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>7791</td>
<td>Problems in Instrumental Music Education</td>
<td>3</td>
<td>Study of the problems encountered in teaching supervising and organization of the instrumental music program. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>7801.11</td>
<td>Applied Music Principal Piano</td>
<td>2 - 4</td>
<td>Advanced applied piano study with emphasis on musicianship, pedagogical techniques, and literature. Prereq: Enrollment in Master of Arts in Piano Pedagogy program. Repeatable to a maximum of 24 or 6 completions.</td>
</tr>
<tr>
<td>7801.21</td>
<td>Applied Music Principal Voice</td>
<td>2 - 4</td>
<td>Advanced applied voice study with emphasis on musicianship, pedagogical techniques, and literature. Prereq: Enrollment in Master of Arts in Voice Pedagogy program. Repeatable to a maximum of 24 or 6 completions.</td>
</tr>
<tr>
<td>7801.31</td>
<td>Applied Music Principal Violin</td>
<td>2 - 4</td>
<td>Advanced applied violin study with emphasis on musicianship, pedagogical techniques, and literature. Prereq: Enrollment in Master of Arts in String Pedagogy program. Repeatable to a maximum of 24 or 6 completions.</td>
</tr>
<tr>
<td>7801.32</td>
<td>Applied Music Principal Viola</td>
<td>2 - 4</td>
<td>Advanced applied viola study with emphasis on musicianship, pedagogical techniques, and literature. Prereq: Enrollment in Master of Arts in String Pedagogy program. Repeatable to a maximum of 24 or 6 completions.</td>
</tr>
<tr>
<td>7801.33</td>
<td>Applied Music Principal Cello</td>
<td>2 - 4</td>
<td>Advanced applied music study with emphasis on musicianship, pedagogical techniques, and literature. Prereq: Enrollment in Master of Arts in String Pedagogy program. Repeatable to a maximum of 24 or 6 completions.</td>
</tr>
</tbody>
</table>
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7801.34  Applied Music Principal Double Bass  G  2 - 4
Advanced applied double bass study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in String Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7801.41  Applied Music Principal Flute  G  2 - 4
Advanced applied flute study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in Woodwind Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7801.42  Applied Music Principal Oboe  G  2 - 4
Advanced applied oboe study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in Woodwind Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7801.43  Applied Music Principal Clarinet  G  2 - 4
Advanced applied clarinet study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in Woodwind Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7801.44  Applied Music Principal Bass Clarinet  G  2 - 4
Advanced applied bass clarinet study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in Woodwind Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7801.45  Applied Music Principal Saxophone  G  2 - 4
Advanced applied saxophone study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in Woodwind Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7801.46  Applied Music Principal Bassoon  G  2 - 4
Advanced applied bassoon study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in Woodwind Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7801.51  Applied Music Principal Horn  G  2 - 4
Advanced applied horn study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in Brass Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7801.52  Applied Music Principal Trumpet  G  2 - 4
Advanced applied trumpet study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in Brass Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7801.53  Applied Music Principal Trombone  G  2 - 4
Advanced applied trombone study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in Brass Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7801.54  Applied Music Principal Euphonium  G  2 - 4
Advanced applied euphonium study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in Brass Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7801.55  Applied Music Principal Tuba  G  2 - 4
Advanced applied tuba study with emphasis on musicianship, pedagogical techniques, and literature.
Prereq: Enrollment in Master of Arts in Brass Pedagogy program. Repeatable to a maximum of 24 or hrs or 6 completions.

7802.11  Applied Music - Major - Piano  G  2 - 4
A specialized and intense study of the literature and techniques of piano performance.
Prereq: Enrollment in Master of Music degree program in piano program. Repeatable to a maximum of 24 or hrs or 6 completions.

7802.21  Applied Music - Major - Voice  G  2 - 4
A specialized and intense study of the literature and techniques of vocal performance.
Prereq: Enrollment in Masters of Music program in Voice. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.31  Applied Music - Major - Violin  G  2 - 4
A specialized and intense study of the literature and performance techniques on violin.
Prereq: Enrollment in Master of Music program in String Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.32  Applied Music - Major - Viola  G  2 - 4
A specialized and intense study of the literature and performance techniques on viola.
Prereq: Enrollment in Master of Music program in String Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.33  Applied Music - Major - Cello  G  2 - 4
A specialized and intense study of the literature and performance techniques on cello.
Prereq: Enrollment in Master of Music program in String Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.34  Applied Music - Major - Double Bass  G  2 - 4
A specialized and intense study of the literature and performance techniques on Double Bass.
Prereq: Enrollment in Master of Music program in String Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.41  Applied Music - Major - Flute  G  2 - 4
A specialized and intense study of the literature and performance techniques on flute.
Prereq: Enrollment in Master of Music program in Woodwind Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.42  Applied Music - Major - Oboe  G  2 - 4
A specialized and intense study of the literature and performance techniques on oboe.
Prereq: Enrollment in Master of Music program in Woodwind Performance. Repeatable to a maximum of 24 cr hrs.

7802.43  Applied Music - Major - Clarinet  G  2 - 4
A specialized and intense study of the literature and performance techniques on clarinet.
Prereq: Enrollment in Master of Music program in Woodwind Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.44  Applied Music - Major - Bass Clarinet  G  2 - 4
A specialized and intense study of the literature and performance techniques on bass clarinet.
Prereq: Enrollment in Master of Music program in Woodwind Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.45  Applied Music - Major - Saxophone  G  2 - 4
A specialized and intense study of the literature and performance techniques on saxophone.
Prereq: Enrollment in Master of Music program in Woodwind Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.46  Applied Music - Major - Bassoon  G  2 - 4
A specialized and intense study of the literature and performance techniques on bassoon.
Prereq: Enrollment in Master of Music program in Woodwind Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.51  Applied Music - Major - Horn  G  2 - 4
A specialized and intense study of the literature and performance techniques on horn.
Prereq: Enrollment in Master of Music program in Brass Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.52  Applied Music - Major - Trumpet  G  2 - 4
A specialized and intense study of the literature and performance techniques on trumpet.
Prereq: Enrollment in Master of Music program in Brass Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.53  Applied Music - Major - Trombone  G  2 - 4
A specialized and intense study of the literature and performance techniques on trombone.
Prereq: Enrollment in Master of Music program in Brass Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.54  Applied Music - Major - Euphonium  G  2 - 4
A specialized and intense study of the literature and performance techniques on euphonium.
Prereq: Enrollment in Master of Music program in Brass Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.55  Applied Music - Major - Tuba  G  2 - 4
A specialized and intense study of the literature and performance techniques for tuba.
Prereq: Enrollment in Master of Music program in Brass Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7802.71  Applied Music - Major - Percussion  G  2 - 4
A specialized and intense study of the literature and performance techniques for percussion.
Prereq: Enrollment in Master of Music program in Percussion Performance. Repeatable to a maximum of 24 cr hrs or 6 completions.

7803.01  Choral Conducting  G  2
Specialization and intense study of choral conducting techniques.
Prereq: Placement exam. Open only to conducting majors in the MM curriculum. Repeatable to a maximum of 8 or hrs.

7803.02  Orchestral Conducting  G  2
Specialization and intense study of orchestral conducting techniques.
Prereq: Placement exam. Open only to Conducting majors in the MM curriculum. Repeatable to a maximum of 8 or hrs.
7803.03 Wind Conducting  
Specialization and intensive study of band conducting techniques.  
Prereq: Placement exam. Open only to Conducting majors in the MM curriculum. Repeatable to a maximum of 6 cr hrs.

7805 Masters Degree Recital  
Preparation and presentation of musical literature in solo performance.  
Prereq: Grad standing in the School of Music, and permission of instructor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

7810.11 Practicum in Teaching Applied Piano  
A critical analysis of various methods, principles, practices, and materials current in teaching applied music.  
Prereq: 5613, and Grad standing. Repeatable to a maximum of 6 cr hrs.

7810.21 History and Practice of Voice Pedagogy  
An analysis of the principles and current practices in the teaching of voice.  
Prereq: 5615 (815), Grad standing, and minimum 6 hrs applied voice. Repeatable to a maximum of 6 cr hrs.

7810.30 Music Pedagogy: String Instruments  
A critical analysis of various methods, principles, practices, and materials current in teaching applied music.  
Prereq: Grad standing, and enrollment in Music program, and minimum 6 hours in applied string instruction. Repeatable to a maximum of 6 cr hrs.

7810.40 Music Pedagogy: Woodwind Instruments  
A critical analysis of various methods, principles, practices, and materials current in teaching applied music.  
Prereq: Grad standing, and enrollment in Music program, and minimum 6 hours of applied woodwind instruction. Repeatable to a maximum of 4 cr hrs.

7810.50 Music Pedagogy: Brass Instruments  
A critical analysis of various methods, principles, practices, and materials current in teaching applied music.  
Prereq: Grad standing, and enrollment in Music program, and minimum of 6 hours of applied brass instruction. Repeatable to a maximum of 6 cr hrs.

7810.70 Music Pedagogy: Percussion Instruments  
A critical analysis of various methods, principles, practices, and materials current in teaching applied music.  
Prereq: Grad standing, and enrollment in Music program, and minimum 6 hours of applied percussion instruction. Repeatable to a maximum of 6 cr hrs.

7815 Seminar in Singing Health Specialists  
Required seminar for candidates in the Singing Health Specialistization to enable coordination of skills, concepts, and practices necessary for successful SHS certification.  
Prereq: Admission to Singing Health Specialistization. Not open to students with credit for 815 or SpHrng 7815 (815). Cross-listed in SpHrng.

7829.01 Scale Theory: Transformation and Tonality  
Formal approaches to the theory of musical scales, with the premise that the distinct subfields of theory and transformational theory speak to fundamental questions of tonality.  
Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs.

7829.02 Sonata Theory  
Studies of musical form during the 18th and 19th centuries.  
Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs.

7829.03 Compositional Modeling and Musical Allusion  
Analysis of possible instances of composers who used the work of predecessor as models; interaction in such cases with notions of musical allusion.  
Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs.

7829.04 Studies in Meter and Rhythm  
Theory of meter and rhythm in music; work by Lerdahl, Jackendoff, Hasty and London; compositional strategies for creating musically interesting rhythms and surfaces.  
Prereq: Grad standing. Repeatable to a maximum of 12 cr hrs.

7829.05 Special Topics in Theory  
Critical examination of major contemporary theoretical viewpoints; concepts of theory construction; topics will vary each semester.  
Prereq: Grad standing. Repeatable to a maximum of 18 cr hrs.

7835 Composition IV  
Creative writing of large forms at an advanced level.  
Prereq: 8835 or equivalent. Repeatable to a maximum of 18 cr hrs or 6 completions.

7852.01 Performance Literature: Piano  
Intensive study of representative piano literature from each style period.  
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

7852.02 Performance Literature: Voice  
Intensive study of representative voice literature from each style period.  
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 16 cr hrs.
### Music

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<tr>
<td>8902.55</td>
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</table>

Additional courses may be eligible for credit with approval.
### Applied Music - Major - Percussion

- **Applied Music - Major - Percussion**
  - **2002**
  - **Junior Leadership Lab II**
  - A continuation of the advanced application of leadership theory, skills, and practices for perspective Navy and Marine Corps officers.
  - Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

- **3110**
  - **Naval Ship Systems**
  - Study of fundamental thermodynamics, conventional and nuclear ship propulsion systems.
  - For Naval ROTC program information, contact 292-6015.
  - Prereq: Permission of instructor. Not open to students with credit for 311 and 321.

- **3001**
  - **Junior Leadership Lab I**
  - A continued practical application of basic leadership principles in the United States Navy and United States Marine Corps.
  - Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

### Advanced Wind Conducting

- **Advanced Wind Conducting**
  - **8903.01**
  - Study of advanced wind conducting technique and application to appropriate repertoire.
  - Prereq: Enrollment in DMA conducting program. Repeatable to a maximum of 24 cr hrs.

### Advanced Choral Conducting

- **Advanced Choral Conducting**
  - **8903.02**
  - Study of advanced choral conducting technique and application to appropriate repertoire.
  - Prereq: Enrollment in DMA conducting program. Repeatable to a maximum of 24 cr hrs.

### Advanced Orchestral Conducting

- **Advanced Orchestral Conducting**
  - **8903.03**
  - Study of advanced orchestral conducting technique and application to appropriate repertoire.
  - Prereq: Enrollment in DMA conducting program. Repeatable to a maximum of 24 cr hrs.

### Doctoral Recital

- **Doctoral Recital**
  - **8905**
  - Intended for the graduate student who is preparing a doctoral recital.
  - Prereq: 7905. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

### Seminar in Musicology

- **Seminar in Musicology**
  - **8950**
  - Research topic in musicology to be determined by the area.
  - Prereq: Grad standing. Repeatable to a maximum of 30 cr hrs.

### Doctoral Research Non-Thesis

- **Doctoral Research Non-Thesis**
  - **8998**
  - Research for non-thesis purposes.
  - Prereq: Grad standing. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.

### Research for Dissertation or Document

- **Research for Dissertation or Document**
  - **8999**
  - Research for dissertation or document purposes.
  - Prereq: Grad standing. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

### Naval Science

#### Freshmen Leadership Lab

- **Freshmen Leadership Lab**
  - **1101**
  - An introduction to the practical application of basic leadership principles in the United States Navy and United States Marine Corps.
  - Prereq: Not open to students with credit for 111. This course is graded S/U.

#### Freshmen Leadership Lab

- **1102**
  - A continued practical application of basic leadership principles in the United States Navy and United States Marine Corps.
  - Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

#### Survey of Naval Science

- **1110**
  - Introduction to and survey of disciplines peculiar to naval science including naval tasks & missions, regulations, customs, traditions, & organizational relationships. Students must contact Naval Science Department (292-6015) for orientation program.
  - Prereq: Enrollment in NROTC Unit, or permission of instructor. Not open to students with credit for 111.

#### Sea Power and Maritime Affairs Seminar

- **1210**
  - An analysis of maritime affairs as related to the United States naval forces, from the Revolutionary War to present day. Students must contact Naval Science Department (292-6015) for Naval ROTC program information.
  - Prereq: 1110, or permission of instructor. Not open to students with credit for 121 and 131.

#### Sophomore Leadership Lab I

- **2001**
  - An intensified employment of leadership principles and practices relevant to future Navy and Marine Corps officers.
  - Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

#### Sophomore Leadership Lab II

- **2002**
  - A continued employment of leadership principles and practices relevant to future Navy and Marine Corps officers.
  - Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

#### Navigation I

- **2110**
  - A study of navigation and piloting vessels at sea, including the determination of position by dead reckoning, visual bearings, and electronic methods.
  - Prereq: Not open to students with credit for 211 and 221.

#### Navigation II

- **2210**
  - A study of fleet operations including operations and tactics including the study of relative motion of ships at sea, maneuvering board, tactics, and naval communications.
  - Prereq: 2110, or permission of instructor; Not open to students with credit for 221 and 431.

#### Junior Leadership Lab I

- **3001**
  - An advanced application of leadership theory, skills, and practices for perspective Navy and Marine Corps officers.
  - Prereq: Enrollment in Navy ROTC program. This course is graded S/U.

### Near Eastern Languages and Cultures

- **2194**
  - **Group Studies**
  - Special topics to be announced in the semester previous to the one in which the course is offered.
  - Prereq: Permission of instructor or department. Repeatable to a maximum of 15 cr hrs or 5 completions.

- **2220**
  - **Introduction to South Asian Studies**
  - A multi-disciplinary introduction to South Asia's geographical, political, cultural, and religious contexts and connections.
  - Prereq: English 1110 (110) or equiv. Not open to students with credit for 265 or CompStd 2220. GE culture and ideas and diversity global studies course. Cross-listed in CompStd.

- **2241**
  - **The Middle East Close-Up: People, Cultures, Societies**
  - Introduction to the culture of the Middle East as lived in its villages, towns, and cities.
  - Prereq: Not open to students with credit for 241 or Anthrop 2241 (241). GE cultures and ideas and diversity global studies course. Cross-listed in Anthrop.

- **2244**
  - **Films of the Middle East**
  - Overview of contemporary films from different Middle Eastern countries; how filmmakers of the region view, present, and construct their countries using particular modes of representation.
  - Prereq: English 1110 (110). Not open to students with credit for 244. GE cultures and ideas and diversity global studies course.
372 Near Eastern Languages and Cultures

2798.01 Experiencing Everyday Life in South Asia U 3
Introduces students to the history, politics, cultures, and identities of India. Students explore religious and historical sites (of New Delhi, Varanasi, Agra, Mathura, and Vrindavan), experience the political and cultural currents within the country, and see firsthand the broad spectrums of influences that various human movements have made on the landscape of India.
Prereq: 3620 or CompStd 3620, and admission to program. GE education abroad course.

3101 Language Evolution and Language Change. U 3
A study of how and why languages change and evolve over time, taking into account the linguistic, historical, ideological and cultural factors involved.
Prereq: Not open to students with credit for 311, Ling 3901 (Linguist 301), 311, or 385. GE cultures and ideas course. Cross-listed in Ling 3901.

3201 Islam in the United States U 3
An examination of the main elements of Islamic belief as well as the particular characteristics of each major Islamic group in the United States.
Prereq: Not open to students with credit for 341. GE cultures and ideas course.

3204 The Middle East in the Media U 3
Examination of contemporary Middle Eastern cultures through critical evaluation of the media which inform our understanding of international politics.
Prereq: English 1110 (110). Not open to students with credit for 344. GE cultures and ideas and diversity global studies course.

3205 Women in the Muslim Middle East U 3
Examination of the position on women in the contemporary Middle East: impact of regional environment on gender identity; gender bias studies in various Middle Eastern countries.
Prereq: English 1100 (110). Not open to students with credit for 345. GE cultures and ideas and diversity global studies course.

3230 Introduction to Shi’i Beliefs and History U 3
Introduction to the history, doctrinal tenets, and social manifestations of Shi'ism within Islam and in the context of Islamic civilization.
Prereq: English 110.

3501 Introduction to Islam U 3
Examination of Islam as a world religion, enabling an understanding of its major tenets and beliefs as they are envisioned by insiders and outsiders.
Prereq: English 1110 (110). Not open to students with credit for 351. GE cultures and ideas and diversity global studies course.

3502 Islamic Civilization Through the Ages U 3
Islamic civilization through the ages offers a panoramic view of the interrelated social, political, economic, religious and intellectual developments of regions of Africa and Asia where the religion of Islam has had significant historical impact.

3508 Sufism U 3
Examination of the distinctively Islamic mystical and spiritual features of Sufism and the relevance of its historical and cultural context.
Prereq: English 110. Not open to students with credit for 358. GE cultures and ideas course.

3620 Everyday Life in South Asia U 3
An examination of everyday life as experienced by members of the culturally diverse population of South Asia.
Prereq: English 1100 (110). Not open to students with credit for 380 or CompStd 3620. GE cultures and ideas course. Cross-listed in CompStd.

3700 Mythology of Ancient Egypt and Mesopotamia U 3
An introductory comparative survey of the mythology of ancient Egypt and Mesopotamia.
Prereq: English 110 (110). Not open to students with credit for 370. GE cultures and ideas and diversity global studies course.

3702 Literatures and Cultures of the Islamic World U 3
A survey of the Islamic world by way of literature and culture.
Prereq: English 1110 (110). Not open to students with credit for 372. GE lit and diversity global studies course.

3703 Middle Eastern Literature and Post Colonial Theory U 3
Surveying and examining literary texts, theories, and films that explore the relationship between cultural power, colonialism, and different forms of representation.

3704 The Novel in the Middle East U 3
The emergence of the novel in the Middle East and development of its major themes and forms.
Prereq: English 1110 (110). Not open to students with credit for 374. GE lit and diversity global studies course.

4597 Islamic Revival and Social Justice: Utopian Ideals and Lived Realities U 3
Examination of modern Islamic revival movements in selected contemporary Muslim-majority societies.
Prereq: 4th year standing, or permission of instructor. Not open to students with credit for 597.01. GE cross-disciplinary seminar course.

4601 Israeli and Palestinian Literature U 3
An exploration of Israeli and Palestinian history, identity and conflict using a variety of Arabic and Hebrew texts in translation.
Prereq: English 110.

4998H Honors Research in Near Eastern Languages and Cultures U 1 - 3
Offers undergraduate honors students an advanced opportunity to do independent study and research beyond normal coursework.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 or hrs or 5 completions. This course is graded S/U.

4999 Undergraduate Thesis U 1 - 3
Offers undergraduates with special aptitudes the opportunity to do independent study and research leading to a thesis.
Prereq: Sr standing with an average of B in all NELC classes. Repeatable to a maximum of 10 or hrs or 5 completions. This course is graded S/U.

4999H Undergraduate Honors Thesis U 1 - 3
Offers undergraduates with special aptitudes the opportunity to do independent study leading to an honors thesis.
Prereq: Honors, Sr standing with an average of B in all work in NELC, and permission of instructor. Repeatable to a maximum of 10 or hrs or 5 completions. This course is graded S/U.

5101 Introduction to the Field of Near Eastern Languages & Cultures U G 1
Offers a concise introduction to the field of Near Eastern Languages and Cultures and its close cognates, focusing on the history and constitution of institutional bases for the study of the Near East.
Prereq: Jr or Sr standing, and Arabic, Hebrew, or Islamic Studies major; or Grad standing in NELC.

5103 Grammar of Selected Ancient Near Eastern Languages U G 3
Fundamentals of grammar and reading in ancient Near Eastern languages (e.g. Egyptian, Coptic, Sumerian, Babylonian, Northwest Semitic dialects, Syriac).
Prereq: Knowledge of a Semitic language, or permission of instructor. Repeatable to a maximum of 12 or hrs. Cross-listed in JewshSt.

5111 Comparative Semitic Linguistics U G 3
An introduction to the study of comparative Semitic linguistics.
Prereq: Permission of instructor. Not open to students with credit for 611 or JewshSt 5111. Cross-listed in JewshSt.

5112 Languages and Cultures of the Middle East U G 3
Wide overview of languages spoken in the ancient, medieval, and modern Middle East: their linguistic affiliation; main periods of their history; their different writing systems.
Prereq: Permission of instructor. Not open to students with credit for 612.

5120 Biblical Aramaic U G 3
Introduction to the language of the Aramaic sections of the books of Daniel and Ezra in the Old Testament.
Prereq: Hebrew 1103 (104), or permission of instructor. Not open to students with credit for 520.

5121 Jewish Aramaic U G 3
Provides students grammatical and textual skills to read Jewish post-biblical Aramaic and to introduce them to some of the most important texts written in the language. Introduces grammar of Jewish Aramaic, dialectical differences among the Aramaic of the Dead Sea Scrolls, Palestine, and Jewish Babylonia, and how these differences are reflected in the manuscript and inscriptional evidence.
Prereq: Hebrew 1103, or permission of instructor.

5125 Syriac I U G 3
Introduction to Syriac.

5126 Syriac II U G 3
Continuation from NELC 5125 Introduction to Syriac (Syriac I).
Prereq: 5125, or permission of instructor.

5130 Ugartic U G 3
Introduction to the language and literature of Ugartic; readings in the Ugartic mythological literature.
Prereq: Permission of instructor. Not open to students with credit for 630 or JewshSt 5130. Cross-listed in JewshSt.

5140 Phoenician Language and Culture U G 3
A survey of Phoenician-Punic texts in their cultural context.
Prereq: Knowledge of Hebrew or another Semitic language (Arabic, Aramaic, Akkadian), or permission of instructor. Not open to students with credit for 632.

5150 Akkadian I U G 3
Examination of the basics of Akkadian grammar; introduction to a variety of literary and non-literary texts and genres.
Prereq: Permission of instructor. Not open to students with credit for 635.01.
5151 Akkadian II  U  G  3
Reading Akkadian texts in their original cuneiform script and understanding them within their historical and cultural contexts. Prereq: 5150 (635.01), or permission of instructor. Not open to students with credit for 635.02.

5192 Workshop  U  G  1 - 6
Intensive group study of a problem common to the participants for the purpose of developing sound principles and practices relating to it. Prereq: Teaching experience, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions.

5193 Individual Studies  U  G  1 - 10
Individual studies. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

5194 Group Studies  U  G  1 - 10
Group studies. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions.

5202 Representing the Near East in Film  U  G  3
Examination of the discourses of Orientalism using film as the primary medium of expression and discussion. Prereq: Permission of instructor. Not open to students with credit for 642.

5204 Culture and Politics in Central Asia  U  G  3
Comparative study of cultural legacy and change, including religious and secular life and civil society development, in relation to political trends in Central Asia. Prereq: Jr standing, or permission of instructor. Not open to students with credit for 644.

5206 Colonial Cities in Postcolonial Memory: The Politics of Urban Development in the Near East  U  G  3
Introduction to colonial and post-colonial studies through a comparative examination of various cities that developed in the Near East during the late nineteenth century. Prereq: Permission of instructor. Not open to students with credit for 646.

5241 Interdisciplinary Approaches to South Asian Studies  U  G  3
A connection of the disparate threads of the geographic and cultural entity of South Asia, offering an overview and interdisciplinary perspective on the factors that affect everyday life in the region. Prereq: English 1110 (110).

5401 Methodologies for the Study of Ancient Religions  U  G  3
Introduction to the methodological and the scholars who have significantly influenced the study of ancient religion. Prereq: Not open to students with credit for Clas 5401. Cross-listed in Clas.

5568 Studies in Orality and Literacy  U  G  3
Examination of major theories of writing and oral composition and transmission, in juxtaposition to case material deriving from a variety of Middle Eastern cultures. Prereq: Permission of instructor. Not open to students with credit for 648 or CompStd 5688 (648). Cross-listed in CompStd 5688.

5571 Canon and Communities in the Near East  U  G  3
Investigation of the process by which Near Eastern sacred texts (Bible, Qur'an, and others) become sacred and the interaction between texts and communities holding them sacred. Prereq: Not open to students with credit for 671 or JewishStd 5571. Cross-listed in JewishStd.

5575 Intellectuals in the Middle East  U  G  3
Concerns and conditions of intellectuals in the modern Middle East. Prereq: Permission of instructor. Not open to students with credit for 675.

5578 Islamic Law and Society  U  G  3
Examination of the relationship between Islamic law and society: the concept of justice in Islam. Prereq: Permission of instructor. Not open to students with credit for 678.

5645 Contemporary Issues in the Middle East  U  G  3
Intensive examination of contemporary issues in the Middle East by applying an interdisciplinary approach. Prereq: 2200 or 245, or Jr standing. Cross-listed in IntStd's.

5672 Poetry and Politics in the 20th Century Mediterranean  U  G  3
Exploration of several poets and poetic traditions around the Mediterranean in relation to modern political struggles. Prereq: English 110, or Grad standing. Not open to students with credit for 672. Cross-listed in CompStd 5602 (672).

5797 Study at a Foreign Institution  U  G  1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of department. Repeatable to a maximum of 30 cr hrs or 5 completions.

Near Eastern Languages and Cultures  373

5801 Basic Bibliographic and Reference Tools in Near Eastern Languages and Cultures  U  G  3
Basic bibliographic and reference tools in Near Eastern Languages and Cultures. Prereq: 6 cr hrs for Near Eastern History or Literature or equiv. Not open to students with credit for 680 or Hebrew 5801.

6998 NELC MA Exams  G  1 - 3
Preparation for exams for Master of Arts in Near Eastern Languages and Cultures. Prereq: Master's student in NELC. This course is graded S/U.

6999 NELC MA Thesis  G  1 - 3
Thesis preparation for Master of Arts in Near Eastern Languages and Cultures. Prereq: MA student in NELC. This course is graded S/U.

7301 Theorizing Literature  G  3
Accelerated introduction to literary theory and criticism, surveying significant developments in modern and contemporary literary and cultural studies. Prereq: Grad standing, or permission of instructor(s). Not open to students with credit for CompStd 7301. Cross-listed in CompStd 7301.

7401 Ottoman Manuscript Cultures  G  3
Historical anthropological approach to the study of the manuscript cultures of the Islamic Middle East/North Africa Ottoman period. Prereq: Grad standing, or permission of instructor(s).

7402 Cultural Currents of late Antique Middle East: The Arabs, Byzantines and the Sasanians  G  3
Contextualizing the rise of Islam in terms of the cultural and historical currents/contacts of the Middle East in late antiquity: Byzantium, Sasanian, Arab etc. Prereq: Grad standing, or permission of instructor(s).

7501 Narratives of Origin: The Islamic Tradition  G  3
How the contours of the Islamic narrative fare in a source-critical context. Prereq: Grad standing, or permission of instructor(s).

7503 Religions of Ancient Iran  G  3
Advanced study of the religions of ancient Iran, including Zoroastrianism, Manichaism, and religions of those ruled by the ancient Persian Sassanid dynasty. Prereq: Grad standing, or permission of instructor.

7880 Interdepartmental Studies in the Humanities  G  2 - 4
Two or more departments present colloquia on subjects of mutual interest, topics to be announced. Prereq: Grad standing, or permission of instructor(s). Repeatable to a maximum of 12 cr hrs or 5 completions.

7998 Candidacy Exams in Near Eastern Languages & Cultures  G  1 - 8
Preparation for Candidacy Exams in Near Eastern Languages and Cultures. Prereq: PhD student preparing for Candidacy exams. This course is graded S/U.

7999 Research for NELC Dissertation Prospectus  G  1 - 3
Doctoral dissertation prospectus research in Near Eastern Languages and Cultures. Prereq: PhD candidate. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

8189 Field Research in Near Eastern Languages & Cultures  G  1 - 3
Field research for doctoral dissertation in Near Eastern Languages & Cultures. Prereq: PhD candidate. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

8998 Doctoral Research in Near Eastern Languages and Cultures  G  1 - 3
Doctoral dissertation research in Near Eastern Languages and Cultures. Prereq: PhD candidate. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

8999 Dissertation Writing in Near Eastern Languages and Cultures  G  1 - 3
Doctoral dissertation writing in Near Eastern Languages and Cultures. Prereq: PhD candidates. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

Neurological Surgery

6193 Independent Studies in Neurological Surgery  G  1 - 40
Independent research in neurological surgery. Repeatable to a maximum of 40 cr hrs or 40 completions. This course is graded S/U.

8250 Biology of the Tumor Microenvironment  G  2
Cellular and molecular biology of the microenvironment in solid cancers. Signals and mechanisms that promote tumor initiation and progression. Prereq: 2nd year Grad standing, with lab work complete.

8999 Research in Neurological Surgery  G  1 - 18
Research for Thesis only. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.
### Neurology

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>8999</td>
<td>Research</td>
<td>G 1 - 15</td>
<td>Research for thesis or dissertation. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>2025</td>
<td>History of Neuroscience</td>
<td>U 3</td>
<td>Designed for neuroscience majors or non-majors. We will start by looking at discoveries that determined that different areas of the brain serve different functions. Then we will examine the history of sleep, dreaming, and emotions, followed by intellect and memory. Finally we will review the evolution of treatments and therapies over time. Prereq: Biology 1113 (113) or 1113H (119H), or permission of instructor. Only open to students with credit for NeuroSc 300. Admis Cond course.</td>
</tr>
<tr>
<td>3000</td>
<td>Introduction to Neuroscience</td>
<td>U 3</td>
<td>Introductory course covering organization and function of the nervous system at a level understandable to science and non-science majors. Prereq: Biology 1113 (113) or 1113H (119H), or permission of instructor. Only open to students with credit for NeuroSc 300. Admis Cond course.</td>
</tr>
<tr>
<td>3010</td>
<td>Introduction to Neurophysiology</td>
<td>U 3</td>
<td>The course will discuss basic principles of neurophysiology working from the level of the ion channel to the whole system. Prereq: 3030 or 3050, or permission of instructor. Admis Cond course.</td>
</tr>
<tr>
<td>3050</td>
<td>Structure and Function of the Nervous System</td>
<td>U 3</td>
<td>Basic principles of the anatomical and neurophysiological organization of the nervous system. Prereq: 3030. Admis Cond course.</td>
</tr>
<tr>
<td>3191</td>
<td>Internship in Neuroscience</td>
<td>U 1 - 15</td>
<td>Neuroscience students have the opportunity to combine classroom theory with practical application through job-related experiences during a neuroscience related internship (Department Approval of Internship Site is Required). Maximum of 3 credit hours of any combination of Neurosc 3191 and Neurosc 3193 can be applied to the Breadth Requirements of the major. Prereq: GPA 2.0 or above, and enrollment in Neuroscience, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4050</td>
<td>Neurogenetics</td>
<td>U 3</td>
<td>This course takes a historical approach to gene discovery in neuroscience: spanning classic mutagenesis studies in simple invertebrate systems to the mapping and identification of neurological disease genes in humans, with stops along the way to explore unique genetic systems and studies, such as the Stanford dog narcolepsy project. Prereq: 3000, and MolGen 4500 or 4606, or permission of instructor.</td>
</tr>
<tr>
<td>4100</td>
<td>Basic and Clinical Foundations of Neurological Disease</td>
<td>U 3</td>
<td>Discusses basic and clinical issues related to a variety of neurological disease. Prereq: 3000, or permission of instructor. Admis Cond course.</td>
</tr>
<tr>
<td>4623</td>
<td>Biological Clocks and Behavior</td>
<td>U 3</td>
<td>The broad variety of biological rhythms of animals and humans, including ultradian, daily, lunar, tidal, and annual cycles. Properties of biological clocks and ways in which rhythms are generated and how they are synchronized to the external environment. Prereq: 3000. Not open to students with credit for Psych 4623 (623). Cross-listed in Psych.</td>
</tr>
<tr>
<td>4640</td>
<td>Neuronal Signal Transduction</td>
<td>U 3</td>
<td>Focuses on the fundamental intracellular signaling events and transcriptional control mechanisms that shape CNS physiology and pathophysiology. The course will describe the basic molecular mechanisms that regulate transcriptional and translational control mechanisms in the nervous system. Cellular signaling pathways will be placed within a relevant context. Prereq: 3000.</td>
</tr>
<tr>
<td>4850</td>
<td>Contemporary Topics in Neuroscience</td>
<td>U 3</td>
<td>A merging of pop culture and Neuroscience, this course will survey recent events and literature in the field of Neuroscience from learning and memory, neurodevelopmental disorders, the microbiome, and aging. Discover why the Wall Street Journal calls this the &quot;Golden Age of Neuroscience.&quot; Prereq: 3000 and Psych 3313.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research</td>
<td>U 1 - 15</td>
<td>Students will be given credit for participating in a research project in the laboratory of a faculty member in the Department of Neuroscience. Prereq: Permission of instructor. Repeatable to a maximum of 10 completions. This course is graded S/U. Admis Cond course.</td>
</tr>
<tr>
<td>4999</td>
<td>Neuroscience Undergraduate Thesis Research</td>
<td>U 1 - 15</td>
<td>A program of individual research with a Neuroscience faculty member culminating in a thesis and oral examination. Prereq: Permission of advisor. Repeatable to a maximum of 15 cr hrs or 8 completions. This course is graded S/U.</td>
</tr>
</tbody>
</table>
7890 Seminar Topics in Neuroscience G 1
Selected topics in neuroscience are presented by faculty as well as invited speakers from outside the university.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs. This course is progress graded (S/U). Admis Cond course.

8999 Research for Dissertation G 1 - 10
Graduate level research in neuroscience.
Prereq: Permission of instructor. Repeatable to a maximum of 20 completions. This course is graded S/U. Admis Cond course.

Neuroscience Graduate Studies Program

7887 Seminar Topics in Neuroscience G 1
Selected topics in current neuroscience research.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

Nuclear Engineering

2194 Group Studies in Nuclear Engineering U 1 - 4
Special group studies of a selected area of nuclear engineering not provided in other courses.
Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is graded S/U.

4193 Individual Studies in Nuclear Engineering U 1 - 4
Designed to give the advanced student opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.

4193H Individual Studies in Nuclear Engineering U 1 - 4
Designed to give the advanced student opportunity to pursue special studies not otherwise offered.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.

4194 Group Studies in Nuclear Engineering U 1 - 4
Special group studies of a selected area of nuclear engineering not provided in other courses.
Prereq: Permission of Instructor. Repeatable to a maximum of 10 hrs or 10 completions.

4194H Group Studies in Nuclear Engineering U 1 - 4
Special group studies of a selected area of nuclear engineering not provided in other courses.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 hrs or 10 completions.

4505 Introduction to Nuclear Science and Engineering U 3
Discussion of nuclear energy and nuclear radiation; sources, methods of utilization, and projections for future engineering uses.
Prereq: Math 2173, 2177, 2255 (255), or 2415 (415); and Physics 1251 (133), or permission of instructor. Not open to students with credit for 505 or MechEng 4505 (505). Cross-listed in MechEng.

4506 Undergraduate Nuclear Engineering Laboratory U 3
A laboratory course tailored to undergraduates that will provide hands-on experience with nuclear engineering instrumentation and the OSU Research Reactor.
Prereq: 4506 (506) or MechEng 4506 (506); or permission of instructor.

4536 Nuclear Reactor Systems U 3
Introductory course covering concepts of nuclear power reactor systems, thermal and mechanical design aspects and economics of nuclear power plants.
Prereq: 4505 (505) or MechEng 4505 (505); or permission of instructor. Not open to students with credit for 6536 (736), MechEng 4536 or 6536 (736). Cross-listed in MechEng.

4701 Introduction to Nuclear Power Engineering U 3
For advanced undergraduates in nuclear engineering focusing on the physics and engineering of nuclear reactors and nuclear power plants.
Prereq: 4506 (506) or MechEng 4506 (506); or permission of instructor. Not open to students with credit for 701.

4998 Research in Nuclear Engineering U 1 - 6
Designed to give the advanced student opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

4998H Research in Nuclear Engineering U 1 - 6
Designed to give the advanced student opportunity to pursue special studies not otherwise offered.
Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

5066 Radiation Protection and Shielding U G 3
General principles of radiation, radioactivity, and radiation protection including radiation sources, radioactive decay; radiation interactions, radiation detection, radiation shielding, radiation dose calculations, and biological effects.
Prereq: Math 2153, 2173, 2177 or 153, and Physics 1250 or 133; or Grad standing. Not open to students with credit for 606.

5610 Reactor Safety U G 3
Introductory course covering concepts of reactor safety, the history of reactor accidents and methods of safety analysis.
Prereq: 4505 (505) or MechEng 4505 (505); or Grad standing; or permission of instructor. Not open to students with credit for 610.

5735 Nuclear Fuel Cycle and Radioactive Waste Management U G 3
Introduction to nuclear fuel cycle systems, regulatory requirements, integrated plant operations, and emergency responses.
Prereq: 4505 (505) or MechEng 4505 (505); or Grad standing; or permission of instructor. Not open to students with credit for 735 or 745.

5742 Nuclear Radiations and Their Measurements U G 3
Systematic study of nuclear radiation source, interaction with matter and their detection using gas-filled, semiconductor, Scintillation detectors, HPGe spectrometry, pulse processing, and statistical data analysis.
Prereq: Not open to students with credit for 743.

5776 Nuclear Fuel Cycle and Radioactive Waste Management U G 3
Review of the nuclear fuel cycle and radioactive waste management, including uranium mining, milling, conversion, enrichment, fuel fabrication, reactor operations, reprocessing, waste treatment, and disposal.
Prereq: 4505 (505) or MechEng 4505 (505); or Grad standing; or permission of instructor.

6193 Individual Studies in Nuclear Engineering G 1 - 4
Designed to give the advanced student opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.

6194 Group Studies in Nuclear Engineering G 1 - 4
Special group studies of a selected area of nuclear engineering not provided in other courses.
Prereq: Permission of Instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.

6507 Intermediate Numerical Methods U G 3
Numerical techniques and computer algorithms to solve initial and boundary value problems relevant to engineering applications, such as heat conduction and mass diffusion.
Prereq: MechEng 2850 (250), Math 2174 (258), 2415 (415), or 4512 (557 or 512); or Grad standing in MechEng, AeroEng, or Nuclear Eng; or permission of instructor. Not open to students with credit for 707 or MechEng 6507 (707). Cross-listed in MechEng.

6536 Nuclear Reactor Systems and Analysis U G 3
Intermediate-level course covering thermal and mechanical design aspects of nuclear power plants. The thermodynamics of operating nuclear power plants (BWRs and PWRs) are emphasized.
Prereq: 4505 (505) or MechEng 4505 (505); or 3501 or 3502 (502), or equiv; or permission of instructor. Not open to students with credit for 736 or MechEng 6536 (736). Cross-listed in MechEng.

6537 Nuclear Reactor Thermal Hydraulics U G 3
Focuses on heat transfer and fluid flow applications in nuclear power reactor systems, including heat transfer in LWR fuel rods, coolant, and reactor internals.
Prereq: 6536 (736) or MechEng 6536 (736); or equiv, or permission of instructor. Not open to students with credit for 737 or MechEng 6537 (737). Cross-listed in MechEng.

6708 Reactor Theory U G 3
Principles of neutron chain reaction, neutron diffusion and moderation. One, two and multi-group diffusion equation and analytical solutions. Heterogeneous reactors and homogenization. Commercial reactors.
Prereq: 4505 (505) or MechEng 4505 (505); or Grad standing; or permission of instructor. Not open to students with credit for 704 or 705 or 708.

6716 Probabilistic Reliability and Safety Assessment U G 3
Methods underlying probabilistic risk assessment (PRA) and how they are used in assessing the public health risk of nuclear systems.
Prereq: 4505 (505) or MechEng 4505 (505); or permission of instructor. Not open to students with credit for 716 or MechEng 5716 (716). Cross-listed in MechEng.

6725 Nuclear Reactor Dynamics U G 2
Nuclear reactor system transient operation, control mechanisms.
Prereq: 6708 (708), or Grad standing; or permission of instructor. Not open to students with credit for 725.

6726 Reactor Dynamics Laboratory U G 2
Measurement of reactor characteristics and operational parameters using the Ohio State University Research Reactor.
Prereq: 6708 or 705. Prereq or concur: 6725, or Grad standing; or permission of instructor. Not open to students with credit for 744.
Nuclear Engineering

6750 Nuclear Materials and Irradiation Effects in Materials G 2
Develop an understanding of the interactions of materials with radiation and the resulting changes in materials properties. Discussion of common nuclear materials. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 750 or MatScEn 6750 (750). Cross-listed in MatScEn.

6766 Nuclear Engineering Design G 2
A practical experience in the design process within the context of nuclear engineering. Students will be organized into groups. A design project will be specified. Each group will produce and present a final design report. Prereq: NuclEn MS Core, or permission of instructor. Not open to students with credit for 766.

6851 Nuclear Engineering Seminar G 1
Discussions by graduate students and invited eminent speakers of their research projects and topics of interest in nuclear engineering. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 10 or hrs or 20 completions.

7538 Advanced Nuclear Reactor Thermal Hydraulics G 3
Advanced course focusing on heat transfer and fluid flow applications in LWR systems with an emphasis on essential thermal hydraulics phenomena related to reactor safety. Prereq: 6537 (737) or MechEng 6537 (737), or permission of instructor. Not open to students with credit for 738 or MechEng 738. Cross-listed in MechEng.

7777 Risk and Reliability for Digital Instrumentation and Control Systems G 3
Modeling of digital instrumentation systems used in nuclear power reactor systems for reliability, safety, risk, and security assessment. Prereq: 4505 (505) or MechEng 4505 (505), or permission of instructor. Not open to students with credit for 794J. Cross-listed in MechEng.

7865 Neutron Slowing Down and Thermalization G 3
Neutron slowing down in infinite and finite media, thermal spectrum calculations, and cell calculations in heterogeneous core lattices. Prereq: 6708, 704, 705, or 708; or permission of instructor. Not open to students with credit for 865.

8193 Individual Studies in Nuclear Engineering G 1 - 4
Designed to give the advanced student opportunity to pursue special studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions.

8194 Group Studies in Nuclear Engineering G 1 - 4
Special group studies of a selected area of nuclear engineering not provided in other courses. Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs or 10 completions.

8717 Dynamic Probabilistic Risk Assessment G 3
The students will review selected papers on dynamic probabilistic risk assessment. Prereq: 6716 (716), MechEng 6665 (776.01), or 6666 (776.02); or permission of instructor. Not open to students with credit for MechEng 8717. Cross-listed in MechEng.

8998 Graduate Research in Nuclear Engineering G 1 - 12
Nuclear Engineering research for thesis. Repeatable. This course is graded S/U.

8999 Nuclear Engineering Research for Dissertation G 1 - 15
Research for dissertation purposes only. Repeatable. This course is graded S/U.

Nursing

1100 Nursing Survey U 1
Introduction to the university community, the College of Nursing, and the profession of nursing with emphasis on strategies for success, resources, and procedures. Designed for students admitted as freshman. 1100H (honors) may be available. Prereq: Enrollment in pre-Nursing. Not open to students with credit for 100. This course is progress graded (S/U).

1101 Nursing Assistant Education U 3
Provides the education necessary to give patient care as a nursing assistant in various patient care settings. Prereq: Permission of instructor.

1102 To Thrive: COPE (Creating Opportunities for Personal Empowerment) Healthy Lifestyles U 3
Concepts and strategies for managing stress, building cognitive-behavioral skills, setting goals, and leading a healthy lifestyle to improve health and academic outcomes through didactic information and skill-building activities.

1420 A Nursing Perspective: Life Span Development of Individuals within a Family Context U 3
Study of growth and development of individuals within a family context from conception to death with an emphasis on assessment and interventions utilized in Nursing practice. Prereq: Admission to the Nursing major. Not open to students with credit for 337.

2100 Introduction to Professional Nursing: Concepts and Practice U 3
Introduction to professional Nursing and the health care delivery system, its history and evolution, and the examination of the legal and ethical basis for professional practice. Prereq: Admission to the Nursing major. Not open to students with credit for 301.01 or 301.02 or 301.03.

2270 Nursing Care of Adults and Older Adults I U 5
Nursing knowledge essential to caring for adults and older adults with emphasis on health promotion, risk assessment, disease prevention, and health problems. Prereq: 2100, 2410, 2450, and 2460. Not open to students with credit for 402 and 403.

2367 Writing About Healthcare Issues in the United States U 3
Designed to enhance student's critical and analytical reading and writing skills through a study of current health issues in the United States. Prereq: English 1110 (110) or equiv. Not open to students with credit for 367. GE writing and comm course: level 2.

2410 Health Assessment U 3
Introduction to the foundational health assessment concepts of Nursing and the assessment skills required in the provision of Nursing care across the lifespan. Prereq: Admission to the Nursing major. Not open to students with credit for 301.01 or 301.02 or 301.03.

2459 Pathophysiology for Nursing Practice U 3
Study of pathophysiology and disease processes across the lifespan as a scientific foundation for nursing practice. Prereq: Admission to Nursing major. Not open to students with credit for 385.01 or 385.02 or 385.03.

2460 Introduction to Therapeutic Communication for Health Professionals U 3
Introduction to the process of effective communication and collaboration in health care settings. Prereq: Admission to the Nursing major. Not open to students with credit for 301.01 or 301.02 or 301.03.

2470 Introductory Pharmacology for Nurses U 3
Introduction to pharmacokinetic principles, drug mechanism of action and nursing implications for common classes of medications. Prospective Graduate Entry Nursing students may enroll in Spring semester by contacting nursing@osu.edu. Prereq: 2100, 2410, 2450, and 2460. Not open to students with credit for 364.

2780 Scholarship for Evidence Based Practice U 3
Introduction to information literacy, Nursing research methods, evidence based practice, the linkages among these areas and how they influence professional Nursing practice. Prereq: Enrollment in the Nursing major. Not open to students with credit for 360.01 or 360.02 or 360.03.

2781H Honors Research Methods U 4
Introduction to information literacy, nursing research methods, evidence based practice, the linkages between these areas and how they influence professional nursing practice through direct involvement in the research process. Prereq: Honors standing. Soph standing in the major. Not open to students with credit for 541H.

2798 Nursing Short Term Study Abroad Program U 1 - 4
Preparing students for travel and learning experiences abroad. Participant in the College of Nursing short term study abroad program required. Prereq: Enrollment in Nursing major. Repeatable to a maximum of 2 completions. This course is graded S/U.

2890.01H Sophomore Honors Seminar I U 1
Discussion of topics relevant to academic, professional, and personal development in nursing. Prereq: Honors standing, and Soph standing in Nursing. Not open to students with credit for 320.01H, 320.02H, or 320.03H.

2890.02H Sophomore Honors Seminar II U 1
Discussion of topics relevant to academic, professional, and personal development in nursing. Prereq: Honors standing, and 2890.01H; or permission of instructor. Not open to students with credit for 320.01, 320.02, or 320.03.

3200 Failure to Rescue: Recognition and Management of Clinical Triggers U 2
Designed to introduce students to ECG interpretation and the clinical and decision-making skills necessary to recognize and respond to changes in patients' conditions. Prereq: Jr standing in Nursing, or professional nurse, or permission of instructor. Not open to students with credit for 525.

3270 Nursing Care of Adults and Older Adults II U 7
Nursing knowledge essential to caring for adults and older adults with emphasis on management of acutely ill patients with complex health problems. Prereq: 2270. Not open to students with credit for 501.
3403 Concepts in Gerontological Nursing U 1 - 3
Develops nursing knowledge essential to caring for older adults; emphasis on health promotion, risk assessment, disease prevention and common acute and chronic health problems. Prereq: 301.03 and 385.03.

3430 Cultural Competence in Health Care: US and Global Contexts U 3
Introduction to concepts and techniques for the provision of culturally competent care within the U.S. and across global contexts. Prereq: Enrollment in the Nursing major. Not open to students with credit for 440.

3797 Study at a Foreign Institution U 1 - 4
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Jr or Sr standing in Nursing, and permission of the Chair of Undergraduate Studies. Repeatable to a maximum of 4 or hrs or 2 completions. This course is progress graded (S/U).

3890.01H Junior Honors Seminar I U 1
Discussion of topics relevant to research and the senior thesis proposal. Prereq: Honors standing, and 2890.02H; or permission of instructor. Not open to students with credit for 420.01H, 420.02H, or 420.03H.

3890.02H Junior Honors Seminar II U 1
Discussion of topics relevant to research and the senior thesis proposal. Prereq: Honors standing, and 3890.01H; or permission of instructor. Not open to students with credit for 420.01H, 420.02H, or 420.03H.

4191 Professional Experience Field Study U 0 - 1
Nursing students completing an internship or externship requiring credit or course enrollment. Prereq: Enrollment in the Nursing major, and permission of instructor. Repeatable to a maximum of 2 or hrs or 2 completions. This course is graded S/U.

4193 Individual Studies in Nursing U 1 - 4
Students will gain skills and knowledge within a focused area of study within the area of expertise of a nursing faculty mentor. The course will expose students to novel scholarly activities and provide individualized learning opportunities. Prereq: Enrollment in Nursing major, and permission of instructor. Repeatable to a maximum of 20 or hrs or 5 completions. This course is graded S/U.

4205 Concepts in Community Health Nursing U 3
Study of community health nursing theory and principles applied to the nursing care of individuals, families, groups, communities, and populations. Prereq: 2270. Not open to students with credit for 511S.

4260 Nursing Care of Children and Their Families U 4
Nursing knowledge essential to caring for children and families with emphasis on health promotion, risk assessment, disease prevention, and common acute and chronic health problems. Prereq: 2270. Not open to students with credit for 405.

4270 Transition to Professional Nursing U 6
Exploration of personal and professional topics designed to assist in promoting successful transition from nursing education to a rapidly changing work environment. Prereq: 3270. Not open to students with credit for 503.

4280 Nursing Care of Women and their Families during Reproductive Transitions U 4
Nursing knowledge and clinical practice essential to caring for women and their families during reproductive transitions. Prereq: 2270. Not open to students with credit for 404.

4340 Psychiatric and Mental Health Nursing U 4
Nursing knowledge applied to the promotion of mental health and to the recovery of individuals with psychiatric diagnoses and their families. Prereq: 2270. Not open to students with credit for 512.

4400 Leadership and Management of Nursing Practice U 3
Exploration of leadership and management principles, including an examination of Nursing informatics, as applied to Nursing practice and the health care environment. Prereq: 3270. Not open to students with credit for 503.

4501 Concepts in High Acuity Nursing U 3
Nursing knowledge essential to management of high acuity patients and their families in a variety of health care settings. Prereq: 390, 402, 403, 404, 405, and 440. This course is graded S/U.

4890.01H Senior Honors Seminar I U 1
Discussion of topics relevant to research and the senior thesis proposal and professional development in nursing. Prereq: Honors standing, and 3890.02H; or permission of instructor. Not open to students with credit for 520.01H, 520.02H, or 520.03H.

4990.02H Senior Honors Seminar II U 1
Discussion of topics relevant to research and the senior thesis proposal and professional development in nursing. Prereq: Honors standing, and 4890.01H; or permission of instructor. Not open to students with credit for 520.01H, 520.02H, or 520.03H.

4999H Honors Thesis Research U ½ - 5
Undergraduate Honors thesis research on nursing topics. Prereq: Enrollment in Honors nursing, and Sr standing. This course is graded S/U.

5000 Interdisciplinary Case Management for Working with Underserved Populations U G 2
Provides students the opportunity to collaborate with students from other health care professions including pharmacy, health and rehabilitation sciences, nursing, medicine and social work. The students will use a problem-based learning approach to patient care in community health, focusing on populations living in poverty, with complex healthcare needs. Prereq: Sr or Grad standing. This course is graded S/U. Cross-listed in HthRhSc, MedColl, Phr, and SocWork.

5110 Interpersonal Relationships: Personal and Professional Boundaries U 1 - 4
In depth study of interpersonal relationship boundary issues in personal and professional relationships. Prereq: Not open to students with credit for 450. This course is progress graded (S/U).

5111 Palliative and End of Life Care U G 2
Foundation for palliative and hospice care through exploration of individual, family and loved ones' needs at the end of life. Prereq: Sr or Grad standing in Nursing, or permission of instructor. Not open to students with credit for 607.

5112 Community-Based Nursing Preparedness for Disaster Surge U G 2
Overview of community-based nurse's role in population-based preparedness for, response to, and recovery from disaster surge incidents. Prereq: Sr or Grad standing, or permission of instructor.

5193 Individual Clinical Studies in Nursing U G 0 - 5
Clinical skills development for individuals which takes place in the College of Nursing’s Teaching Learning Center. Prereq: Enrollment in Nursing major, and permission of instructor. Repeatable to a maximum of 20 or hrs or 5 completions. This course is graded S/U.

5194 Group Studies in Nursing U G 1 - 4
Group studies of special problems in Nursing. Prereq: Sr or Grad standing in Nursing. Repeatable to a maximum of 10 or hrs or 3 completions.

5270 Nursing Process in the Perioperative Setting U G 2
Study of the nursing process with clients in the preoperative, intraoperative and postoperative phase; emphasis on patient care coordinator, nursing roles, and evidence-based practice. Prereq: Sr or Grad standing, or permission of the instructor. Not open to students with credit for 652. This course is graded S/U.

5300 Nursing Care of the High-Risk Neonate U G 2
Introduction to the role of the neonatal nurse in the provision of comprehensive nursing care of the high-risk neonate. Prereq: 2450 (385.03) or 7450 (704), or permission of instructor. Not open to students with credit for 657.

5320 Cancers in Women U G 2
Examination of the most common gynecologic and other cancers in women with discussion of issues related to genomics and personalized health care and their potential effects on risk, incidence, treatment, and outcomes. Prereq: Sr or Grad standing in Nursing, or permission of instructor. Not open to students with credit for 614.

5321 Cancer Survivorship Care U G 2
In-depth examination of the short-term and long-term biopsychosocial needs of cancer survivors, including cancer survivorship care planning and cancer survivorship care. Prereq: Sr or Grad standing in Nursing, or permission of instructor.

5322 Contemporary Issues in Oncology U G 2
Concepts related to cancer prevention, detection, diagnosis, treatment, symptom management, survivorship care planning, rehabilitation, surveillance, and palliative care in the context of personalized health care. Prereq: Sr or Grad standing in Nursing, or permission of instructor.

5323 Basic Oncology Nursing U G 1
Basic and intermediate level information for nursing care of people with cancer including prevention, detection, and treatment in acute, ambulatory or home care settings. Prereq: Sr or Grad standing in Nursing, or permission of instructor. Not open to students with credit for 656.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>5410</td>
<td>Health Assessment Review</td>
<td>U G 2</td>
</tr>
<tr>
<td>5430</td>
<td>Interdisciplinary Healthcare in the Global Community</td>
<td>U G 2</td>
</tr>
<tr>
<td>5431</td>
<td>Global Health Care in Your Own Back Yard</td>
<td>U G 3</td>
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<tr>
<td>5797</td>
<td>Study at a Foreign Institution</td>
<td>U G 1 - 18</td>
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<tr>
<td>5798</td>
<td>Study Tour</td>
<td>U G 1 - 4</td>
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<tr>
<td>5880.01</td>
<td>Interprofessional Education: Seminar on Interprofessional Care</td>
<td>U G 2</td>
</tr>
<tr>
<td>5880.03</td>
<td>Interprofessional Education: Seminar on Ethical Issues and Common to the Helping Professions</td>
<td>U G 2</td>
</tr>
<tr>
<td>5880.04</td>
<td>Interprofessional Education: Seminar on Interprofessional Collaboration in Urban Communities</td>
<td>U G 2</td>
</tr>
<tr>
<td>6100</td>
<td>Introduction to Professional Nursing Practice</td>
<td>G 2</td>
</tr>
<tr>
<td>6110</td>
<td>Health Literacy</td>
<td>G 2</td>
</tr>
<tr>
<td>6111</td>
<td>Diabetes Education and Management in the New Millennium</td>
<td>G 2</td>
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<tr>
<td>6114</td>
<td>Strategies for Personal Health</td>
<td>G 1</td>
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<tr>
<td>6240</td>
<td>Concepts in Community Health Nursing</td>
<td>G 4</td>
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<td>6240S</td>
<td>Concepts in Community Health Nursing</td>
<td>G 4</td>
</tr>
<tr>
<td>6260</td>
<td>Nursing Care of Children and Their Families</td>
<td>G 4</td>
</tr>
<tr>
<td>6270</td>
<td>Nursing Care of Adults and Older Adults I</td>
<td>G 7</td>
</tr>
<tr>
<td>6271</td>
<td>Nursing Care of Adults and Older Adults II</td>
<td>G 8</td>
</tr>
<tr>
<td>6280</td>
<td>Nursing Care of Women and their Families during Reproductive Transitions</td>
<td>G 4</td>
</tr>
<tr>
<td>6330</td>
<td>Advanced Pediatric Physical Assessment for the School Nurse</td>
<td>G 2</td>
</tr>
<tr>
<td>6360</td>
<td>Concept in Community Health Nursing</td>
<td>G 4</td>
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<tr>
<td>6410</td>
<td>Introduction to Health Assessment</td>
<td>G 3</td>
</tr>
<tr>
<td>6420</td>
<td>A Nursing Perspective: Life Span Development of Individuals within a Family Context</td>
<td>G 3</td>
</tr>
<tr>
<td>6430</td>
<td>Cultural Competence in Health Care: US and Global Contexts</td>
<td>G 3</td>
</tr>
<tr>
<td>7193</td>
<td>Individual Studies in Nursing</td>
<td>G 1 - 4</td>
</tr>
<tr>
<td>7200</td>
<td>Adult Acute Care Nurse Practitioner Skills</td>
<td>G 2</td>
</tr>
<tr>
<td>7200.01</td>
<td>Adult Acute Care Nurse Practitioner Practicum I</td>
<td>G 1 - 10</td>
</tr>
<tr>
<td>7200.02</td>
<td>Adult Acute Care Nurse Practitioner Practicum II</td>
<td>G 1 - 10</td>
</tr>
</tbody>
</table>

Courses are graded S/U. Students must achieve a minimum grade of S. OSU fees and any fees in excess of OSU tuition, as well as all travel and subsistence costs, are to be paid by the student. Students will pay OSU fees and any fees in excess of OSU tuition, as well as all travel and subsistence costs.

For more information, please consult the university's course catalog or contact the respective department.
27210.01  Advanced Nursing Practice in Pediatric Acute Care I  G  1 - 10
Application of knowledge, research findings, advanced skills and interventions, including pharmacotherapy, in the management of children with acute and critical conditions affecting circulatory and respiratory function. 
Prereq: 7338.01.

27210.02  Advanced Nursing Practice in Pediatric Acute Care II  G  1 - 10
Application of knowledge, research findings, skills and interventions in the advanced nursing care of acutely and critically ill children. 
Prereq: 7218.01.

27210.01  Advanced Practice Adult Nursing Clinical Practicum I  G  1 - 10
Application of advanced practice nursing theories, research findings, skills and interventions, including pharmacological management to the care of adults, focusing on health promotion needs and the most commonly seen diagnoses in primary care. 
Prereq: 7410 (705) and 7470 (706), Not open to students with credit for 859.

27210.02  Advanced Practice Adult Nursing Clinical Practicum II  G  1 - 10
Application of advanced practice nursing theories, research findings, skills and interventions, including pharmacological management to the primary care of adults and older adults with acute and chronic health problems. 
Prereq: 7228.01 (859), 7410 (705), and 7470 (706). Not open to students with credit for 859.

2728  Transition to Clinical Nurse Leader Practice  G  9
Final course in the Clinical Nurse Leader specialty. Emphasis is on clinical experience and application of theoretical material learned throughout the program. 
Prereq: 733 and RN licensure.

2728.01  Introduction to Clinical Nurse Leader Practice  G  1 - 5
Introduction to the role, responsibilities, practice, and skills of the Clinical Nurse Leader. 
Prereq: Grad standing in Nursing, and Clinical Nurse Leader specialty. Not open to students with credit for 733.

2728.02  Transition to Clinical Nurse Leader Practice  G  1 - 10
Intensive clinical experience to apply theories and engage fully in the role of the Clinical Nurse Leader (CNL). 
Prereq: 7228.01 (733). Not open to students with credit for 833.

2741  Current Issues in Public Health Nursing  G  2
Overview of the public health system and current topics relevant to advanced public health Nursing practice. 
Prereq: Completion of a pre-licensure/undergraduate community health nursing course, and admission to the Nursing and Health Systems Management specialty; or permission of instructor.

2758  Foundational Knowledge for Nursing and Health Systems Management  G  1 - 10
Study of the theoretical knowledge that provides the foundation for Nursing leadership in program and health systems management across the continuum of care. 
Prereq: 7400 and 7791 (702), and admission to the Nursing and Health Systems Management specialty. Not open to students with credit for 807, 808, or 809.

2758.02  Skills for Nursing and Health Systems Management  G  1 - 10
Study of the skills, strategies, and techniques necessary for program and health systems Nursing management across the continuum of care. 
Prereq: 7228.01. Not open to students with credit for 807, 808, or 809.

2760  Concepts and Issues in Advanced Family Nursing  G  2
Issues of health care for family units; development of personalized health care strategies, culturally appropriate plans, examination of sociocultural policies affecting family health. 
Prereq: Grad standing in Nursing. Not open to students with credit for 721.

2768.01  Advanced Practice Family Nurse Practitioner Clinical Practicum I  G  6 - 11
Prereq: 7280.02. Not open to students with credit for 859.

2768.02  Advanced Practice Family Nurse Practitioner Clinical Practicum II  G  5 - 11
Advanced practice nursing applied to family as population focus. Emphasis on care of acute conditions; development of skills in clinical acumen and collaboration. 
Prereq: 7280.01. Not open to students with credit for 859.

2768.03  Advanced Practice Family Nurse Practitioner Clinical Practicum III  G  4 - 12
Emphasis on care of families with chronic illnesses across the life span, skills in differential diagnosis, reflective practice, and evidence based strategies. 
Prereq: 7288.02. Not open to students with credit for 859.

2780  Conceptual Frameworks for Nurse-Midwifery  G  2
Theoretical, structural, historical, and political/legal foundations of nurse-midwifery in the United States and internationally. 
Prereq: Enrollment in the Nurse-Midwifery specialty. Not open to students with credit for 724.

2781  Advanced Reproductive Dynamics  G  3
Principles of reproductive anatomy and physiology including puberty, genetics, pregnancy, embryonic/fetal development, parturition, puerperium, lactation, and menopause in relationship to advanced practice nursing care. 
Prereq: Enrollment in the Nurse-Midwifery specialty. Not open to students with credit for 722.

2782  Labor and Birth Clinical Immersion  G  2
Provides orientation to intrapartum care and the role of the health care team for specialty students without prior experience in this clinical area. 
Prereq: Enrollment in the Nurse-Midwifery, or Dual Nurse-Midwifery and Women's Health specialty; or permission of the course head.

2788.01  Advanced Practice Nursing: Nurse-Midwifery Clinical Practicum I  G  1 - 8
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care. 
Prereq: 7271. Not open to students with credit for 859.

2788.02  Advanced Practice Nursing: Nurse-Midwifery Clinical Practicum II  G  1 - 10
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of nurse-midwifery care to women and their families. 
Prereq: 7288.01. Not open to students with credit for 859.

2788.03  Advanced Practice Nursing: Nurse-Midwifery Clinical Practicum III  G  1 - 10
Application of theories, research findings, complex skills, and interventions including pharmacological management, during the provision of nurse-midwifery care to women and their families. 
Prereq: 7288.02. Not open to students with credit for 859.

2788.04  Advanced Practice Nursing: Nurse-Midwifery Clinical Practicum IV  G  1 - 10
Integration of theories, research findings, skills, and interventions including pharmacological management, during the provision of nurse-midwifery care to women and their families. 
Prereq: 7288.03. Not open to students with credit for 859.

2788.11  Advanced Practice Nursing: Nurse-Midwifery Clinical Practicum V  G  7
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care. 
Prereq: 703, 705, 706, 722, and EduPL 786 or AgrEduc 887, or permission of instructor.

2788.14  Advanced Practice Nursing: Nurse-Midwifery Clinical Practicum VI  G  8
Integration of theories, research findings, skills, and interventions including pharmacological management, during the provision of nurse-midwifery care to women and their families. 
Prereq: 859.

2788.01  Advanced Practice Nursing: Women's Health Clinical Practicum I  G  1 - 8
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care. 
Prereq: 7281.

2788.02  Advanced Practice Nursing: Women's Health Clinical Practicum II  G  1 - 9
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care to women and their families. 
Prereq: 7288.01.

2788.03  Advanced Practice Nursing: Women's Health Clinical Practicum III  G  1 - 9
Integration of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care to women and their families. 
Prereq: 7288.02.

2788.11  Advanced Practice Nursing: Women's Health Clinical Practicum I  G  7
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care. 
Prereq: 702, 705, 706, 722, and EduPL 786 or AgrEduc 887, or permission of instructor.

2789.01  Advanced Practice Nursing: Dual Nurse-Midwifery & Women's Health Clinical Practicum I  G  1 - 8
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care. 
Prereq: 7281. Not open to students with credit for 859.

2789.02  Advanced Practice Nursing: Dual Nurse-Midwifery & Women's Health Clinical Practicum II  G  1 - 11
Application of theories, research findings, skills, and interventions including pharmacological management, during the provision of advanced practice nursing care to women and their families. 
Prereq: 7299.01. Not open to students with credit for 859.
Nursing

730 Advanced Pediatric Health Assessment
- Advanced knowledge and skills in the health assessment of children through young adulthood with an emphasis on sophisticated clinical reasoning.
- Prereq: Enrollment in Pediatric NP Primary, Acute Care, or Child and Adolescent Psychiatric Mental Health specialty. Not open to students with credit for 715.
- Precedes: 7330.
- Not open to students with credit for 859.
- Credit: 4

7338.01 Advanced Nursing Practice in Pediatric Primary Care I
- Application of theories, research findings, skills, and interventions including pharmacological management to advanced practice nursing in pediatric health promotion and preventive care.
- Precedes: 7330.
- Not open to students with credit for 859.
- Credit: 3 - 8

7338.02 Advanced Nursing Practice in Pediatric Primary Care II
- Application of theories, research findings, skills, and interventions including pharmacological management to advanced practice nursing in pediatric health promotion and preventive care.
- Precedes: 7338.01.
- Not open to students with credit for 859.
- Credit: 3 - 8

7338.03 Advanced Nursing Practice in Pediatric Primary Care III
- Application of theories, research findings, skills, and interventions including pharmacological management to advanced practice nursing in the care of children with common chronic conditions.
- Precedes: 7338.02.
- Not open to students with credit for 859.
- Credit: 3 - 8

7340 Neuroscience Principles and Concepts Relevant to Psychiatric and Mental Health
- Neurobiological bases of brain-mind-behavior relationships in mental health and illness, including chemical dependence. The promotion, maintenance, and restoration of central nervous system homeostasis will be emphasized.
- Prereq: Grad standing in Nursing and the Psychiatric Mental Health Nursing specialty.
- Not open to students with credit for 740.
- Credit: 3

7341 Advanced Psychiatric and Mental Health Nursing: Therapies across the Lifespan
- Advanced nursing clinical therapeutic interventions with persons across the lifespan diagnosed with mental illness and/or substance abuse.
- Prereq: Grad standing and enrollment in the Psychiatric Mental Health Nursing specialty.
- Not open to students with credit for 745 or 777.
- Credit: 4

7342 Motivational Interviewing
- Critical analysis of theoretical and research findings involved in the conduct of motivational interviewing to create behavior change and improve health outcomes.
- Prereq: Grad standing in Nursing.
- Credit: 2

7348.01 Advanced Practice Psychiatric and Mental Health Nursing Clinical Practicum I
- Application of advanced practice psychiatric and mental health nursing biopsychosocial interventions with individuals experiencing mental illness and chemical dependence.
- Prereq: 7340 (740) and 7341 (745 and 777).
- Not open to students with credit for 859.
- Credit: 1 - 12

7348.02 Advanced Practice Psychiatric and Mental Health Nursing Clinical Practicum II
- Application of advanced practice psychiatric and mental health nursing biopsychosocial interventions with individuals experiencing comorbid mental illnesses and/or chemical dependence disorders.
- Prereq: 7348.01.
- Not open to students with credit for 859.
- Credit: 1 - 12

7378 Advanced Nursing Practice Adult Chronic Nurse Specialist Clinical Practicum
- Application of theories, research findings, skills, and interventions, including pharmacologic, for advanced practice in the care of adults with all types of acute and chronic health problems.
- Prereq: 7228.01.
- Not open to students with credit for 859.
- Credit: 1 - 10

7400 Leadership in Advanced Nursing Care
- Analysis of organizational and leadership strategies and skills essential in the delivery of high quality patient care in diverse settings.
- Prereq: Grad standing or permission of instructor.
- Credit: 3

7401 Clinical Management in Primary Care Settings
- Theories, concepts, and issues related to the implementation of leadership, management, strategic, operational, clinical, and administrative concepts necessary in primary care settings.
- Prereq: 7403, or permission of instructor.
- Not open to students with credit for 608.
- Credit: 2

7402 Applied Cost-Effectiveness Analysis in Intervention Research
- Introduction to cost-effectiveness analysis, including evaluating costs and health effects, ethics, using results to inform resource allocation, interpretation, and decision analysis in health care.
- Prereq: Grad standing.
- Credit: 3

7403 Innovation Leadership in Advanced Nursing Practice
- Analysis of organizational leadership and ethical essentials necessary to deliver high quality patient care in diverse settings.
- Prereq: Enrollment in Grad Nursing.
- Credit: 3

7404 Healthcare Project Management
- Principles of project management, strategic planning, and leadership in clinical research and regulatory settings.
- Prereq: 7782, or concur: 7781, or permission of instructor.
- Credit: 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>7405</td>
<td>Management of Clinical and Preclinical Studies</td>
<td><strong>3</strong></td>
<td>Fundamental principles of clinical research operations from study site selection to study closure from the perspective of sponsors and clinical research sites including an introduction to database design, management, quality assurance, and reporting for site and sponsor operations.</td>
<td>Prereq: 7770 or Pfr 7770; or permission of instructor.</td>
</tr>
<tr>
<td>7410</td>
<td>Advanced Health Assessment</td>
<td><strong>3 - 4</strong></td>
<td>Development of advanced health assessment skills. Emphasis on acquisition of pertinent assessment data across the life span for advanced nursing care for multiple specialties.</td>
<td>Prereq: 7450 (703 or 704). Not open to students with credit for 705.</td>
</tr>
<tr>
<td>7430</td>
<td>Introduction to Global Health Research Methods</td>
<td><strong>3</strong></td>
<td>Examination and discussion of design approaches, methodologic challenges and peer-reviewed literature focusing on various global health research topics.</td>
<td>Prereq: Enrollment in the Graduate Interdisciplinary Specialization in Global Health (GISGH) program or permission of instructor. Not open to students with credit for 803 or IntMed 796. Cross-listed in IntMed 7430.</td>
</tr>
<tr>
<td>7431</td>
<td>Diverse and Inclusive Processes in Healthcare Environments</td>
<td><strong>2</strong></td>
<td>Development of expertise in the use of theory, literature, and research related to diversity and inclusiveness across healthcare settings.</td>
<td>Prereq: Grad standing in Nursing.</td>
</tr>
<tr>
<td>7440</td>
<td>Scientific Thought in Nursing</td>
<td><strong>2</strong></td>
<td>Study of the nature of scientific thought, critical thinking, and moral reasoning in the discipline of Nursing.</td>
<td>Prereq: Grad standing in Nursing or permission of instructor. Not open to students with credit for 601.</td>
</tr>
<tr>
<td>7450</td>
<td>Pathophysiology of Altered Health States</td>
<td><strong>5</strong></td>
<td>Analysis of theories and research regarding alterations of health states across the life span with an emphasis on pathophysiological processes.</td>
<td>Prereq: Grad standing in Nursing or permission of instructor. Not open to students with credit for 703 or 704.</td>
</tr>
<tr>
<td>7460</td>
<td>Technical Writing for the Regulatory Professional</td>
<td><strong>3</strong></td>
<td>Writing and presentation skills critical for regulatory professionals in the medical products industry.</td>
<td>Prereq: 7770, or permission of instructor.</td>
</tr>
<tr>
<td>7470</td>
<td>Advanced Pharmacology in Nursing</td>
<td><strong>4</strong></td>
<td>Pharmacokinetic principles and clinical application and principles of the use of drugs and therapeutic devices in the prevention of illness and maintenance of health. Meets criteria for APN's prescribing in Ohio.</td>
<td>Prereq: 7460. Not open to students with credit for 706. Repeatable to a maximum of 12 or hrs or 3 completions.</td>
</tr>
<tr>
<td>7471</td>
<td>Prescribing Schedule II Medications for Advanced Practice Nurses</td>
<td><strong>3</strong></td>
<td>A single day-long offering designed to meet the Ohio Board of Nursing requirements for Advanced Practice Nurse's prescribing Schedule II Medications.</td>
<td>Prereq: 7470 (706) or 7503 (708). This course is graded S/U.</td>
</tr>
<tr>
<td>7480</td>
<td>Quality Improvement in Advanced Nursing Care</td>
<td><strong>2</strong></td>
<td>Advanced concepts of collaboration, design, leadership, implementation and evaluation of quality improvement initiatives in health care. This course has been peer-reviewed and is officially recognized by Quality Matters as meeting the standards of a quality online course.</td>
<td>For more information, visit <a href="http://www.qmprogram.org">www.qmprogram.org</a>.</td>
</tr>
<tr>
<td>7481</td>
<td>Data Management and Informatics in Clinical Trials</td>
<td><strong>3</strong></td>
<td>Introduction to database design, data management, quality assurance, and technology assessment in clinical research administration.</td>
<td>Prereq: 7782, or permission of instructor.</td>
</tr>
<tr>
<td>7482</td>
<td>Quality Systems and Standards for Medical Products</td>
<td><strong>3</strong></td>
<td>Concepts and application of total quality management for federal regulation of medical products including drugs and medical devices.</td>
<td>Prereq: 7770; or permission of instructor.</td>
</tr>
<tr>
<td>7483</td>
<td>Quality Improvement and Informatics</td>
<td><strong>3</strong></td>
<td>Explores advanced concepts of collaboration, design, leadership, implementation and evaluation of quality improvement initiatives in health care utilizing information technology strategies.</td>
<td>Prereq: Enrollment in Grad Nursing.</td>
</tr>
<tr>
<td>7490</td>
<td>Health Promotion and Disease Prevention across the Life Span</td>
<td><strong>2</strong></td>
<td>Analyze strategies to encourage change in both individual's and population's health behaviors that influence risk reduction in multiple settings.</td>
<td>Prereq: Grad standing in Nursing or permission of instructor. Not open to students with credit for 713.</td>
</tr>
<tr>
<td>7491</td>
<td>Health Promotion and Disease Prevention across the Life Span</td>
<td><strong>3</strong></td>
<td>Analyze strategies to encourage change in both individual's and population's health behaviors that influence risk reduction in multiple settings. Develop educational strategies utilizing advanced critical thinking.</td>
<td>Prereq: Enrollment in Grad Nursing.</td>
</tr>
<tr>
<td>7500</td>
<td>Health Policy and Advocacy</td>
<td><strong>2</strong></td>
<td>Analysis of the U.S. health care delivery system and the policy making process, with an emphasis on the social, political and economic factors affecting the delivery of Nursing services.</td>
<td>Prereq: Grad standing in Nursing, or permission of instructor. Not open to students with credit for 603.</td>
</tr>
<tr>
<td>7520</td>
<td>Graduate Nursing Informatics</td>
<td><strong>2</strong></td>
<td>Addresses applications of healthcare information and communication technology for graduate Nursing students to identify and develop strategies to improve patient care.</td>
<td>Prereq: Grad standing in Nursing or permission of instructor.</td>
</tr>
<tr>
<td>7530</td>
<td>Instructional Strategies for Clinical Teaching</td>
<td><strong>3</strong></td>
<td>Preparation of health professionals to assume the role of clinical educator by examining best pedagogical practices in the classroom, clinical and virtual learning environments.</td>
<td>Prereq: NrsAdvn 2440, or Grad standing in Nursing. Not open to students with credit for 718.</td>
</tr>
<tr>
<td>7532</td>
<td>Teaching in Nursing</td>
<td><strong>3</strong></td>
<td>Application of best pedagogical practices in selected Nursing education experiences.</td>
<td>Prereq: 7530 (718). Not open to students with credit for 862.05.</td>
</tr>
<tr>
<td>7533</td>
<td>Teaching Tech: Classroom Technologies</td>
<td><strong>2</strong></td>
<td>Explore theory behind selection and use of education technology to engage students in the classroom. Theory will be enhanced with practice and application. Basic understanding of education technology and teaching theory required.</td>
<td>Prereq: Grad standing, or permission of instructor.</td>
</tr>
<tr>
<td>7534</td>
<td>Teaching Tech: ePortfolios</td>
<td><strong>1</strong></td>
<td>The theory behind use and selection of ePortfolio technology will be enhanced with hands-on practice and application of production software.</td>
<td>Prereq: Grad standing, or permission of instructor.</td>
</tr>
<tr>
<td>7597</td>
<td>Clinical Research Management Capstone</td>
<td><strong>1 - 12</strong></td>
<td>Capstone project or internship for students in the Clinical Research Management specialization of the MS Applied Clinical and Preclinical Research program. Culuminating learning activity integrating core and specialization coursework.</td>
<td>Prereq: Completion of all required clinical research management courses in the MS Applied Clinical and Preclinical Research program, or permission of instructor.</td>
</tr>
<tr>
<td>7598</td>
<td>Regulatory Affairs Capstone</td>
<td><strong>1 - 12</strong></td>
<td>Capstone project or internship for students in the Regulatory Affairs specialization of the MS Applied Clinical and Preclinical Research program. Culuminating learning activity integrating core and specialization coursework.</td>
<td>Prereq: Enrollment in the Master's program in Applied Clinical and Preclinical Research, or permission of program director. Repeatable to a maximum of 12 or hrs or 6 completions.</td>
</tr>
<tr>
<td>7602</td>
<td>Theoretical Foundations for Advanced Practice Roles in Nursing</td>
<td><strong>2</strong></td>
<td>The study of theoretical foundations for advanced nursing practice.</td>
<td>Prereq: Grad standing, or permission of instructor.</td>
</tr>
<tr>
<td>7717</td>
<td>Interdisciplinary Perspective on Developmental Disabilities</td>
<td><strong>3</strong></td>
<td>Advanced seminar in intellectual and developmental disabilities (ID/DD) for graduate students from a broad spectrum of academic disciplines who are planning a leadership career in this field.</td>
<td>Prereq: Not open to students with credit for 717.03. Cross-listed in EduPAES, HnthRhSc, Psych, SocWork, and SphHmg.</td>
</tr>
<tr>
<td>7718</td>
<td>Interdisciplinary Perspective on Autism Spectrum Disorders</td>
<td><strong>3</strong></td>
<td>Seminar to promote effective participation on interdisciplinary teams to address the life long needs of children and adults with Autism Spectrum Disorders (ASD) and their families.</td>
<td>Prereq: Not open to students with credit for 717.02. Cross-listed in EduPAES, HnthRhSc, Psych, SocWork, and SphHmg.</td>
</tr>
<tr>
<td>7810</td>
<td>Life Span</td>
<td><strong>3</strong></td>
<td>Study of the nature of scientific thought, critical thinking, and moral reasoning in the discipline of Nursing.</td>
<td>Prereq: Grad standing in Nursing or permission of instructor. Not open to students with credit for 601.</td>
</tr>
</tbody>
</table>

**Nursing 381**
Nursing

7727  Assuring Quality in Online Course Design: Moving from Face to Face to Online
G  3
In this fully online course learners will use the quality matters rubric and supporting documents to inform the design and implementation of instruction specifically for an online teaching/learning environment. The learner will develop and submit for peer review an online course portion of an online course. Learners will also serve as a peer reviewer using the quality matters standards. Cross-listed in ESETec.

7770  Fundamentals of Medical Product Development and Regulation
G  3
Function of clinical research in medical product development and the regulatory process of new medical products. Laws and regulations concerning the development, testing, commercialization, and total product life cycle for medical products. Regulations governing the conduct of clinical research, including study sponsors, investigators, and Institutional Review Boards. Prereq: Admission to the Master's program in Applied Clinical and Preclinical Research, or permission of instructor. Cross-listed in Phr.

7780  Evidence Based Nursing Scholarship
G  3
Introduction to the process for evidence based practice. Includes clinical question generation, literature search methods, critique of research methods and appropriate statistical analysis in published research evidence, and synthesis of evidence related to clinical nursing problems. Prereq: Grad standing in Nursing, or permission of instructor. Not open to students with credit for 702.

7781  Responsible Conduct of Research
G  3
Concepts and policies for the responsible conduct of research (RCOR), Institutional Review Boards and dissemination of findings. Prereq: Grad standing.

7782  Research Design and Methods for Clinical and Preclinical Research
G  3
Study of research design and methods used in clinical and preclinical research. Measurement issues; bias and confounding; statistical considerations, evaluation of published clinical and preclinical research designs, and protocol and proposal development. Prereq: Admission to Master's program in Applied Clinical and Preclinical Research, or permission of instructor. Cross-listed in Phr.

8193  Individual Studies in Nursing
G  1 - 5
Students will gain skills and knowledge within a focused area of study within the area of expertise of a nursing faculty mentor. The course will expose students to novel scholarly activities and provide individualized learning opportunities. Prereq: Enrollment in Nursing program and permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions. This course is graded S/U.

8194  Group Studies in Nursing
G  0 - 5
Group studies of special problems in nursing. Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions.

8400  Leadership for Nurse Scientists
G  1
Examine current professional issues facing the nurse scientist in academia, practice, and research. Prereq: Doct standing or permission of instructor.

8420  Seminar in Life Course Health Development
G  1
This seminar provides the foundations for the life course development framework, including a review of the theoretical models, the supporting evidence and critiques. Ethical considerations specific to the framework will be discussed throughout the seminar as well as the Maternal and Child Health Leadership competencies. Prereq: Appointment as T32 Fellow, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8440  Scientific Underpinnings of Nursing Science I
G  3
Examines the scientific underpinnings used to investigate, understand and improve health status within the context of Nursing Science. Prereq: Doctoral student in Nursing or permission of instructor. Not open to students with credit for 901 or 915 or 916.

8441  Scientific Underpinnings of Nursing Science II
G  3
Integrates scientific approaches used to investigate, understand and improve health status within the context of Nursing Science. Prereq: 8440, or permission of instructor. Not open to students with credit for 901, 915, or 916.

8460  Scientific Communication I
G  1
Preparation, submission, and critique of scientific writing; ethical issues impacting manuscript preparation and editorial review. Prereq: Doctoral student in Nursing or permission of instructor.

8461  Scientific Communication II
G  1
Preparation and review of research funding applications; matching research ideas with funding sources. Prereq: Doctoral student in Nursing; or permission of instructor.

8462  Scientific Communication III
G  3
Preparation, presentation, and mock review of an individual research training fellowship application. Prereq: Doctoral student in Nursing or permission of instructor. Not open to students with credit for 904.

8510  Ethics in Healthcare Practice, Research and Policy
G  2
Study of the central ethical dilemmas facing Nursing in health care practice, research, and policy. Prereq: Grad standing in Nursing or permission of instructor. Not open to students with credit for 755.

8520  Applied Nursing Informatics
G  2
Advanced healthcare information technology and standards, the assessment of web-based health information resources, evaluation of healthcare information systems, and consumer health technologies. Prereq: Grad standing in Nursing or permission of instructor. Not open to students with credit for 865.

8780  Research Methods I
G  3
Survey of quantitative design and measurement approaches relevant to nursing and health. Emphasis is placed on experimental designs and measurement in nursing and health research. Prereq: Doctoral student in Nursing or permission of instructor. Not open to students with credit for 902.01 or 912.

8781  Research Methods II
G  3
Survey of qualitative and mixed methods approaches relevant to nursing and health. Emphasis is placed on observational research designs in nursing and health research. Prereq: 8780 or permission of instructor.

8782  Research Methods III
G  4
Integration and application of theoretical and measurement approaches applied at micro-, meso- and macro-levels in nursing and health research. Emphasis is on selected measures of individual and population health. Prereq: 8781 or permission of instructor.

8890  Professional Issues in Nursing
G  ½ - 2
Examine professional issues facing the nurse scientist in academia, practice, and research. Prereq: Doct standing. Repeatable to a maximum of 8 cr hrs or 10 completions. This course is graded S/U.

8900  Professional Seminar
G  2
Examination of current health care problems, national research priorities, issues within nursing science, and career patterns of doctorally prepared nurses. Students will be introduced to various faculty and their programs of research. Prereq: Doct standing or permission of instructor.

8902  Qualitative Methods in Nursing Science
G  3
Study of qualitative methods used in developing/conducting nursing research. Emphasis is directed toward principles/strategies of qualitative approaches to studies of nursing problems. Lab experience includes field work, data management & analysis. Prereq: 901 or permission of instructor. Not open to students with credit for 902.

8904  Theory Synthesis in Nursing Science
G  2
In-depth synthesis of theories and models of relevance to a program of research in nursing. Prereq: 917.01 or 917.02 or permission of instructor. Not open to students with credit for 904.

8917.01  Seminars in Determinants of Health: Psycho-bio-behavioral Phenomena Seminar
G  2 - 3
Integration of theoretical and methodological approaches to the study of psycho-bio-behavioral phenomena underlying determinants of health. Prereq: 916 or permission of instructor. Not open to students with credit for 917.01.

8917.02  Seminars in Determinants of Health: Psycho-social Phenomena
G  2 - 3
Integration of theoretical and methodological approaches in the study of psychosocial phenomena underlying determinants of health. Prereq: 916. Not open to students with credit for 917.02.

8980  Research Residency
G  1 - 10
Doctoral research training through participation in on-going research of one or more graduate faculty members and contribution to these research projects. Prereq: Completion of the preliminary examination. Repeatable to a maximum of 20 cr hrs or 4 completions. This course is progress graded (S/U).

8999  Dissertation
G  1 - 10
Dissertation research involves the generation of new knowledge that will contribute to nursing science. Prereq: Completion of candidacy examination. Repeatable to a maximum of 40 cr hrs or 4 completions. This course is graded S/U.

Nursing Advancement
2240 Foundations and Contemporary Issues for Registered Nurses  U  2
Provides the framework for exploration of professional issues in contemporary nursing and health care for nurses pursing a baccalaureate degree.
Prereq: Enrollment in the RN to BSN program. Not open to students with credit for Nursing 302.

2780 Research for Evidence Based Nursing Practice  U  3
An introduction to evidence based nursing practice and the research process.
Prereq: Enrollment in the RN to BSN program. Not open to students with credit for 390.

3430 Cultural Competence in Health Care: US and Global Contexts  U  2
Introduction to the concepts and techniques for the provision of culturally competent care within the U.S. and across global contexts.
Prereq: Enrollment in the RN to BSN program. Not open to students with credit for 440.

4240 Concepts in Community Health Nursing  U  4
Study of community health nursing theory and principles applied to the nursing care of individuals, families, groups, communities, and populations.
Prereq: 2440, 2780, and 3430, or permission of instructor. Not open to students with credit for Nursing 509. This course is available for EM credit.

4400 Evolving Concepts in Nursing Leadership and Management  U  3
Exploration of leadership and management concepts as applied to nursing practice and the health care environment.
Prereq: 4240, 4780, or permission of instructor. Not open to students with credit for Nursing 510. This course is available for EM credit.

4401 Practicum in Nursing Leadership and Management  U  2
Application of leadership and management concepts in a health care environment.
Concur: 4400. Not open to students with credit for Nursing 510.

4520 Health Care Informatics  U  2
Examination of informatics in health care emphasizing clinical information systems and the use of the information technology (IT) applications to support nursing practice.
Prereq: Enrollment in the RN to BSN program. Not open to students with credit for Nursing 507.

4780 Evidence Based Nursing: Transforming Clinical Practice  U  3
Study of concepts, application and implementation of evidence based nursing for transforming quality health care.
Prereq: 2440 and 2780, or permission of instructor. Not open to students with credit for Nursing 506.

Nursing Practice

8193 Individual Studies  G  1 - 6
Advanced individual studies in selected areas for the DNP student.
Prereq: Admission to the DNP program, or permission of instructor. Repeatable to a maximum of 6 or hrs or 2 completions. This course is graded S/U.

8400 Leadership throughout Organizations and Systems  G  3
Socialization to leadership and excellence in multiple dimensions of the Doctor of Nursing Practice role.
Prereq: Admission to the DNP program, or permission of instructor. Not open to students with credit for NursPct 940.01.

8401 Strategic Macrosystem Management for the Doctor of Nursing Practice  G  3
Integration of theoretical, leadership and communication principles into strategic management strategies for evidence based, innovative macro system health care optimization for selected populations.
Prereq: Admission to the DNP program, or permission of instructor. Not open to students with credit for NursPct 945.

8402 Innovation and Leadership Development for the DNP Nurse  G  3
Examination of leadership development to maximize innovation and positive organizational impact with an exploration of one's leadership development.
Prereq: Enrollment in DNP program, or permission of instructor.

8403 Innovation and Complexity Foundations for the DNP Nurse  G  3
Examination of the demands for innovations in thinking and solutions to pressing problems in nursing and health care with an emphasis on analysis of contemporary innovation theories and complexity science.
Prereq: 8402.

8404 Nurse Executive Leadership at the Corporate Level  G  3
Analysis of the nurse executive position at the corporate level from a complexity leadership perspective with an emphasis on leadership theory and applications in complex healthcare systems.
Prereq: 8403.

8480 Quality Improvement in Doctoral Nursing Practice  G  3
Advanced concepts in collaboration, design, leadership, implementation and evaluation of quality improvement initiatives.
Prereq: Admission to the DNP program, or permission of instructor. Not open to students with credit for 940.02.

8490 Health Promotion in the Age of Personalized Health Care  G  2
Critical analysis of social determinants of health contributing to health disparities, their synthesis with theories of health behavior, and development of strategies to improve health outcomes.
Prereq: Admission to the DNP program, or permission of instructor. Not open to students with credit for NursPct 913.

8500 Health Policy for Doctoral Nursing Practice  G  3
Analysis of policy and advocating for change that impacts health at institutional, local, state and federal levels.
Prereq: Admission to the DNP program, or permission of instructor. Not open to students with credit for NursPct 940.03.

8600 The Culture of Systems: Creating a Context for Organizational Peak Performance  G  3
Analysis of cultural theories in health care and the impact of culture on organizational structure, relationships, evaluation, and outcomes.
Prereq: 8402.

8610 Informatics for Leadership in Health and Healthcare  G  2
Analysis of theories and design as applied to health informatics, evaluation electronic health information resources and patient care technology, and application in DNP practice.
Prereq: Admission to the DNP program, or permission of instructor.

8780 Clinical Effectiveness and Translation in Clinical Science  G  3
Theoretical underpinnings of nursing knowledge and critical appraisal of clinical relevant research related to clinical effectiveness and translational science concepts.
Prereq: Admission to the DNP program, or permission of instructor. Not open to students with credit for NursPct 951 or 953.

8781 Methods and Measurement in Clinical Nursing Science  G  3
Theory and survey of research methods and measurement issues related to clinical nursing science.
Prereq: Admission to the DNP program, or permission of instructor. Not open to students with credit for NursPct 951 or 952.

8782 Foundations of Evidence-Based Practice (EBP)  G  3
Examination of the development and impact of evidence-based practice on health outcomes and the roles of the DNP in integrating evidence into practice and leading organizational change.
Prereq: Admission to the DNP program, or permission of instructor.

8783 Implementing, Facilitating, and Sustaining EBP  G  2
Application of EBP principles and the change process to implement, facilitate, evaluate, and sustain evidence-based-practice changes to improve healthcare.
Prereq: 8781 and 8782.

8784 Disseminating Evidence to Advance Best Practices, Policy, and Outcomes in EBP  G  2
Internalization of the roles and responsibilities of the DNP in EBP through dissemination of evidence.
Prereq: 8783.

8898 DNP Clinical Immersion  G  7
Integration and synthesis of knowledge and practice experiences designed to achieve essential and specialty components of the DNP role.
Prereq: Successful completion of DNP Professional Examination. Repeatable to a maximum of 21 or hrs.

8998 DNP Final Document Project  G  3
Students complete a scholarly clinical project depending upon their goals and interests.
Prereq: Enrollment in the Doctor of Nursing Practice Program and completion of the DNP Professional Doctoral Examination. Repeatable to a maximum of 9 or hrs. This course is graded S/U.

Occupational Therapy

6110 Occupational Therapy Foundations & Theory  G  2
Students gain understanding of the scope and domain of the profession, learn basic theoretical models of occupational performance and demonstrate professional behavior.
Prereq: Grad standing in OccTher (MOT). Not open to students with credit for 700 or 714.

6120 Occupation in Life and Community  G  2
Focuses on occupational science and analysis of occupation across the lifespan.
Prereq: Grad standing in OccTher (MOT). Not open to students with credit for 712.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6130</td>
<td>Occupational Therapy Therapeutic Use of Self and Groups</td>
<td>G 3</td>
<td>Students learn the scope of the Occupational Therapy profession, therapeutic interaction, professional behaviors, and group process. Prereq: Grant standing in OccTher (OTD).</td>
</tr>
<tr>
<td>6140</td>
<td>Task Analysis &amp; Foundational Skills</td>
<td>G 3</td>
<td>This course is designed to provide the student with the knowledge and skills required in the analysis of occupational and occupational tasks. The course also provides a foundation for core clinical skills in the healthcare environment. Prereq: Grant standing in OccTher (OTD).</td>
</tr>
<tr>
<td>6150</td>
<td>Neuroscience for Occupational Therapy</td>
<td>G 2</td>
<td>Covers the fundamentals of neuroanatomy and neurophysiology to enable students to interpret, evaluate and treat clients with neurological impairments. Students demonstrate competence in the integration of neuroscience principles. Prereq: Grant standing in OccTher (OTD). Not open to students with credit for 715.</td>
</tr>
<tr>
<td>6189</td>
<td>Level I Fieldwork in Mental Health</td>
<td>G 2</td>
<td>Occupational Therapy Fieldwork I in a mental health setting. Prereq: Grant standing in OccTher (MOT). Not open to students with credit for 720.</td>
</tr>
<tr>
<td>6210</td>
<td>Neuromusculoskeletal and Sensory Function</td>
<td>G 5</td>
<td>Students learn methods of occupational therapy assessment of and intervention to improve neuromusculoskeletal and sensory function in persons with impairment or disability. Prereq: Grant standing in OccTher (MOT), or permission of instructor. Not open to students with credit for 717, 743, or 747.</td>
</tr>
<tr>
<td>6220</td>
<td>Mental and Cognitive Function: Evaluation and Intervention</td>
<td>G 4</td>
<td>Students define mental health and cognitive conditions, demonstrate assessment of mental health and cognitive function and apply occupational therapy interventions. Prereq: Grant standing in OccTher (MOT), or permission of instructor. Not open to students with credit for 741, 742, or 744.</td>
</tr>
<tr>
<td>6230</td>
<td>Orthopedics in Occupational Therapy</td>
<td>G 4</td>
<td>Students will use their knowledge of anatomy, kinesiology, client factors, and medical conditions to better analyze the occupations and performance skills of adults with orthopedic and rheumatic conditions. Prereq: Grant standing in OccTher (OTD).</td>
</tr>
<tr>
<td>6251</td>
<td>Advanced Topics; Physical Agent Modalities</td>
<td>G 1</td>
<td>Students learn to apply physical agent modalities in occupational therapy practice. Prereq: Grant standing in OccTher (MOT), or permission of instructor. Not open to students with credit for 716.</td>
</tr>
<tr>
<td>6289</td>
<td>Occupational Therapy Fieldwork I in Physical Function</td>
<td>G 2</td>
<td>Fieldwork I in physical function rehabilitation. Prereq: Grant standing in OccTher (MOT). Not open to students with credit for 721.</td>
</tr>
<tr>
<td>6389</td>
<td>Occupational Therapy Fieldwork I Pediatrics</td>
<td>G 2</td>
<td>Prepares students to provide services to children with emphasis on school settings. Students assess children, develop intervention plans, participate in intervention, analyze the roles of occupational therapists in pediatric settings. Prereq: Grant standing in OccTher (MOT). Not open to students with credit for 724.</td>
</tr>
<tr>
<td>6410</td>
<td>Assistive Technology I</td>
<td>G 2</td>
<td>Introduces the concepts, principles, and application of assistive technology for adults, including wheeled mobility, positioning, driving rehabilitation, vehicle modification, policy, reimbursement, outcomes. Prereq: Grant standing in OccTher (MOT), or permission of instructor. Not open to students with credit for 750.</td>
</tr>
<tr>
<td>6510S</td>
<td>Service Learning in Occupational Therapy</td>
<td>G 1</td>
<td>Students participate in service learning opportunities. Prereq: Grant standing in OccTher (MOT). Not open to students with credit for 725. This course is graded S/U.</td>
</tr>
<tr>
<td>6730</td>
<td>Research Methods</td>
<td>G 2</td>
<td>Students analyze research reports, develop research questions, identify research methods and designs, collect, analyze and interpret data related to occupational therapy. Prereq: Grant standing in OccTher (MOT). Not open to students with credit for 751 or 789.</td>
</tr>
<tr>
<td>6740</td>
<td>Health Planning for Individuals and Communities</td>
<td>G 2</td>
<td>The goal of this course is for students to develop skills in using principles of evidence based practice to develop clinical pathways that guide evaluation and intervention for individual and/or diagnostic groups and develop programs through a process of needs assessment, program implementation, and evaluation. Prereq: Grant standing in OccTher (OTD).</td>
</tr>
<tr>
<td>7189</td>
<td>Occupational Therapy Fieldwork II</td>
<td>G 9</td>
<td>Fulltime fieldwork in selected occupational therapy service settings. Prereq: Enrollment in Masters of Occupational Therapy program. Repeatable to a maximum of 18 or hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>7220</td>
<td>Orthopedics in Occupational Therapy</td>
<td>G 2</td>
<td>Students will use their knowledge of anatomy, kinesiology, client factors, and medical conditions to better analyze the occupations and performance skills of adults with orthopedic and rheumatic conditions. Prereq: Must be an OTD student.</td>
</tr>
<tr>
<td>7231</td>
<td>Orthotics and Prosthetics II</td>
<td>G 2</td>
<td>Students apply knowledge of upper extremity orthotics and prosthetics, fabricate splints and other supportive devices. Prereq: Grant standing in OccTher (MOT). Not open to students with credit for 716 or 717.</td>
</tr>
<tr>
<td>7260</td>
<td>Occupational Therapy for Older Adults</td>
<td>G 2</td>
<td>Students gain understanding of aging, interactions between the environment and occupations during aging. Effects of chronic health condition on occupational performance. Prereq: Grant standing in OccTher (MOT), or permission of instructor. Not open to students with credit for 748.</td>
</tr>
<tr>
<td>7270</td>
<td>Occupational Performance, Environment and Context: Assessment and Intervention</td>
<td>G 4</td>
<td>Students learn to describe the interaction of client impairments with environmental and contextual factors and occupational performance. Students learn to adapt tasks, environments, and equipment to meet client goals. Prereq: Grant standing in OccTher (MOT), or permission of instructor. Not open to students with credit for 744 or 747.</td>
</tr>
<tr>
<td>7280</td>
<td>Advanced Topics in Geriatrics</td>
<td>G 2</td>
<td>Students learn advanced practice skills in geriatrics, including treatment and rehab of cognitive impairment, cardiopulmonary conditions, mental health, cancer, endocrine &amp; low vision. Prereq: Grant standing in Occupational Therapy.</td>
</tr>
<tr>
<td>7289</td>
<td>Clinical Doctoral Experience I</td>
<td>G 3</td>
<td>Full-time fieldwork in selected occupational therapy service settings. Prereq: Grant standing in OccTher (OTD). Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>7310</td>
<td>Occupational Therapy for Young Children</td>
<td>G 3</td>
<td>Prepares students to work with infants and young children with developmental disorders. Prepares students to become managers, leaders, and advocates. Emphasizes leadership models. Prereq: Must be MOT student, or permission of instructor. Not open to students with credit for 745 or 746.</td>
</tr>
<tr>
<td>7320</td>
<td>Occupational Therapy for School Age and Adolescents</td>
<td>G 2</td>
<td>Prepares students to provide OT service to school-age children and adolescents in educational and medical settings. Prepares students to become managers, leaders, and advocates. Emphasizes leadership skills and context. Prereq: Grant standing in OccTher (OTD). Not open to students with credit for 745 or 746.</td>
</tr>
<tr>
<td>7350</td>
<td>Advanced Pediatric Occupational Therapy</td>
<td>G 2</td>
<td>Students achieve advanced skills in neonatal intensive care practice, mobile computer technologies, group interventions; social skills interventions; parent coaching; cognitive intervention; health and wellness. Prereq: Must be enrolled as an OTD student.</td>
</tr>
<tr>
<td>7389</td>
<td>Clinical Doctoral Experience I</td>
<td>G 8</td>
<td>This is an advanced experiential course in which the student applies knowledge and skills acquired in the Occupational Therapy program and develops new competencies based on site-specific needs and student interest. Prereq: Enrollment in the OTD program. This course is graded S/U.</td>
</tr>
<tr>
<td>7411</td>
<td>Assistive Technology</td>
<td>G 2</td>
<td>Students apply principles of assistive technology to children and young adults. Emphasizes technology to promote school function and learning, augmentive communication, cognitive aids; pediatric wheelchairs; power mobility; positioning devices. Prereq: Grant standing in Occupational Therapy. Not open to students with credit for 751 or 750.</td>
</tr>
<tr>
<td>7420</td>
<td>Management in Occupational Therapy</td>
<td>G 3</td>
<td>Prepares students to become managers, leaders, and advocates. Emphasizes leadership theories, management skills, human resources issues, strategic planning. Prereq: Must be MOT Student. Not open to students with credit for 752.</td>
</tr>
<tr>
<td>7430</td>
<td>Supervision and Consultation</td>
<td>G 2</td>
<td>Prepares students to provide consultation and supervision in OT Practice. Consultation theories, models and processes are discussed. Supervision theories and principles are discussed and applied to field. Prereq: Must be MOT student, or permission of instructor. Not open to students with credit for 753.</td>
</tr>
<tr>
<td>7440</td>
<td>Occupational Therapy Fieldwork Preparation</td>
<td>G 1</td>
<td>Prepares students for Level II Fieldwork through a series of clinical experiences. Students practice assessment and intervention skills, review documentation, update portfolio. Prereq: Must be MOT Student. Not open to students with credit for 755. This course is graded S/U.</td>
</tr>
</tbody>
</table>
Occupational Therapy Practice Specialization  G  1 - 3
Prepares students to practice in a specialty area of occupational therapy.  

6190  Introduction to Clinical Diagnostic Reasoning in Optometry  
Using a problem-based learning format, optometric cases will be utilized to model and develop diagnostic reasoning skills emphasizing basic science and systemic disease.  

6190  Introduction to Clinical Diagnostic Reasoning in Optometry  O  2

6200  Optometric Career Options and Finance  O  2
Goal setting, modes of optometric practice, and budgeting/debt management principles for achieving personal financial success while in school and after graduation.  

7610  Occupational Therapy Research Specialization  G  1 - 3
Students participate in research projects, including literature review, measurement; data collection, data analysis and interpretation, and writing research reports.  Students report their activities and findings in public venues.  

7620  Occupational Therapy Research Specialization  G  1 - 3
This course is graded S/U.

7630  Leadership, Management, and Advocacy Practicum  G  1 - 3
Prepares students to enter leadership or management positions.  Students are mentored in leadership and advocacy skills by administrators or leaders of the profession.  

7710  Capstone Preparation  G  1
Students are assigned to advisors who mentor them in their capstone projects.  Students complete a review of the literature in a self-identified area of interest.  Based on the identification of programmatic or research gaps, they will create their objectives for their capstone.  The advisor, and a site for implementation of the experiences.  

Prep: Must be enrolled as an OTD student.  This course is graded S/U.

7720  Capstone Proposal  G  2
With individual advisors, the students develop a capstone project proposal.  Based on extensive review of the literature, proposals include a rationale, method and evaluation for 1) a new occupational therapy program, 2) an EPB clinical guideline.  

Prep: Must be enrolled as an OTD student.  This course is graded S/U.

7730  Capstone Completion  G  2
The students interpret their data and write their findings for the capstone project.  Students submit the final document and orally defend it.  

Prep: Grad standing in OccTher (OTD).  This course is graded S/U.

7780  Advanced Neurorehabilitation Practice  G  2
Teaches the principles, evidence, practice, and documentation of clinical practice in adults with neurologic impairments, as well as analysis of how occupational therapy skills and scope of practice are applied to this population.  

Prep: Grad standing in OccTher (OTD).

Ohio State Biochemistry Program

7193  Individual Studies - Laboratory Rotation  G  1 - 12
A qualified graduate student may conduct a minor laboratory research investigation in biochemistry under the direction of program faculty members.  

Prep: Enrollment in the OSBP.  Repeatable to a maximum of 12 cr hrs or 12 completions.  This course is graded S/U.

7600  First-Year Student Orientation  G  1
Orientation for first-year students in OSBP and partner graduate programs; lectures on topics important for successful graduate experience; training in presenting scientific work; training in research ethics.  

Prep: Not open to students with credit for 7600 (760), MoGen 7600, Biophys 7600, or Microbi 7600.  This course is graded S/U.  Cross-listed in MCBio, MoGen, Biophys, and Microbi.

7700  Interdisciplinary Student Seminar  G  1
Interdisciplinary Seminar in Advanced Biochemistry.  

Repeatable to a maximum of 10 or hrs.

7700.01  Interdisciplinary Student Seminar  G  1
Repeatable to a maximum of 10 or hrs.  This course is graded S/U.

7830  Colloquium - Advanced Biochemistry Topics  G  1
Seminars presented by Ohio State faculty and by faculty and professionals from outside the University.  

Prep: Enrollment in the OSBP.  Repeatable to a maximum of 14 cr hrs.  This course is graded S/U.

Optometry

5600  Eyes on Community Health  U G O  2
Investigate factors that impact healthcare utilization.  Community engagement opportunities include glaucoma screenings and improvisational health coaching for patients dealing with chronic health issues.  

5610  Epidemiology and Biostatistics  O  2
The science of epidemiology, research and study design, evaluation of scientific literature, and evidence based medicine in optometry and vision care.  

Prep: 1st yr standing in Optom.  Not open to students with credit for Optometry 401 or 722.

6180  Basic and Ocular Pharmacology  G O  4
An introduction to the mechanism of action and side effects of pharmacologic agents.  

Prep: 2nd yr standing in Optom.  Not open to students with credit for 680 or 681.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Repeatable Credit</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>6760</td>
<td>Ocular Care Techniques</td>
<td>2</td>
<td>Introduction to clinical techniques used in the assessment of ocular health in the diagnosis and management of ocular disease.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>6770</td>
<td>Advanced Ocular Care Techniques</td>
<td>2</td>
<td>Investigation of advanced clinical techniques used in the assessment of ocular health in the diagnosis and management of ocular disease.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7140</td>
<td>Systemic Disease for Optometry</td>
<td>3</td>
<td>Systemic and ocular manifestations of cardiovascular disease, diabetes, hematologic, inflammatory disorders, thyroid disorders, neurological disorders, immunology, infectious disorders, macular degeneration, laboratory blood work.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7160</td>
<td>Injections, Lasers and Advanced Ocular Techniques</td>
<td>1</td>
<td>Practical experience in injections, ophthalmic lasers and advanced ocular techniques.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7190</td>
<td>Intermediate Clinical Diagnostic Reasoning in Optometry</td>
<td>2</td>
<td>Using a problem-based learning format, optometric cases will be utilized to further develop clinical diagnosis and management skills requiring basic and clinical science integration.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7210</td>
<td>Optometric Economics and Jurisprudence; Practice Analysis and Practice Systems</td>
<td>3</td>
<td>Benchmarks, statistical and financial data analysis systems to determine practice viability; the administrative and logistical systems used in an optometric practice; jurisprudence and malpractice.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7240</td>
<td>Clinical and Business Aspects of Practice</td>
<td>2</td>
<td>Contemporary topics in clinical and business aspects of optometry including new diagnostic and treatment methodologies and the preparation of business plans.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7420</td>
<td>Vision of Children</td>
<td>2</td>
<td>Examination of pediatric patients, including special examination procedures, development of refractive error, prescribing, ocular health, and child abuse.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7440</td>
<td>Clinical Binocular Vision</td>
<td>5</td>
<td>Classification, epidemiology, diagnosis, and management of nonstrabismic and strabismic binocular vision disorders, accommodative anomalies, amblyopia, ocularmotor deficiencies, and visual perceptual lags.</td>
<td>5</td>
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</tr>
<tr>
<td>7450.02</td>
<td>Ophthalmic Dispensing</td>
<td>1-10</td>
<td>Advanced clinical experience in ophthalmic design, dispensing, and dispensary management.</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>7450.03</td>
<td>Contact Lenses and Primary Care</td>
<td>1-10</td>
<td>Clinical experience in specialized phases of optometric practice: contact lenses and primary care.</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>7450.05</td>
<td>Binocular Vision and Pediatrics</td>
<td>1-10</td>
<td>Clinical experience in specialized phases of optometric practice: binocular vision and pediatrics.</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>7450.06</td>
<td>Vision Rehabilitation</td>
<td>1-10</td>
<td>Clinical experience in specialized phases of optometric practice: vision rehabilitation.</td>
<td>1-10</td>
<td></td>
</tr>
<tr>
<td>7500</td>
<td>Contact Lenses</td>
<td>2</td>
<td>Optics, design, materials, and measurement of contact lenses, theory, fitting and prescribing of sphericals and torics, post-fitting care, contact lens solutions.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7510</td>
<td>Contact Lens Lab</td>
<td>2</td>
<td>Measurement, verification, and fitting of rigid gas permeable and soft spherical contact lens designs.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7520</td>
<td>Advanced Contact Lenses</td>
<td>3</td>
<td>Theory, fitting, and prescribing of specialty contact lens designs including but not limited to torics, multifocal, corneal reshaping, and scleral designs.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7530</td>
<td>Advanced Contact Lens Lab</td>
<td>1</td>
<td>Fitting of specialty contact lens designs, such as toric, multifocal, corneal reshaping, and scleral designs.</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>7720</td>
<td>Posterior Segment Ocular Disease</td>
<td>3</td>
<td>Abnormalities and diseases of posterior segment of the eye with emphasis on identification, diagnosis and general management.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7730</td>
<td>Ocular Neurology</td>
<td>3</td>
<td>Neurology and neuro-pathology of the visual system and basics of visual field testing and interpretation.</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>7740</td>
<td>Management of Glaucoma</td>
<td>2</td>
<td>Glaucoma diagnosis and management including epidemiology, pathophysiology, differential diagnosis, risk assessment, testing strategy and interpretation, medical and surgical management.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7770</td>
<td>Clinical Ocular Pharmacology</td>
<td>4</td>
<td>Application of pharmacology principles in the clinical setting with emphasis on differential diagnosis and matching drug selection and dosage determination with disease severity.</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>7790</td>
<td>Surgery and Comanagement of Ocular Disease</td>
<td>2</td>
<td>Advanced management, pre and post operative management and surgical procedures for ocular disease.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>7800</td>
<td>Special Topics in Optometry</td>
<td>1-8</td>
<td>Elective clinical rotations in the professional optometric curriculum.</td>
<td>1-8</td>
<td></td>
</tr>
<tr>
<td>7800.01</td>
<td>Vision Therapy</td>
<td>1-6</td>
<td>Clinical experience in orthoptics and vision therapy.</td>
<td>1-6</td>
<td></td>
</tr>
<tr>
<td>8803</td>
<td>Observations in Clinical Voice Pathology</td>
<td>2</td>
<td>Med 8803 is an observation course for graduate students in the Singing Health Specialization (SHS) curriculum. Provides students with an opportunity to observe the clinical management of voice disorders including the assessment, treatment. Repeatability limited to a maximum of 6 cr hrs. This course is graded S/U.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>8804</td>
<td>Observations in Surgical Laryngology</td>
<td>2</td>
<td>Observation course for graduate students in the Singing Health Specialization (SHS) curriculum. Students should have completed MED 803 prior to enrollment in this course. This course provides observation experience in a voice disorders clinic with licensed speech language pathologists and is required for the singing health specialization. Repeatability limited to a maximum of 6 cr hrs. This course is graded S/U.</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>8809</td>
<td>Issues in Laryngology for the Vocal Health Professional</td>
<td>2</td>
<td>Advanced anatomy and physiology of the vocal mechanism. Offered for graduate students in the Singing Health Specialization (SHS) curriculum.</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**Pathology**
The principles of human genetics covering mapping of disease genes, defects causing human disease, the cloning of disease genes, gene therapy, transgene, and specific pathological disorders.

**6640 Fundamentals of Oncology**  
G 4  
Oriented towards graduate students in cancer-related programs and consists of a series of lectures covering a variety of aspects of experimental oncology. Prereq: Not open to students with credit for 5460 or VetBios 5650. Cross-listed in VetBios.

**6650 Mechanisms of Pathogenesis**  
G 3  
Provides students with an understanding of fundamental concepts of pathogenesis. Recommended background in biological sciences, biochemistry, molecular biology, and cell biology. Prereq: Permission of instructor. Not open to students with credit for 5670.

**6670 Medical Cytogenetics**  
G 3  
Overview of cytogenetics in medical diagnosis and evaluation, including laboratory techniques, nomenclature, structural and numerical chromosome abnormalities; prenatal, constitutional, molecular, and cancer cytogenetics. Recommended coursework in genetics and molecular cell biology. Prereq: Not open to students with credit for 670.

**7194 Group Studies in Pathology**  
G 1 - 4  
Group studies of contemporary topics in mechanisms of disease. Recommended strong background in biological sciences. Prereq: Permission of instructor. Not open to students with credit for 794.

**7793.01 Pathologic Anatomy**  
G M 3 - 9  
Students work with an attending pathologist, pathology resident and deiner in prossecting cases while they learn the technical operations of the autopsy service. Prereq: Grad standing, or Med III and IV standing. Concur: An additional 3 hour professional course (when registration is for 3 professional credit hours). Repeatable to a maximum of 18 cr hrs or 2 completions. This course is graded S/U.

**7793.09 Surgical Pathology**  
G 1 - 9  
Student is expected to learn and acquire progressive experience in the microscopic diagnosis of various disease entities. Prereq: Med III and IV standing, or Grad and Prof standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 2 completions. This course is progress graded (S/U).

**7793.11 Special Topics in Anatomy**  
G M 3 - 18  
Special Topics in Pathologic Anatomy, 1, 2, or 3 months; offered all months (prof cr). When registration is for 3 professional cr hrs, an additional 3 hr professional course must be taken. Prereq: Grad standing, or Med III or IV standing. Repeatable to a maximum of 18 cr hrs. This course is progress graded (S/U).

**7793.15 Independent Study Clinical Problems**  
G M 3 - 18  
Problems in Pathology and Clinical Pathology, 1, 2, or 3 months; offered all months (prof cr). When registration is for 3 professional cr hrs, an additional 3 hr professional course must be taken. Prereq: Grad standing, or Med III or IV standing. Repeatable to a maximum of 18 cr hrs. This course is progress graded (S/U).

**8847 Cellular Mechanisms and Pathogenesis of Inflammation**  
G 2  
Inflammatory processes in the human host due to interaction with viruses, bacteria, parasites, foreign antigens, or physical trauma and new immunological therapeutic strategies being developed. Prereq: MVImg 701 or Microbiol 701, or permission of instructor. Not open to students with credit for MVImg 847.

**7999 Thesis Research in Pathology**  
G 2 - 10  
Research in contemporary topic in mechanisms of disease leading to a Master's thesis. Prereq: Enrollment in Master of Science program in Pathology. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

**8850 Seminars in Pathology**  
G 1  
Faculty seminars in immunopathology. Repeatable to a maximum of 14 cr hrs. This course is graded S/U.

## Pediatrics

**4998 Undergraduate Research in Pediatrics**  
U 1 - 3  
Undergraduate Research Experience in Pediatrics. Prereq: Permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

**8999 Doctoral Thesis Research in Pediatrics**  
G 1 - 13  
Doctoral Thesis Research in Pediatrics. Prereq: Permission of instructor. Repeatable to a maximum of 12 completions. This course is graded S/U. Admis Cond course.
Selected topics in Persian poetry, concentrating primarily on the medieval poetic narrative, as exemplified by epic, romance, and the mystical/ didactic poem. Prereq: 3101, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 5 completions.

5797 Study at a Foreign Institution  
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 5 completions.

7601 Studies in Persian Poetry  
Advanced study of specific poetic periods, figures, and/or topics involving extensive reading and discussion of appropriate primary and secondary materials. Prereq: 9 cr hrs of Persian at the 5000 level or above. Repeatable to a maximum of 9 cr hrs or 5 completions.

8881 Seminar in Persian Studies  
Intensive investigation of a selected topic or problem in Persian literature, literary culture, philology, or linguistics. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 5 completions.

### Pharmacology

4250 Undergraduate Independent Study in Pharmacology/Pharmacogenomics  
Offers undergraduate students the opportunity to gain research experience in laboratories in Pharmacology/Pharmacogenomics and learn the latest techniques and approaches. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.

5050 Molecular Basis of Oxidative Stress  
The inter-relationships between reactive species and development of human diseases will be the highlight of lectures and discussions. Prereq: Chem 2520, 2620, or 2920H.

5250 Wrangling NGS Data  
Intended for chemists, mathematicians, information scientists and engineers with an interest in working with and understanding next generation sequencing data; students will utilize these data to identify systemic failures important to health and disease. Prereq: Introductory calculus.

5600 Introduction to General Pharmacology  
Introductory course emphasizing the general principles of pharmacology using a systems-based and mechanism-based approach. The course provides a simple overview of the subject. Prereq: Prior coursework in physiology, or permission of instructor. Not open to students with credit for Pharmcol 600.

5700 Introduction to Personalized Therapeutics and Pharmacogenomics  
Exploration of the trend to therapy tailored to the individual patient rather than “one drug fits all,” inter-individual differences in drug responses, with emphasis on genetic and genomic factors; ethical, regulatory and economic issues that impact drug therapies. Introductory biology course recommended.

5852 Biology of Aging  
Covers molecular, cellular and organ/structural aspects of aging. Experimental evidence as well as current and historically important theories of aging will be discussed. The course will rely on analysis of original peer-reviewed publications. Prereq: Not open to students with credit for 5852 (852). CT Admis Cond course.

7050 Neurobiology of Disease  
Neurobiology of Disease will explore the basis of major diseases affecting the nervous system. Prereq: Permission of instructor. Not open to students with credit for Pharmacol 705. Admis Cond course. Cross-listed in NeuroSci 7050 (705).

7193 Individual Studies in Pharmacology  
Digitalis pharmacodynamics; neuropharmacology; endocrine pharmacology; cardiovascular pharmacology, autonomic pharmacology, clinical pharmacology; biochemical pharmacology; pharmacogenomics; toxicology. Prereq: Permission of instructor. Repeatable. This course is graded S/U.

7250 Pharmacogenomics  
Introduction to the role of genetics/genomics in drug discovery, development, and clinical applications. Capacity 20 students. Prereq: 701, 702, and 703, or permission of instructor.

7510 Professional and Ethical Issues in Biomedical Sciences  
A discussion course based on case scenarios dealing with ethical issues facing biomedical researchers, such as publishing practices, confidentiality, mentoring. Prereq: Grad standing, and enrollment in Biomedical Sciences program. This course is graded S/U. Cross-listed in VetMed 751.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>3000</td>
<td>Science Communication &amp; Engagement</td>
<td>U 1</td>
<td>Within the Generation Rx Laboratory at the Center of Science and Industry (COSI), students will practice science communication as they create and lead live, hands-on experiments teaching basic drug science. Prereq: Jr or Sr standing, enrollment in the BSPS program, and permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>4100</td>
<td>Biomedical Chemistry</td>
<td>U 3</td>
<td>Fundamentals of biological chemistry for the study of pharmaceutical sciences. Prereq: Chem 2520 or 2950H, and enrollment in the BSPS program; or permission of instructor. Not open to students with credit for 461 and 462.</td>
</tr>
<tr>
<td>4110</td>
<td>Intermediary Metabolism and Therapeutics</td>
<td>U 2</td>
<td>Fundamentals of intermediary metabolism, with a focus on the organic chemistry of these pathways and the drugs that affect these processes. Prereq: 4100. Not open to students with credit for Pharmacy 462.</td>
</tr>
<tr>
<td>4120</td>
<td>Problem Solving in Biomedical Chemistry</td>
<td>U 1</td>
<td>A course designed to use problem-based learning to promote understanding of biomedical concepts. Case studies will be assigned allowing students to apply biochemical principles and communicate with their colleagues in the course. Prereq: Phr 4100, and enrollment in BSPS program. Not open to students with credit for Pharmacy 494.02.</td>
</tr>
<tr>
<td>4191</td>
<td>BSPS Internship for Curricular Practical Change</td>
<td>U 0</td>
<td>Provides professional experience which will prepare students for professional expectations upon graduation. This course accompanies the active pursuit of an internship experience which satisfies the requirements for curricular practical training. Prereq: Enrollment in the BSPS program, submitted CPT application, letter of offer from CPT site, and permission of instructor. This course is graded S/U.</td>
</tr>
<tr>
<td>4193</td>
<td>Individual Studies in Pharmaceutical Sciences</td>
<td>U ½ - 12</td>
<td>Laboratory and library work designed to give the qualified student an opportunity to complete an original investigation or pursue an interest in a special problem. Prereq: CPRHR 2.5 or above, and Soph standing, and enrollment in the BSPS program, and permission of instructor. Not open to students with credit for Pharmacy 493. Repeatable to a maximum of 30 cr hrs or 12 completions. This course is progress graded (S/U).</td>
</tr>
<tr>
<td>4194</td>
<td>Group Studies in Pharmaceutical Sciences</td>
<td>U 1 - 12</td>
<td>Group studies topics in various fields of Pharmacy. Prereq: Enrollment in BSPS program, or permission of instructor. Not open to students with credit for Pharmacy 494.01. Repeatable to a maximum of 12 cr hrs or 12 completions.</td>
</tr>
<tr>
<td>4200</td>
<td>Introduction to Medicinal Chemistry</td>
<td>U 3</td>
<td>Chemical and biochemical principles governing the design, synthesis and properties of drugs. Prereq: Phr 4100 and Chem 2520, and enrollment in the BSPS program; or permission of instructor. Not open to students with credit for Pharmacy 410.</td>
</tr>
<tr>
<td>4300</td>
<td>Introduction to Pharmaceutics</td>
<td>U 2</td>
<td>Provides students with a basic understanding on the absorption and transport of drugs and on physical chemical and biopharmaceutical principles that are relevant to dosage form design and drug delivery. Prereq: Physics 1201 or 1251, and EEOB 2520 (232) or PhysioCB 3102 (312), and Math 1151, and Chem 2520, and enrollment in the BSPS program; or permission of instructor. Not open to students with credit for Pharmacy 420.</td>
</tr>
<tr>
<td>4320</td>
<td>Drug Discovery and Development</td>
<td>U 2</td>
<td>An introduction to research methods used for drug discovery and development with a focus on faculty research in the Division of Pharmaceutics. Prereq: Physics 1201 or Physics 1251, and Chem 2520, and Math 1151, and PhysioCB 3102 (312) or EEOB 2520 (232), and Jr or Sr standing, and enrollment in the BSPS program. Not open to students with credit for Pharmacy 425.</td>
</tr>
<tr>
<td>4330</td>
<td>Basic Pharmacokinetcis</td>
<td>U 2</td>
<td>An elementary course designed to introduce the student to the topic of pharmacokinetics. The application of biopharmaceutics and pharmacokinetic principles as they relate to drug absorption, distribution and elimination will be discussed. Prereq: Math 1151, or permission of instructor.</td>
</tr>
<tr>
<td>4400</td>
<td>Integrated Pharmacology</td>
<td>U 2</td>
<td>An overview of pharmacological, biochemical, and physiological effects of drugs to facilitate an understanding of drug mechanism and pharmacotherapy. Prereq: 4100 and EEOB 2520 (232), or PhysioCB 3102 (PhysioCB 312); and Enrollment in the BSPS program, or permission of instructor. Not open to students with credit for Pharmacy 440.</td>
</tr>
<tr>
<td>4410</td>
<td>Therapeutic Frontiers</td>
<td>U 2</td>
<td>Discussion of recent developments in one or more areas of pharmacology. Required group presentation. Prereq: Enrollment in the BSPS program, or permission of instructor. Completion of 4400 is recommended. Not open to students with credit for Pharmacy 473.</td>
</tr>
<tr>
<td>4420</td>
<td>Concepts in Pharmacology I: Discovery of Drug Action</td>
<td>U 1</td>
<td>Introduces students to pharmaceutical research and drug discovery through readings, discussions, and presentations. Prereq: Phr 4400, and enrollment in the BSPS program; or permission of instructor. Not open to students with credit for Pharmacy 471.</td>
</tr>
<tr>
<td>4430</td>
<td>Concepts in Pharmacology II</td>
<td>U 1</td>
<td>Focuses on the pharmacology of G-protein-coupled receptors (GPCRs). GPCRs constitute a large and diverse family of proteins whose importance is underscored by the fact that at least one third of the currently marketed drugs target these proteins. Prereq: Enrollment in the BSPS program. Not open to students with credit for Pharmacy 472.</td>
</tr>
<tr>
<td>4440</td>
<td>Pharmacology of Neurologic and Psychiatric Disorders</td>
<td>U 3</td>
<td>Designed for pharmaceutical sciences majors, neuroscience majors or non-majors with a basic knowledge of biology. This course will serve as an introduction to principles of pharmacological therapy of neurologic and psychiatric diseases. Prereq: 4100 or Neurosc 3000, or equiv; or permission of instructor.</td>
</tr>
<tr>
<td>4460</td>
<td>Current Addiction Neurobiology Literature</td>
<td>U 1</td>
<td>Current research findings relating to neurobiology of addiction are explained and interpreted. Students should have some introductory knowledge of neurobiology. Prereq: Permission of instructor.</td>
</tr>
<tr>
<td>4500</td>
<td>Pharmaceutical Distribution and Health Care Systems</td>
<td>U 3</td>
<td>A study of the pharmaceutical distribution system in the United States and its relation to the health care system. Prereq: Math 1151, and enrollment in the BSPS program; or with permission of instructor. Not open to students with credit for Pharmacy 515.</td>
</tr>
<tr>
<td>4510</td>
<td>Introduction to Pharmacy</td>
<td>U 2</td>
<td>A survey of the profession of pharmacy, dealing with its history, educational requirements, organization, regulation, and current developments. Prereq: Not open to students with credit for Pharmacy 400.</td>
</tr>
<tr>
<td>4511H</td>
<td>Introduction to Pharmacy</td>
<td>U 3</td>
<td>A survey of the profession of pharmacy including its history, scope of practice, educational pathways, ethical foundations, regulations, contemporary issues, career opportunities, and prospects for the future; as well as topics relating to medication use and drug discovery/development. Prereq: Enrollment in the PharmD Early Admissions Pathway Program; or Honors standing, and permission of instructor.</td>
</tr>
<tr>
<td>4520</td>
<td>Principles of Therapeutics</td>
<td>U 2</td>
<td>Designed to provide knowledge about medication therapies and treatment guidelines for common illnesses affecting patients. Prereq or concur: 4400. This course is graded S/U.</td>
</tr>
<tr>
<td>4598</td>
<td>Undergraduate Research Thesis</td>
<td>U 1 - 18</td>
<td>Course credit earned by conducting research while enrolled as an undergraduate student. Repeatable to a maximum of 60 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research Thesis</td>
<td>U 1 - 18</td>
<td>Culmination of undergraduate research in the form of written thesis. Repeatable to a maximum of 60 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5000</td>
<td>Strategies for Interprofessional Case Management</td>
<td>G P 2</td>
<td>A problem-focused learning approach to the interprofessional management of complex patients to develop an understanding of the roles and scope of practice of different professions and the impact of a team approach to patient care. Prereq: Enrollment in the PharmD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>5130</td>
<td>History of Pharmacy</td>
<td>U P 3</td>
<td>Evolution and development of the profession of pharmacy from antiquity to the present, with emphasis on its Anglo-American development since the 18th century. Prereq: Soph standing in BSPS, or enrolment in PharmD program. Not open to students with credit for Pharmacy 513.01.</td>
</tr>
<tr>
<td>5140</td>
<td>Professional Ethics</td>
<td>U P 1½</td>
<td>The conceptual basis and content of pharmaceutical ethics; significance of codified ethics, interprofessionally considered; individual and group analysis of ethical issues; methods of encouraging compliance. Prereq: Soph standing in BSPS program, or enrollment in PharmD program. Not open to students with credit for Pharmacy 614.</td>
</tr>
<tr>
<td>5150</td>
<td>Basics of Pharmaconutrition</td>
<td>U P 3</td>
<td>Covers basic information on the effects of dietary factors on phammaconutrition to be utilized as a foundation in solving patient-related cases in pharmacy practice. Prereq: Sr standing in the BSPS program, or enrollment in the PharmD program.</td>
</tr>
<tr>
<td>5155</td>
<td>Advanced Pharmaconutrition</td>
<td>U P 2</td>
<td>Provides concepts needed by pharmacists necessary to include nutrition into their daily assessment of patients and integrate their findings into the therapeutic plan. Prereq: 5150, and enrollment in the PharmD program; or permission of instructor.</td>
</tr>
<tr>
<td>Course Code</td>
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<td>Credits</td>
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<tr>
<td>5160</td>
<td>The Medical Applications of Radionuclides and Radiopharmaceuticals</td>
<td>U P 2</td>
<td></td>
</tr>
<tr>
<td>5170</td>
<td>Introduction to Clinical &amp; Translational Pharmacy Research</td>
<td>U P 2</td>
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<tr>
<td>5180</td>
<td>Topics in International Pharmacy</td>
<td>U G P 2</td>
<td></td>
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<tr>
<td>5190</td>
<td>Chemical Dependency for Health Care Professionals</td>
<td>U G P 1</td>
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<tr>
<td>5610</td>
<td>Success &amp; Leadership in Pharmacy</td>
<td>U G P 1½</td>
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<tr>
<td>5797</td>
<td>Study at a Foreign Institution</td>
<td>U G P 1 - 18</td>
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<tr>
<td>5798</td>
<td>International Healthcare Experience in Pharmacy</td>
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<td>5950</td>
<td>Seminar on Pharmacy Careers</td>
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<tr>
<td>6001</td>
<td>Introductory Pharmacy Practice Experiences I</td>
<td>P 1</td>
<td></td>
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<tr>
<td>6002</td>
<td>Introductory Pharmacy Practice Experiences II</td>
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<tr>
<td>6010</td>
<td>Biopharmacy I</td>
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<tr>
<td>6020</td>
<td>Biopharmacy II</td>
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<tr>
<td>6050</td>
<td>Medicinal Chemistry I</td>
<td>P 4</td>
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<tr>
<td>6060</td>
<td>Medicinal Chemistry II</td>
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<tr>
<td>6080</td>
<td>Physiology I</td>
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<tr>
<td>6090</td>
<td>Physiology II</td>
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<tr>
<td>6191</td>
<td>Pharmacy Internship for Curricular Practical Training</td>
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<td>6193</td>
<td>Individual Studies in Pharmacy</td>
<td>P ½ - 12</td>
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<tr>
<td>6194</td>
<td>Group Studies in Pharmacy</td>
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<td>6210</td>
<td>Drug Delivery I</td>
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<tr>
<td>6220</td>
<td>Drug Delivery II</td>
<td>P 3</td>
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<tr>
<td>6240</td>
<td>Pharmaceutical Calculations</td>
<td>P ½</td>
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<tr>
<td>6260</td>
<td>Laboratory and Diagnostic Testing</td>
<td>P 1</td>
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<tr>
<td>6610</td>
<td>Pharmacy Practice I</td>
<td>P 3</td>
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<tr>
<td>6660</td>
<td>Medicinal Chemistry II</td>
<td>P 4</td>
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<tr>
<td>6670</td>
<td>The second in a two course sequence covering chemical and biochemical principles governing the properties of drugs.</td>
<td>P 4</td>
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<tr>
<td>6680</td>
<td>The second in a two course sequence presenting the application of physiology to the practice of pharmacy.</td>
<td>P 4</td>
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<tr>
<td>6690</td>
<td>The second of a two-course sequence presenting the application of physiology to the practice of pharmacy.</td>
<td>P 4</td>
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<tr>
<td>6703</td>
<td>Introductory Pharmacy Practice Experiences III</td>
<td>P 1</td>
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</tbody>
</table>
7004 Introductory Pharmacy Practice Experiences IV

Introductory pharmacy practice experiences. Students apply didactic pharmacy course work in a variety of pharmacy practice settings. Prereq: Enrollment in PharmD program. Not open to students with credit for Pharmacy 784. This course is graded S/U.

7005 Introductory Pharmacy Practice Experiences V

Introductory pharmacy practice experiences. Students apply didactic pharmacy course work in a variety of pharmacy practice settings. Prereq: Enrollment in PharmD program. Not open to students with credit for Pharmacy 784. This course is graded S/U.

7006 Introductory Pharmacy Practice Experiences VI

Introductory pharmacy practice experiences. Students apply didactic pharmacy course work in a variety of pharmacy practice settings. Prereq: Enrollment in PharmD program. Not open to students with credit for Pharmacy 784. This course is graded S/U.

7007 Introductory Pharmacy Practice Experiences VII

Introductory pharmacy practice experiences. Students apply didactic pharmacy course work in a variety of pharmacy practice settings. Prereq: Enrollment in PharmD program. Not open to students with credit for Pharmacy 784. This course is graded S/U.

7008 Professional Activities

Independent study activities related to advanced pharmacy practice experiences. Prereq: Enrollment in the PharmD program. Not open to students with credit for Pharmacy 693. Repeatable to a maximum of 3 hrs. This course is graded S/U.

7010 Advance Pharmacy Practice Experiences Option

Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.03. Repeatable to a maximum of 12 cr hrs.

7011 Advance Pharmacy Practice Experiences I

Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.04.

7012 Advance Pharmacy Practice Experiences II

Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.05.

7013 Advance Pharmacy Practice Experiences III

Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.06.

7014 Advance Pharmacy Practice Experiences IV

Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.07.

7015 Advance Pharmacy Practice Experiences V

Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.08.

7016 Advance Pharmacy Practice Experiences VI

Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.09.

7017 Advance Pharmacy Practice Experiences VII

Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 799.10.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>7210</td>
<td>Strategies for Interprofessional Case Management</td>
<td>P 2</td>
</tr>
<tr>
<td></td>
<td>A problem-focused learning approach to the interprofessional management of complex patients to develop an understanding of the roles and scope of practice of different professions and the impact of a team approach to patient care. Prereq: Enrollment in the PharmD program, or permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.</td>
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<tr>
<td>7240</td>
<td>Clinical Pharmacogenomics</td>
<td>G P 2</td>
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<td>Principles and techniques necessary to understand the role of genetic variation in the pharmacokinetics of drugs and therapeutic management of disease. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 724.</td>
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<tr>
<td>7310</td>
<td>Clinical Pharmacokinetics I</td>
<td>P 3</td>
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<tr>
<td></td>
<td>The first in a two-course sequence in clinical pharmacokinetics and pharmacodynamics and their application to pharmacotherapy. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 731 or 732.</td>
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<tr>
<td>7320</td>
<td>Clinical Pharmacokinetics II</td>
<td>G P 3</td>
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<tr>
<td></td>
<td>The second in a two-course sequence in clinical pharmacokinetics and pharmacodynamics and their application to pharmacotherapy. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 732 or 733.</td>
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<tr>
<td>7350</td>
<td>Drug Discovery and Drug Design</td>
<td>G 2</td>
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<td></td>
<td>A study of the discovery and design of new drugs: topics include natural products isolation, molecular modeling, molecular targets, and biosynthesis and metabolism. Prereq: Grad standing and permission of instructor. Not open to students with credit for Pharmacy 735.</td>
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<tr>
<td>7370</td>
<td>Advanced Pharmaceutical Analysis</td>
<td>G 2</td>
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<td></td>
<td>The use of NMR spectroscopy in the assay and control methods of drug preparations. Prereq: Chem 9420 (652), and Grad standing. Not open to students with credit for Pharmacy 737.</td>
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<tr>
<td>7405</td>
<td>Management of Clinical and Preclinical Studies</td>
<td>G 3</td>
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<td></td>
<td>Fundamental principles of clinical research operations from study site selection to study closure from the perspective of sponsors and clinical research sites including an introduction to database design, management, quality assurance, and reporting for site and sponsor operations. Prereq: Nursing 7770 or Phr 7770, or permission of instructor.</td>
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<tr>
<td>7470</td>
<td>Pharmacology and Therapeutics I</td>
<td>G P 8</td>
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<td></td>
<td>The first in a four-course sequence in pharmacology, pathophysiology and pharmacotherapy providing a comprehensive study of the therapeutic effects, pharmacodynamics, mechanistic actions, and toxicological effects of important drug classes. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 747, 748, 777, or 778.</td>
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<tr>
<td>7480</td>
<td>Pharmacology and Therapeutics II</td>
<td>G P 7</td>
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<tr>
<td></td>
<td>The second in a four-course sequence in pharmacology, pathophysiology and pharmacotherapy providing a comprehensive study of the therapeutic effects, pharmacodynamics, mechanistic actions, and toxicological effects of important drug classes. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 748, 749, 778, or 779.</td>
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<tr>
<td>7490</td>
<td>Pharmacology and Therapeutics III</td>
<td>G P 7</td>
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<td></td>
<td>The third in a four-course sequence in pharmacology, pathophysiology, and pharmacotherapy providing a comprehensive study of the mechanistic actions, therapeutic effects, pharmacodynamics, and toxicological effects of important drug classes. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 750, 751, 780, or 781.</td>
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<tr>
<td>7500</td>
<td>Pharmacology and Therapeutics IV</td>
<td>G P 8</td>
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<td></td>
<td>The fourth in a four-course sequence in pharmacology, pathophysiology and pharmacotherapy providing a comprehensive study of the mechanistic actions, therapeutic effects, pharmacodynamics, and toxicological effects of important drug classes. Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 751, 752, 781, or 782.</td>
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<tr>
<td>7570</td>
<td>Pharmaceutical Safety and Risk Management</td>
<td>G P 3</td>
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<td></td>
<td>Comprehensive investigation of pharmacovigilance initiatives and pharmaceutical safety regulation. Pharmaceutical risk management in premarket testing and development, recognition of safety signals, post-approval experience, drug production, risk mitigation, and administration of pharmaceuticals. Prereq: Nursing 7770, or permission of instructor.</td>
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<tr>
<td>7572</td>
<td>Federal Regulation of Medical Products</td>
<td>G 3</td>
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<td>Examination of the regulation of medical products (drugs, medical devices, and biologics) by the Food and Drug Administration (FDA). Consumer protection laws and regulations affecting the traditional pharmaceutical industry and emerging biotechnology and genomics industries. Special consideration of regulations which apply to life science companies or medical research institutions. Prereq: Admission to the MS in Applied Clinical and Preclinical Research program, or permission of instructor.</td>
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</table>
7770 Fundamentals of Medical Product Development and Regulation  
Function of clinical research in medical product development and the regulatory process of new medical products. Laws and regulations concerning the development, testing, commercialization, and total product life cycle for medical products. Regulations governing the conduct of clinical research, including study sponsors, investigators, and Institutional Review Boards. 
Prereq: Admission to the Master’s program in Applied Clinical and Preclinical Research, or permission of instructor. Cross-listed in Nursing.

7782 Research Design and Methods for Clinical and Preclinical Research  
Assessment of ethical design and methods used in clinical and preclinical research. Measurement issues in conducting research across diverse populations: reliability, validity, bias, and confounding; and appropriate statistical measurement and analysis for given study designs. 
Prereq: Admission to the MS in Applied Clinical and Preclinical Research program, or permission of instructor. Not open to students with credit for Nursing 7762. Cross-listed in Nursing.

7784 Data Analysis and Interpretation in Clinical and Preclinical Research  
Introduction to the principles of biostatistical methods used in biomedical and public health research. Analysis of clinical trials data and interpretation of statistical results in biomedical studies. 
Prereq: Enrollment in Master of Applied Clinical and Preclinical Research program, or permission of instructor.

7850 Introduction to Complementary and Alternative Medicines  
Overview of various complementary and alternative medicine modalities and the role of the health care profession in integrated care. 
Prereq: Enrollment in PharmD program or other Health Sciences Grad program, or permission of instructor. Not open to students with credit for Pharmacy 786 or 788.

7860 Pharmacy Practice Management  
The medication use system, resource management, and the economic evaluation of pharmaceutical services and pharmacoepidemiology. 
Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 786 or 788.

7891 Chromatographic Methods  
A study and application of selected chromatographic techniques for the purification of natural products or other organic mixtures. 
Prereq: Grad standing and permission of instructor. Not open to students with credit for Pharmacy 789.

7892 Electrophoretic and Immunologic Methods  
A study and application of selected electrophoretic and immunologic methods for the characterization of bio-molecules. 
Prereq: Not open to students with credit for Pharmacy 789.

7900 Pharmaceutical Jurisprudence  
A study of the laws and regulations relating to the practice of pharmacy. 
Prereq: Enrollment in PharmD program, or permission of instructor. Not open to students with credit for Pharmacy 790.

7955 Advanced Pharmacy Practice Experience  
Advanced pharmacy practice experience rotations including ambulatory, community, institutional and elective settings. Students may receive Honors Level Performance distinction and have a textual note added to their official University transcript. 
Prereq: Enrollment in PharmD program, or permission of instructor. Repeatable to a maximum of 20 cr or 15 completions. This course is graded S/U.

8000 Principles of Radiotrace Techniques  
A study of properties of radiotrace and radiation, instrumentation used for detection of radioisotopes, and radiotrace tracer methods and applications to biomedical sciences. 
Prereq: Permission of instructor. Not open to students with credit for 800.01.

8010 Mass Spectrometry-Based Proteomics  
Survey of mass spectroscopy-based methods of proteome analysis. 
Prereq: Grad standing or permission of instructor. Not open to students with credit for Pharmacy 691.

8020 Advanced Pharmacokinetics  
Coverage of multiple general areas of pre-clinical, clinical, and population pharmacokinetic data analysis, modeling and PK study design. 
Prereq: Grad standing or permission of instructor. Not open to students with credit for Pharmacy 802.
Pharmacy

8170 Advancement of Patient Care Services G 2
Overview of patient care services and practice models. Discussion of patient care services management in several areas of health system pharmacy. Focus on pharmacy practice model initiative. Prereq: 8150, 8160, and 8250, and enrollment in MS in Health-System Pharmacy program; or permission of instructor. Not open to students with credit for Pharmacy 817 or 825.

8180 Economic Evaluation of Patient Services G 1½
An overview and appraisal of the economic evaluation of health care programs and services applied to health-systems pharmacy administration. Prereq: Enrollment in MS in Health-System Pharmacy program, or permission of instructor. Not open to students with credit for Pharmacy 894.

8194 Group Studies in Pharmaceutical Sciences G 1 - 12
Group study topics in various fields of Pharmacy. Prereq: Permission of instructor. Not open to students with credit for Pharmacy 894. Repeatable to a maximum of 12 cr hrs or 12 completions.

8250 Pharmaceutical Supply Chain Principles for Health System Pharmacy G 2
Exposure to the key stakeholders in the pharmaceutical supply chain and factors affecting its integrity. Basic concepts in drug procurement and inventory control. Prereq: 8150, and enrollment in the MS in Health-System Pharmacy program; or permission of instructor.

8260 Advanced Topics in Pharmaceutical Administration G 1
An exploration of current issues and developments in the field of pharmaceutical administration. Prereq: Not open to students with credit for Pharmacy 826. Repeatable to a maximum of 20 cr hrs.

8350 Advanced Medicinal Chemistry I G 2
Selected topics in medicinal chemistry, the subject matter being drawn from the current literature. Prereq. Grad standing and permission of instructor. Not open to students with credit for Pharmacy 636.

8360 Advanced Medicinal Chemistry II G 2
Selected topics in medicinal chemistry, the subject matter being drawn from the current literature. Prereq: Grad standing and permission of instructor. Not open to students with credit for Pharmacy 636.

8370 Chemotherapy of Infectious Diseases G 2
Introduction to major classes of anti-infectious drugs including mechanism of action and new drug discovery. Prereq: Grad standing or permission of instructor. Not open to students with credit for Pharmacy 637.

8380 Advanced Medicinal Chemistry: Structure-based Computer-aided Molecular Design G 2
Molecular design covering molecular structure, basic quantum chem, molecular mechanics, conformational sampling, molecular docking, scoring function, molecular dynamics, free energy calculation, virtual screening, fragment-based design, protein design. Prereq: Not open to students with credit for Pharmacy 835.

8390 Recent Advances in Pharmacognosy G 2
Recent advances in pharmacognosy and natural products chemistry will be explored. Students will gain a more profound understanding of the contemporary scientific literature on natural products. Taught in alternate years. Prereq: Permission of instructor. This course is graded S/U.

8510 Advanced Pharmacognosy G 2
The study of research involving biosynthesis of plant constituents of pharmaceutical interest. Prereq: Not open to students with credit for Pharmacy 851.

8520 Research Ethics G 1
Basic concepts of integrity in the process of research. The course fulfills NIH requirement for research ethics. Repeatable to a maximum of 20 cr hrs. This course is progress graded (S/U).

8700 Theoretical and Experimental Pharmacology G 2
Theoretical basis of pharmacologic sciences including signal transduction, dose-response curves and drug-receptor interactions. Prereq: Not open to students with credit for Pharmacy 870 or 871.

8710 Graduate Pharmacology I G 3
Provides a study of mechanisms of therapeutic and toxic effects of important drug classes. The course includes basic principles and a focus on cardiovascular, endocrine, gastrointestinal drugs and anti-inflammatory agents. Prereq: Grad standing. Not open to students with credit for Pharmacy 747, 748, 750, or 751.

8720 Graduate Pharmacology II G 3
The second course in pharmacology will provide a study of mechanisms of therapeutic and toxic effects of important drug classes. This course will focus on central nervous and pulmonary systems, and on anti-microbial and cancer chemotherapy. Prereq: Grad standing. Not open to students with credit for Pharmacy 748, 749, 751, or 752.

8730 Contemporary Pharmacology G 1
Presentation and discussion related to current topics in pharmacology. Repeatable to a maximum of 20 cr hrs.

8740 History of Pharmacology and Drug Discovery G P 1
Gain an understanding of the history of drugs and chemical and develop an essential breadth of knowledge in pharmacological sciences. Focus is on the historical key events, times, places and contributing scientists and provide a historical perspective essential for deeper analysis of scientific knowledge in therapeutics. Prereq: Enrollment in Graduate Program, or Rank 2 or Rank 3 in PharmD program. Not open to students with credit for Pharmacy 874.

8880.01 All College Seminar: Presentation G %
Presentation of oral and written reports dealing with recent advances in the pharmaceutical sciences. Prereq: Not open to students with credit for Pharmacy 850.01. Repeatable to a maximum of 20 cr hrs.

8880.02 All College Seminar: Participation G %
Participation and discussion of research and recent advances in the pharmaceutical sciences. Prereq: Not open to students with credit for Pharmacy 850.02. Repeatable to a maximum of 20 cr hrs.

8881.01 Medicinal Chemistry: Seminar Presentation G %
Presentation of oral and written reports dealing with recent advances in medicinal chemistry and pharmacognosy. Prereq: Not open to students with credit for Pharmacy 850.01. Repeatable to a maximum of 20 cr hrs.

8881.02 Medicinal Chemistry: Seminar Participation G %
Participation in and discussion of research and recent advances in medicinal chemistry and pharmacognosy. Prereq: Not open to students with credit for Pharmacy 850.02. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8882.01 Pharmaceutics: Seminar Presentation G %
Presentation of oral and written reports dealing with recent advances in pharmaceutics. Prereq: Not open to students with credit for Pharmacy 850.01. Repeatable to a maximum of 20 cr hrs.

8882.02 Pharmaceutics: Seminar Participation G %
Participation and discussion of research and recent advances in the field of pharmaceutics. Prereq: Not open to students with credit for Pharmacy 850.02. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8883.01 Pharmaceutical Administration: Seminar Presentation G %
Presentation of oral and written reports dealing with recent advances in the field of pharmaceutical administration. Prereq: Not open to students with credit for Pharmacy 850.02. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8883.02 Pharmaceutical Administration: Seminar Participation G %
Participation and discussion of research and recent advances in the field of pharmaceutical administration. Prereq: Not open to students with credit for Pharmacy 850.02. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8884 Seminar: MS in Health-System Pharmacy G 1
Issues and new information for health system pharmacy will be presented by MS candidates, faculty and guest speakers covering therapeutic updates, project proposals and final results, and current topics. Prereq: Enrollment in MS Health-System Pharmacy program, or permission of instructor. Not open to students with credit for Pharmacy 850.02. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8885.01 Pharmacology Seminar: Presentation G %
Presentation of oral and written reports dealing with recent advances in pharmacology. Prereq: Not open to students with credit for Pharmacy 850.01. Repeatable to a maximum of 20 cr hrs.

8885.02 Pharmacology Seminar: Participation G %
Participation and discussion of research and recent advances in the field of pharmacology. Prereq: Not open to students with credit for Pharmacy 850.02. This course is graded S/U.

8886.01 Translational Science Seminar: Presentation G %
Presentation of oral and written reports dealing with recent advances in translational science. Prereq: Not open to students with credit for Pharmacy 850.01. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8886.02 Translational Science Seminar Participation G %
Participation and discussion of research and recent advances in translational science. Prereq: Not open to students with credit for Pharmacy 850.02. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.
Pharmacy 395

1520 Probability, Data, and Decision Making U 3
How to make rational decisions when confronted by uncertainty; foundational issues and techniques pertaining to probability, selection of utilities and analysis of data relevant to decision making.
Pre-req: Math 1075 or equiv, or an ACT Mathematics Subscore of 22 or higher, or Math Placement Level R or better. Not open to students with credit for 153. GE data any course.

1530 Introduction to Philosophy of Religion U 3
A philosophical analysis of the nature of religion and the foundations of religious belief.
Pre-req: Not open to students with credit for 270. GE cultures and ideas course.

2120 Asian Philosophies U 3
A survey including at least three of the following philosophical systems of Asia: Hinduism, Buddhism, Jainism, Zoroastrianism, Taoism, and Confucianism.
Pre-req: Not open to students with credit for 215. GE lit and diversity global studies course.

2194 Group Studies U 1 - 3
Groups of students are given an opportunity to pursue special topics not otherwise offered. Repeatable to a maximum of 9 or hrs or 3 completions.

2342 Environmental Ethics U 3
Examination of the moral issues generated by the impact of human beings on the natural environment.
Pre-req: Not open to students with credit for 533.

2367 Contemporary Social and Moral Problems in the U.S. U 3
An intensive writing course concentrating on the analysis and evaluation of philosophical argument concerning contemporary social and moral problems about race, gender, class, and ethnicity. Does not count on a philosophy major or minor program.
Pre-req: English 1110 or 1110.02 or equiv, and soph standing or above. Not open to students with credit for 367. GE writing and comm course: level 2 and diversity soc div in the US course.

2400 Political and Social Philosophy U 3
Philosophical bases of social and political institutions and practices; analysis of such fundamental conceptions as rights, justice, equality, political obligation, and civil disobedience.
Pre-req: English 1110.xx or 1110.xxH, or equiv. Not open to students with credit for 230. GE cultures and ideas course.

2450 Philosophical Problems in the Arts U 3
Introduction to major philosophical issues in the arts; examination of artistic intention, representation v. abstraction, the grounds and objectives of art criticism, the import of cultural differences and their application to specific works of art.
Pre-req: Not open to students with credit for 240 or 240H. GE VPA course.

2450H Philosophical Problems in the Arts U 3
Introduction to major philosophical issues in the arts; examination of artistic intention, representation v. abstraction, the grounds and objectives of art criticism, the import of cultural differences and their application to specific works of art.
Pre-req: Honors standing or permission of department or instructor. Not open to students with credit for 240 or 240H. GE VPA course.

2465 Death and the Meaning of Life U 3
Explore the question of whether there is a relation between mortality and a meaningful life. GE lit course.

2470H Honors Philosophy of Film U 3
An introduction to philosophical and aesthetic issues involved with film as an art and as an expressive medium.
Pre-req: Honors standing or permission of instructor. Not open to students with credit for 242H. GE VPA course.

2500 Symbolic Logic U 3
A formal presentation of the elements of modern deductive logic; decision and proof procedures in sentential logic and functional logic.
Pre-req: Math 1075 or equiv, or an ACT Math Subscore of 22 or higher that is less than 2 years old. Not open to students with credit for 250. GE quant reason math and logical any course.

2650 Introduction to the Philosophy of Science U 3
A survey of the main philosophical problems relating to the natural sciences.
Pre-req: 3 cr hrs in logic or Math above 1075, an ACT Math Subscore of 22 or higher, or Math Placement Level R or better, and 3 cr hrs in natural science, or permission of instructor. Not open to students with credit for 255.

2860 Metaphysics, Religion, and Magic in the Scientific Revolution U 3
A philosophical examination and critical exploration of the interconnection between the natural scientific, religious and magical traditions in the emergence of the Scientific Revolution.
Pre-req: Not open to students with credit for 280. GE historical study course.

2860 Science and Religion U 3
A philosophical examination of the relationship between science and religion, concentration on issues regarding the creation of the universe and the origins of life.
Pre-req: Not open to students with credit for 170. GE cultures and ideas course. Cross-listed in CompSci 2670.
290H  Freshman-Sophomore Proseminar  U  3

Topic varies; emphasis on current philosophical problems. Prereq: Fresh or soph standing; and CPRH 3.00 or above, Honors standing, or permission of instructor. Not open to students with credit for 4000H. Repeatable to a maximum of 9 hrs.

3000  Gateway Seminar  U  3

The primary purpose of the gateway seminar is to give students intensive training in reading, researching, and writing about philosophy. Topics will vary. Prereq: Philos major, or permission of instructor.

3111  Introduction to Jewish Philosophy  U  3

A general introduction to major figures and trends in medieval, modern, and contemporary Jewish philosophy: emphasis on Philo, Saadiah, Maimonides, Spinoza, Mendelssohn, and Buber. Prereq: Not open to students with credit for 321 and JewSt 3111. Cross-listed in JewSt.

3210  History of Ancient Philosophy  U  3

Major figures and issues in Greek philosophy: presocratics, Socrates, Plato, Aristotle. Prereq: 3 or hrs in Philos other than 1500, or permission of instructor. Not open to students with credit for 301. GE II and diversity global studies course.

3220  History of Medieval Philosophy  U  3

Major figures in medieval philosophy, including Augustine, Aquinas, Duns Scotus, and Ockham. Prereq: 3 or hrs in Philos other than 1500, or permission of instructor. Not open to students with credit for 302. GE II and diversity global studies course.

3230  History of 17th-Century Philosophy  U  3

Major figures in early modern philosophy: Descartes, Hobbes, Spinoza, Locke, and Berkeley. Prereq: 3 or hrs in Philos other than 1500, or permission of instructor. Not open to students with credit for 303. GE II and diversity global studies course.

3240  History of 18th-Century Philosophy  U  3

Major figures in European philosophy in the 17th and 18th centuries. Background in 3230 is strongly recommended. Prereq: 3 or hrs in Philos other than 1500, or permission of instructor. Not open to students with credit for 304. GE II and diversity global studies course.

3250  History of 19th-Century Philosophy  U  3

Major figures in 19th-century German idealism. Prereq: 3 or hrs in Philos other than 1500, or permission of instructor. Not open to students with credit for 305. GE II and diversity global studies course.

3260  Movements in 20th-Century Philosophy  U  3

Three or more of the following Anglo-American and European philosophical movements will typically be surveyed: existentialism, philosophical analysis, positivism, Marxism, pragmatism, linguistic philosophy. Prereq: Not open to students with credit for 518.

3261  Fundamental Concepts of Existentialism  U  3

Key concepts of the movement: commitment, absurdity, freedom, and death, as expressed in the works of Nietzsche, Sartre, Camus, Kierkegaard, and others. Prereq: 3 or hrs of Philos other than 1500, or permission of instructor. Not open to students with credit for 306. GE II course.

3262  Contemporary Continental Thought  U  3

Examination of contemporary continental thought including such movements as structuralism, hermeneutics, critical theory, poststructuralism, semiotics, deconstruction, and postmodernism. Prereq: 3 or hrs in Philos other than 1500, or permission of instructor. Not open to students with credit for 307. GE II and diversity global studies course.

3300  Moral Philosophy  U  3

A rigorous examination of major issues in moral philosophy, such as the basic moral value(s); the relation between value and obligation; justification of moral judgment. Prereq: Philos major, or 9 cr hrs of Philos course work exclusive of 1500, or permission of instructor. Not open to students with credit for 431.

3310  Morality and the Mind  U  3

An introduction to issues in moral psychology including various interactions between moral philosophy and issues in psychology and cognitive science. Prereq: 3 or hrs in Philos other than 1500 or 1501, or permission of instructor.

3341H  Ethical Conflicts in Health Care Research, Policy, and Practice  U  3

An interdisciplinary approach to an analysis of central moral dilemmas in health care research, policy, and practice. Prereq: Honors standing; or Jr or Sr standing and permission of department or instructor. Not open to students with credit for 580H.

3351  Judaism and Ethics  U  3

Examination of the relationships of ethics to religion in general and Judaism in particular, emphasizing the place of ethical reasoning with Judaism as a religious system. Prereq: Not open to students with credit for 323 or JewSt 3351. Cross-listed in JewishSt.

3410  Philosophical Problems in the Law  U  3

Introduction to the nature of law and the philosophical and moral problems concerning law, justification of civil disobedience, criminal punishment, plea bargaining, and the enforcement of morality. Prereq: Not open to students with credit for 338.

3420  Philosophical Perspectives on Issues of Gender  U  3

An examination of metaphysical, epistemological, and ethical issues surrounding sex and gender, with issues chosen to represent both theoretical and practical controversies. Prereq: English 1110 or equiv. Not open to students with credit for 335. GE cultures and ideas and diversity soc div in the US course.

3430  The Philosophy of Sex and Love  U  3

This course will explore both historical and contemporary philosophical perspectives on both sex and love. Prereq: 3 or hrs in Philos, or permission of instructor.

3440  Theorizing Race  U  3

Introduction to issues of "race," consideration of the historical emergence and development of ideas of "race" and of racist practices, along with their contemporary formations. Prereq: GE second writing course or Philos 2400, or Jr standing or above, or permission of instructor. Not open to students with credit for 340. Cross-listed in AfrAmSt.

3530  Philosophy of Logic  U  3

Introduction into a variety of distinctly philosophical issues related to logic and its formal development. Presupposes a background in formal logic. Prereq: 2500 (256). Not open to students with credit for 450.

3690  Introduction to Philosophy of Language  U  3

Survey of philosophical issues regarding the nature of linguistic representation and its role in thought and communication. Prereq: 2500 and 6 or hrs of Philos course work exclusive of 1500, or permission of instructor. Not open to students with credit for 473.

3650  Philosophy of Science  U  3

A rigorous introduction to general methodological issues in the philosophy of science. Prereq: 2500 and either a major in Philos or 9 or hrs of Philos course work exclusive of 1500; or permission of instructor. Not open to students with credit for 455.

3680  Sex and Death: Introduction to the Philosophy of Biology  U  3

A survey of philosophical questions regarding the theoretical foundations and implications of research in biology. Prereq: Philos major or 9 cr hrs of Philos course work exclusive of 1500 and 1501; or permission of instructor. Not open to students with credit for 458.

3700  Introduction to Metaphysics  U  3

Survey of main philosophical positions concerning the nature of reality, persons, freedom, identity, and causation. Prereq: Philos major or 9 or hrs of Philos course work exclusive of 1500, or permission of instructor. Not open to students with credit for 463.

3750  Introduction to Theory of Knowledge  U  3

Survey of main philosophical positions concerning knowledge, justification, skepticism, and rationality. Prereq: Philos major, or 9 or hrs of Philos course work exclusive of 1500, or permission of instructor. Not open to students with credit for 460.

3800  Introduction to Philosophy of Mind  U  3

General introduction to the philosophy of mind, the mind-body problem, intentionality, and the nature of consciousness. Prereq: Philos major, or 9 or hrs of Philos course work exclusive of 1500, or permission of instructor. Not open to students with credit for 467.

3810  Philosophy of Action  U  3

Philosophical examination of the nature of human action. Topics include the nature of intention, practical rationality, issues in moral psychology, and the metaphysics of free will. Prereq: Philos major, or 9 or hrs of Philos course work exclusive of 1500, or permission of instructor. Not open to students with credit for 465.

3820  Philosophy of Perception  U  3

A philosophical examination of the nature of sensory perception, its relationship to conceptual thought and to consciousness, and its role in action and knowledge acquisition. Prereq: Philos major, or 9 or hrs of Philos course work exclusive of 1500, or permission of instructor. Not open to students with credit for 469.

3830  Consciousness  U  3

An introduction to consciousness with a focus on the interactions between philosophy, psychology, and neuroscience. Prereq: 3 or hrs in Philos other than 1500 or 1501, or permission of instructor.

3870  Jewish Mysticism  U  3

Introduction to issues and texts in the Jewish mystical tradition, with emphasis on the Zohar, Lurianic Kabbalah, and Hasidism. Prereq: Not open to students with credit for 322.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4900H</td>
<td>Junior-Senior Proseminar</td>
<td>U</td>
<td>Topics vary; emphasis on recent philosophical writing in some specific area or on some specific problem. Prereq: Honors standing and 6 cr hrs in Philos 2000 level or above coursework, or permission of instructor. Repeatable to a maximum of 9 or hrs or 5 completions.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research in Philosophy</td>
<td>U</td>
<td>Undergraduate research in various topics; independent study. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4998H</td>
<td>Honors Undergraduate Research in Philosophy</td>
<td>U</td>
<td>Undergraduate research in variable topics; independent study. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999</td>
<td>Thesis Research</td>
<td>U</td>
<td>A program of reading arranged for each student, with individual conferences, reports, and papers. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999H</td>
<td>Honors Thesis Research</td>
<td>U</td>
<td>A program of reading arranged for each student, with individual conferences, reports, and papers. Failure to receive a mark of S in this course is a disqualification for special honors. Prereq: Sr standing with a grade of A in at least half of the Philos courses taken and an average of 80 in the remainder; permission of instructor under whose supervision the work is to be completed and the Arts and Sciences Honors Committee. At least 1 semester is required of candidates for the BA with distinction in Philos. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5193</td>
<td>Individual Studies</td>
<td>U</td>
<td>Individual Studies. Students ordinarily earn from 1 to 3 cr hrs, but honors students may earn up to 6 cr hrs. Prereq: Permission of dept chairperson. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies</td>
<td>U</td>
<td>Group Studies. Prereq: Permission of chairperson. Repeatable to a maximum of 18 cr hrs or 6 completions.</td>
</tr>
<tr>
<td>5210</td>
<td>Studies in Ancient Philosophy</td>
<td>U</td>
<td>Variable content; special topics in ancient Greek philosophy, including value theory, logic, metaphysics and natural science in pre-Socrates Socrates, Plato, Aristotle the Hellenistic schools or neo-Platonism. Prereq: 3120 or 6 cr hrs at the 2000 level or above in Philos coursework, Grad standing in Philos, or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>5211</td>
<td>Plato</td>
<td>U</td>
<td>A survey of central philosophical themes in one or more Platonic dialogues. Prereq: 3210, or 6 cr hrs at the 2000 level or above in Philos coursework, or Grad standing in Philos; or permission of instructor. Not open to students with credit for 601.01.</td>
</tr>
<tr>
<td>5212</td>
<td>Aristotle</td>
<td>U</td>
<td>A survey of central philosophical themes in one or more Aristotelian treatises. Prereq: 3120 or 6 cr hrs at the 2000 level or above in Philos coursework, Grad standing in Philos, or permission of instructor. Not open to students with credit for 601.02.</td>
</tr>
<tr>
<td>5220</td>
<td>Studies in Medieval Philosophy</td>
<td>U</td>
<td>An intensive examination of a major philosopher, school, or philosophical problem of the medieval period; topics vary. Prereq: 3220 or 6 cr hrs at the 2000 level or above in Philos coursework, or Grad standing in Philos; or permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>5230</td>
<td>Studies in 17th-Century Philosophy</td>
<td>U</td>
<td>An intensive examination of a major philosopher or philosophical problem of the rationalist period; topics vary from semester to semester. Prereq: 3230 and 6 cr hrs of Philos course work at the 2000 level or above; or Grad standing in Philos; or permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>5240</td>
<td>Studies in 18th-Century Philosophy</td>
<td>U</td>
<td>An intensive examination of a major philosopher or philosophical problem of the period; topics vary from semester to semester. Prereq: 3240 and 6 cr hrs of Philos course work at the 2000 level or above; or Grad standing in Philos; or permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>5241</td>
<td>Studies in 18th Century Philosophy: Kant</td>
<td>U</td>
<td>An intensive examination of one or more important themes in Kant's philosophical writings. Prereq: 3230 or 3240, and 6 cr hrs of Philos course work at the 2000 level or above; or Grad standing in Philos; or permission of instructor. Not open to students with credit for 604.01</td>
</tr>
<tr>
<td>5250</td>
<td>Studies in 19th-Century Philosophy</td>
<td>U</td>
<td>An intensive examination of a major philosopher or philosophical problem of the period; topics vary from semester to semester. Prereq: 3250 and 6 cr hrs of Philos course work at the 2000 level or above; or Grad standing in Philos; or permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
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<tr>
<td>Course Code</td>
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<tr>
<td>5550</td>
<td>Advanced Logical Theory</td>
<td>G 3</td>
<td>Topics include formal arithmetic, recursive functions, Turing machines, Gödel's incompleteness theorems, Church's thesis, arithmetical truth, logical paradoxes, and higher-order logic. Prereq: 2500 and 5500. Repeatable to a maximum of 9 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>5600</td>
<td>Advanced Philosophy of Language</td>
<td>U G 3</td>
<td>Basic problems and results in the philosophy of language, concentrating on theories of reference, theories of meaning, and theories of language-use (including speech-acts, implicature). Preferable to have credit for 3650 prior to enrollment. Prereq: 2500, and 6 cr hrs in Philos at or above 3000-level; or 2500, and Grad standing in Philos; or permission of instructor. Not open to students with credit for 673.</td>
</tr>
<tr>
<td>5610</td>
<td>Natural Language Metaphysics</td>
<td>U G 3</td>
<td>Natural languages seem to presuppose that the world is a certain way. In many cases, the presuppositions are philosophically (or scientifically) contentious. We will explore a variety of such cases, noting the ramifications for both metaphysics and for semantics. Team-taught course with faculty member in Linguistics. Prereq: Philos 2500, and 6 cr hrs in Philos at 3000-level or above; or Ling 5001 or 5401; or Grad standing in Philos; or permission of instructor. Not open to students with credit for Ling 5410. Cross-listed in Ling 5410.</td>
</tr>
<tr>
<td>5650</td>
<td>Advanced Philosophy of Science</td>
<td>U G 3</td>
<td>A study of the nature and structure of scientific concepts, laws, and theories; appraisal of methodologies, presuppositions, and frames of reference in science. Preferable to have credit for 3650 prior to enrollment. Prereq: 2500, and 6 cr hrs in Philos at or above 3000-level; or 2500, and Grad standing in Philos; or permission of instructor. Not open to students with credit for 655.</td>
</tr>
<tr>
<td>5700</td>
<td>Advanced Metaphysics</td>
<td>U G 3</td>
<td>An intensive examination of major metaphysical problems: categories, universals, substance and process, causality and law, space and time, metaphysical presuppositions of knowledge. Preferable to have credit for 3700 prior to enrollment. Prereq: 2500, and 6 cr hrs in Philos at or above 3000-level; or Grad standing; or permission of instructor. Not open to students with credit for 663.</td>
</tr>
<tr>
<td>5750</td>
<td>Advanced Theory of Knowledge</td>
<td>U G 3</td>
<td>An intensive examination of major epistemological problems: the possibility, origin, foundation, structure, methods, limits, types, and validity of knowledge. Preferable to have credit for 3750 prior to enrollment. Prereq: 2500, and 6 cr hrs in Philos at or above 3000-level; or Grad standing; or permission of instructor. Not open to students with credit for 660.</td>
</tr>
<tr>
<td>5797</td>
<td>Study at a Foreign Institution</td>
<td>U G 1 - 9</td>
<td>An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Written permission of dept chairperson. Students must pay Ohio State fees, any fees in excess of Ohio State tuition, and travel and subsistence costs. Repeatable to a maximum of 27 or hrs. This course is progress graded.</td>
</tr>
<tr>
<td>5800</td>
<td>Advanced Philosophy of Mind</td>
<td>U G 3</td>
<td>Classical and contemporary approaches to the nature of mind, mind-body, other minds, intentionality, and other problems. Preferable to have credit for 3850 prior to enrollment. Prereq: 9 or hrs in Philos at or above 3000-level; or Grad standing in Philos; or permission of instructor. Not open to students with credit for 667.</td>
</tr>
<tr>
<td>5830</td>
<td>Introduction to Cognitive Science</td>
<td>U G 3</td>
<td>Cognitive science is an interdisciplinary study of the nature of human thought; psychological, philosophical, linguistic, and artificial intelligence approaches to knowledge representation. Prereq: 9 cr hrs from at least two of these areas: CSE, Ling, Philos or Psych; or permission of instructor. Not open to students with credit for CSE 5531, Ling 5612, or Psych 5612 (612). Cross-listed in CSE, Ling, and Psych.</td>
</tr>
<tr>
<td>5840</td>
<td>Advanced Philosophy of Cognitive Science</td>
<td>U G 3</td>
<td>In-depth examination of the influence of results in cognitive science upon the way in which philosophers approach fundamental issues about the nature of the mind. Prereq: 3850, or permission of instructor. Not open to students with credit for 620.</td>
</tr>
<tr>
<td>5850</td>
<td>Philosophy of Religion</td>
<td>U G 3</td>
<td>A study of religious concepts and problems; the idea and nature of God, of humans, their relation to the world and human destiny. Prereq: 6 or hrs in Philos at or above 3000-level; or Grad standing; or permission of instructor. Not open to students with credit for 670.</td>
</tr>
<tr>
<td>5870</td>
<td>Topics in Jewish Philosophy</td>
<td>U G 3</td>
<td>An examination of a philosophical issue in Jewish thought or of the thought of a particular author; topics vary. Prereq: 3111 or 3220, or permission of instructor. Not open to students with credit for 521 or Jewish 5870. Repeatable to a maximum of 9 cr hrs or 3 completions. Cross-listed in JewishSt.</td>
</tr>
<tr>
<td>5891</td>
<td>Proseminar in Cognitive Science</td>
<td>U G 3</td>
<td>Provides an in-depth examination of cognitive science from an interdisciplinary perspective. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in CSE, Ling, Psych, or Sphrimg.</td>
</tr>
</tbody>
</table>

**Physical Medicine And Rehabilitation**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>7193</td>
<td>Individual Studies in Physical Medicine</td>
<td>G 3 - 15</td>
<td>Minor investigations using electrodiagnostic techniques; biophysical, physiologic, and therapeutic effects of physical agents, and other medical rehabilitation techniques. Prereq: Grad or Prof standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7999</td>
<td>Research in Physical Medicine and Rehabilitation</td>
<td>G 1 - 15</td>
<td>Research for thesis purposes only. Prereq: Grad or Prof standing, and permission of instructor. This course is graded S/U.</td>
</tr>
</tbody>
</table>

**Physical Therapy**

<table>
<thead>
<tr>
<th>Course Code</th>
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<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>6021</td>
<td>Introduction to the Physical Therapy Profession</td>
<td>G 1</td>
<td>Introduction to the profession of physical therapy. Information pertaining to professional development, teaching and learning, social responsibility and individual, cultural and age related variations pertaining to the practice of PT. Prereq: Not open to students with credit for 770.</td>
</tr>
</tbody>
</table>
6189  Integrated Clinical Experience  G  1
Part-time clinical experience assigned at an affiliated outpatient facility in central Ohio with the goal of practicing techniques from the musculoskeletal lab and documentation. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

6250  Neural Basis of Movement  G  2
Introduction to sensory and motor systems, basis of the neurologic screening examination and principles of motor control theory.
Pre: Not open to students with credit for PhysTher 630.01 or 630.02.

6260  Pathology for Physical Therapists  G  2
Introduction to pathologic and medical management of disease and implications for the physical therapist.
Pre: Not open to students with credit for PhysTher 752.

6410  Principles and Procedures in Physical Therapy Practice I  G  1
Introduction to basic patient handling skills and clinical measurement.
Pre: Not open to students with credit for PhysTher 740.

6415  Principles and Procedures in Physical Therapy Practice II  G  1
Advances the principles and skills for patient management and measurement acquired in Principles and Procedures in Physical Therapy Practice I.
Pre: Not open to students with credit for PhysTher 741.

7012  Documentation and Reimbursement  G  1
Clinical decision making and professional communication through documentation and reimbursement of clinical activities, including evaluation, goal setting and prognosis.
Pre: Not open to students with credit for PhysTher 771.

7189  Intermediate Clinical Internship I  G  4
Full-time clinical rotation completed in an affiliated outpatient facility with the focus on patients with musculoskeletal impairments. Repeatable to a maximum of 8 cr hrs. This course is graded S/U.

7210  Biomechanics for Physical Therapy  G  3
Introduction to the musculoskeletal structure and function, the biomechanical basis of human movement, and musculoskeletal disease and injury processes.
Pre: Not open to students with credit for PhysTher 750.

7215  Musculoskeletal Diagnosis and Management I  G  4
The scientific basis for management of the client with pathology of the musculoskeletal system.
Pre: Not open to students with credit for PhysTher 760.01.

7250  Neurologic Basis of Rehabilitation  G  2
Analysis of normal and pathological neural systems for sensory and motor functions, mechanisms of recovery of function associated with rehabilitation, and introduction to neural development.
Pre: Not open to students with credit for PhysTher 631.

7289  Intermediate Clinical Internship II  G  2 - 9
Full-time clinical rotation completed in an affiliated outpatient facility with the focus on patients with acute or neurologic impairments. Repeatable to a maximum of 18 cr hrs or 2 completions. This course is graded S/U.

7410  Musculoskeletal Skills Laboratory I  G  3
Clinical application and skill acquisition related to management of musculoskeletal conditions by physical therapists.
Pre: Not open to students with credit for PhysTher 760.02.

8013  Contemporary Practice  G  1
Critical appraisal of current medical, ethical, political and legal topics impacting physical therapy practice.
Pre: Not open to students with credit for PhysTher 772.

8030  Topics in Pediatric Physical Therapy  G  1
Critical topics related to health care and education systems delivery in pediatric practice and the role of family and culture in the therapeutic program of the child.
Pre: Not open to students with credit for PhysTher 773.

8050  Topics in Rehabilitation and Long Term Care  G  1
Healthcare systems and critical topics in rehabilitation and geriatric care.
Pre: Not open to students with credit for PhysTher 774.

8060  Health Care in America and Its Impact on Physical Therapy I  G  1
Analysis of the healthcare system in America and how working within this system impacts the practice of Physical Therapy.

8061  HealthCare in America and Its Impact on Physical Therapy II  G  1
Analysis of the healthcare system in America and how working within this system impacts the practice of Physical Therapy.
Pre: Not open to students with credit for PhysTher 871.

8065S  Service Learning in Physical Therapy  G  1
Service learning opportunities in physical therapy.
Pre: Not open to students with credit for PhysTher 870S. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8070  Management I: Administrative Skills  G  1
Administrative skills for the management of PT practice in various settings, introduce basic principles of administration and management that are applicable to PT practice.
Pre: Not open to students with credit for PhysTher 870.

8071  Management II: Administrative Skills  G  2
Administrative skills for the management of PT practice in various settings, introduce basic principles of administration and management that are applicable to PT practices.
Pre: Not open to students with credit for PhysTher 870.

8089  Specialty Professional and Practice Study  G  1 - 4
Part-time professional and practical experience or study in a clinical, administrative, interdisciplinary and/or service learning area of specialty practice with emphasis on evidenced approaches to innovation and best-practice.
Pre: Permission of instructor. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

8119  Terminal Clinical Internship I  G  9
Full-time clinical internship in an affiliated clinical facility. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

8193  Individual Studies in Physical Therapy  G  1 - 3
Graduate study of a selected topic.
Pre: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.

8210  Musculoskeletal Diagnosis and Management II  G  6
Region-specific application of the knowledge acquired in Musculoskeletal Diagnosis and Management I, gait analysis, and an introduction to acute care, intergenerative system management, and oncology.
Pre: Not open to students with credit for PhysTher 761.01.

8230  Clinical Applications in Pediatrics  G  3
Physical Therapy principles of examination, evaluation, diagnosis, prognosis and intervention with children.
Pre: Not open to students with credit for PhysTher 763.01.

8250  Adult Neurologic Rehabilitation  G  5
Analysis of body function and structure, activity, and participation levels associated with injury to the nervous system. Evidence and rationale for examination, and interventions for adult neurologic rehabilitation.
Pre: Not open to students with credit for PhysTher 764.01 or 765.01.

8270  Geriatric Management  G  2
Critical issues in the management of geriatric clients.
Pre: Not open to students with credit for PhysTher 754.

8272  Cardiopulmonary Rehabilitation  G  2
Evidence and rationale for examination, evaluation, and interventions for prevention of cardiovascular disease and treatment of common cardiopulmonary system disorders.
Pre: Not open to students with credit for PhysTher 755.

8274  Integumentary Systems and Rehabilitation  G  2
Analysis of body function and structure, activity, and participation levels associated with the injury to the integumentary system. Evidence and rationale, and interventions for those with disorders related to the integumentary system.
Pre: Not open to students with credit for PhysTher 762.01.

8276  Adaptive Equipment and Community Reintegration  G  2
Analysis of the use of adaptive equipment such as orthotics and wheelchairs to augment rehabilitation. Evidence and rationale for the performance of functional capacity evaluations for community reintegration.
Pre: Not open to students with credit for PhysTher 751.

8289  Terminal Clinical Internship II  G  9
Full-time clinical internship in an affiliated clinical facility. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

8410  Musculoskeletal Skills Laboratory II  G  3
Application of the knowledge and skills acquired in Musculoskeletal Diagnosis and Management I to specific regions of the musculoskeletal system, gait analysis, acute care, oncology, and wound care.
Pre: Not open to students with credit for PhysTher 761.02.

8430  Pediatric Laboratory  G  1
Applications and methods used in evaluation, diagnosis and intervention including neurological, musculoskeletal, cardiopulmonary and integumentary systems in children.
Pre: Not open to students with credit for PhysTher 763.02.
Clinical decision making and techniques for examination, evaluation, and interventions for adult neurologic physical therapy.

Prereq: Not open to students with credit for PhysTher 764.02.

Clinical decision making and techniques for examination, evaluation, and interventions for those with disorders related to the integumentary system, adaptive equipment and community reintegration.

Prereq: Not open to students with credit for PhysTher 762.02.

Critical analysis of the current literature and the application of advanced skills related to the orthopedic patient with an emphasis on manual therapy techniques and evidence-based interventions.

Prereq: Not open to students with credit for PhysTher 720.

Introduction to Sports Physical Therapy concepts with emphasis on prevention, acute injury management, differential diagnosis, sports-specific rehabilitation and wellness.

Prereq: Not open to students with credit for PhysTher 625.

Develop leadership skills and integrate leadership theory in running a physical therapy private practice. This seminar progresses the learner from basic administrative and supervisory principles and theory to the application of higher level skills.

Prereq: Must be enrolled in Physical Therapy, or permission of instructor. This course is graded S/U.

Develop leadership skills and integrate leadership theory in running a physical therapy private practice. This seminar progresses the learner from basic administrative and supervisory principles and theory to the application of higher level skills.

Prereq: Enrollment in Physical Therapy, or permission of instructor. This course is graded S/U.

Typical and atypical development including the effects of disease and damage to the nervous, musculoskeletal, cardio-pulmonary and integumentary systems in pediatrics.

Prereq: Not open to students with credit for PhysTher 753.

Critical issues in managing complex scenarios in physical therapy. Repeatable to a maximum of 2 cr hrs.

Critical analysis of the current literature and the application of advanced skills related to the neurologic patient with an emphasis on evidence-based assessment.

Prereq: Not open to students with credit for PhysTher 730.

Students will gain entry level clinical skills in nerve conduction velocity testing for motor and sensory nerves, and needle electromyography, using standard clinical equipment, and recognize pathologies that indicate these tests.

Prereq: Not open to students with credit for PhysTher 862.

Students in health and rehabilitation sciences gain an understanding of the cellular response to stress and exercise under normal conditions and in disease. Application to therapeutic strategies will occur.

Prereq: Not open to students with credit for PhysTher 851.

Develop an understanding of the basic principles and interpretation of musculoskeletal and neuromuscular imaging. The course will focus on the application of radiographic, CT and MRI images into physical therapy practice.

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Develop an understanding of the basic principles and interpretation of musculoskeletal and neuromuscular imaging. The course will focus on the application of radiographic, CT and MRI images into physical therapy practice.
1210 Bridging from 111 to equivalent of 1200: Fluids, Waves  U  2
Algebra-based introduction to classical physics: fluids and waves; for students having credit for Physics 111 needing equivalent of credit for Physics 1200. Prereq: 111. Not open to students with credit for 1200 (113). This course is available for EM credit. GE nat sci phys course. NS Admin Cond course.

1211 Bridging from 112 to equivalent of 1201: Optics, Modern Physics  U  2
Algebra-based introduction to classical physics: additional optics and modern physics; for students having credit for Physics 112 needing equivalent of credit for Physics 1201. Prereq: 112. Prereq or concur: 1210. Not open to students with credit for 1201 (113). This course is available for EM credit. GE nat sci phys course. NS Admin Cond course.

1240 Bridging from 131 to equivalent of 1250: Thermodynamics, Waves, Fluids  U  2
Calculus-based introduction to classical physics: fluids, thermodynamics, waves; for students having credit for Physics 131 needing equivalent of credit for Physics 1250. Prereq: 131. Not open to students with credit for 1250 (133). This course is available for EM credit. GE nat sci phys course. NS Admin Cond course.

1241 Bridging from 132 to equivalent of 1251: Optics, Modern Physics  U  2
Calculus-based introduction to simple optics, modern physics including special relativity and quantum mechanics; for students having credit for Physics 132 needing equivalent of credit for Physics 1251. Prereq: 132. Prereq or concur: 1240. Not open to students with credit for 1251 (133). This course is available for EM credit. GE nat sci phys course. NS Admin Cond course.

1250 Mechanics, Thermal Physics, Waves  U  5
Calculus-based introduction to classical physics: Newton's laws, fluids, thermodynamics, waves; for students in physical sciences, mathematics, and engineering. Prereq: 1 entrance unit of Physics or Chem. Concur: Math 1151 (152), 1161 (161), 1181H (161H), or 4181H (191H) or above. Not open to students with credit for 131. GE nat sci phys course. NS Admin Cond course.

1250H Honors Physics: Mechanics and Conservation Laws; Special Relativity  U  5
In depth study of classical mechanics including Newton's laws, conservation laws, and introduction to special relativity. Prereq: Honors standing, or permission of instructor. Concur: Math 1151 (152), 1161 (161), 1181H (161H), or 4181H (191H) or above. Not open to students with credit for 131. GE nat sci phys course. NS Admin Cond course.

1251 E&M, Optics, Modern Physics  U  5
Calculus-based introduction to electricity and magnetism, simple optics, modern physics including special relativity and quantum mechanics; for students in physical sciences, mathematics, engineering. Prereq: 1250 (131), 1250H (131H), or 1260, and Math 1151 (152) or above, or permission of instructor. Concur: Math 1152 (153), 1161, 1172, 1181H, or 4181H. Not open to students with credit for 132. This course is available for EM credit. GE nat sci phys course. NS Admin Cond course.

1251H Honors Physics: Electricity and Magnetism; Thermal Physics, Waves, and Quantum Physics  U  5
In depth introduction to: electricity and magnetism including Maxwell's equations, thermodynamics, quantum mechanics. Prereq: Honors standing, and 1250H and Math 1151 or above; or permission of instructor. Concur: Math 1152, 1161, 1172, 1181H, or 4181H or above. Not open to students with credit for 132. GE nat sci phys course. NS Admin Cond course.

1260 FEH Physics: Mechanics, Thermal Physics, Waves  U  5
Calculus-based introduction to classical physics: Newton's laws, fluids, thermodynamics, waves. Emphasizes group work; for students in Fundamentals of Engineering Honors. Prereq: Honors standing in Engineering, and 1 entrance unit of Physics or Chem. Concur: Math 1151 (152), 1161 (161), 1181H (161H), or 4181H (191H) or above. Not open to students with credit for 131. This course is available for EM credit. GE nat sci phys course. NS Admin Cond course.

1261 FEH Physics: E&M, Optics, Modern Physics  U  5
Calculus-based introduction to electricity and magnetism, simple optics, modern physics including special relativity and quantum mechanics. Emphasizes group work; for students in Fundamentals of Engineering Honors. Prereq: 1260 (131) and Math 1151 (152) or above, or permission of instructor. Concur: Math 1152 (153), 1161, 1172, 1181H, or 4181H. Not open to students with credit for 132. GE nat sci phys course. NS Admin Cond course.

2095 Introductory Physics Seminar  U  1
Introduction to departmental research programs and to selected topics of interest in contemporary physics. Prereq: 1261 (132), 1261H (132H), or 1261. Not open to students with credit for 2095. This course is graded S/U.

2193 Individual Studies  U  1 - 5
Designed to give a properly qualified student opportunity for independent reading, study, or laboratory work in a specialized field of interest. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

2194 Group Studies  U  1 - 5
Group Studies. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions.

2300 Intermediate Mechanics I  U  4
Vectors and kinematics; foundations of Newtonian mechanics; momentum, work, and energy; conservative and nonconservative forces; potentials; angular momentum; rotation about a fixed axis; rigid body motion; noninertial systems and fictitious forces. Prereq: A grade of C+ or above in 1251 (132), 1251H (132H), or 1261. Concur: Math 2153, 2173, or above. Not open to students with credit for 261 or 262.

2301 Intermediate Mechanics II  U  4
The special theory of relativity; relativistic kinematics; relativistic momentum and energy. Introduction to quantum systems; photons; the Bohr atom; matter waves. Prereq: Math 2153 or 2173 (254) or above, and a grade of C+ or above in 2300 (261). Not open to students with credit for 262 or 263.

2357 Uses of Science in Solving Problems of Society  U  3
Energy, environment, and the arms race are examined using the methods of science; focuses on interaction of science and technology; and social and ethical implications of choices. Prereq: Math Placement S or higher; 1-5 hr 100-level or 1000-level course in either Astron, BioSci, Chem, GeoSci, or Physics; first writing course or equiv. Not open to students with credit for 367. GE writing and comm course: level 2 and nat sci phys course. NS Admis Cond course.

2998 Undergraduate Research in Physics  U  1 - 5
Undergraduate research or creative activities in various topics. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions.

3201H Honors Holography  U  3
Undergraduate research or creative activities in various topics. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions.

3370 Experimental Physics Instrumentation and Data Analysis Lab  U  3
Construction, simulation and statistical analysis of data from advanced experiments in nuclear processes. Introduction to advanced instrumentation and computer controlled data acquisition. Computer programming is required. Prereq: 1251 (132), 1251H (132H), or 1261. Not open to students with credit for 570.

4193 Individual Studies  U  1 - 5
Designed to give a properly qualified student opportunity for independent reading, study, or laboratory work in a specialized field of interest. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions. This course is graded S/U.

4194 Group Studies  U  1 - 5
Group Studies. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.

4700 Introductory Electronics for Physicists  U  3
Intermediate level introduction to electronic circuits, devices, and instrumentation with emphasis on laboratory experience. Prereq: 1251 (132), 1251H (132H), or 1261. Not open to students with credit for 517.

4998 Undergraduate Research in Physics  U  1 - 5
Undergraduate research or creative activities in various topics. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.

4998H Honors Undergraduate Research in Physics  U  1 - 5
Undergraduate research or creative activities in various topics; no thesis. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.

4999 Thesis Undergraduate Research in Physics  U  1 - 5
Undergraduate research or creative activities in various topics; culminating in a thesis. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions.
Physics

5100  Physics for In-Service Teachers                U   G   1 - 10
Designed to deepen teachers' understanding of basic physical concepts and methods of treatment of selected topics, includes lectures, discussions, demonstrations, and individualized lab work. Intended for secondary school science teachers.
Prereq: 10 cr hrs in Physics, and teaching experience, and permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions.

5300  Theoretical Mechanics                       U   G   4
Development of Lagrangian mechanics, inertia and stress tensors, rigid body rotations and introduction to the mechanics of continuous media.
Prereq: A grade of C+ or above in 2301 (282), and a grade of C+ or above in Math 2174 (415) or 2568 (586). Not open to students with credit for 5400H.

5400  Intermediate Electricity and Magnetism      U   G   4
Introduction to the description of electrostatic fields; dielectrics; boundary-value problems; magnetic fields of steady currents; induction; Maxwell's equations; plane waves.
Prereq: A grade of C+ or above in 2301 (283), and Math 2174, 2415 (415), 2255 (255), or 5520H (521H); or permission of instructor. Not open to students with credit for 5400H, 555, or 656.

5400H Honors Intermediate Electricity and Magnetism I U   G   4
Advanced treatment of electrostatic fields; dielectrics; boundary-value problems; magnetic fields of steady currents; induction; Maxwell's equations; plane waves.
Prereq: Honors standing, Math 2174, 2415 (415), 2255 (255), or 5520H (521H), and a grade of C+ or above in Physics 2301 (283); or permission of instructor. Not open to students with credit for 5400, 555, or 656.

5401H Honors Advanced Electricity and Magnetism 2 U   G   4
Plane waves, plane waves in matter; physical optics; coherence, interference, diffraction, and dispersion.
Prereq: Honors standing or permission of instructor: (B+ or better in 5400) or (C+ or better in 5400H) or (B+ or better in 555). Not open to students with credit for 665 or 657.

5500  Quantum Mechanics                           U   G   4
Introduction to quantum mechanics, including its historical background, the Schrodinger equation, solutions of one-dimensional scattering and bound state problems.
Prereq: A grade of C+ or above in 2301 (283), and Math 2174, 2415 (415), 2255 (255) or 5520H (521H); or permission of instructor. Not open to students with credit for 5500H, 631, or 632.

5500H Honors Quantum Mechanics I                 U   G   4
Advanced treatment of quantum mechanics, including its historical background, the Schrodinger equation, solutions of one-dimensional scattering and bound state problems. Uses Dirac notation.
Prereq: Honors standing, a grade of C+ or above in 2301 (283), and a grade of C+ or above in Math 2174, 2415 (415), or 2255 (255); or permission of instructor. Not open to students with credit for 5500H, 631, or 632.

5501H Honors Quantum Mechanics II                U   G   4
The Schrodinger equation in three dimensions, angular momentum, the hydrogen atom; time-independent perturbation theory, time-dependent perturbation theory, scattering theory and the Born approximation, multi-electron atoms.
Prereq: Honors status; and B+ or better in 5500 (632), or C+ or better in 5500H (632H); or permission of instructor. Not open to students with credit for 633.

5600  Statistical Mechanics                      U   G   4
Thermodynamics and statistical mechanics; applications to noninteracting classical and quantum systems. Interacting systems, special states of matter, critical phenomena and phase transitions.
Prereq: A grade of C+ or above in 2301 (283), and Math 2174, 2415 (415), 2255 (255) or 5520H (521H); or permission of instructor. Not open to students with credit for 631 or 632.

5700  Advanced Physics Laboratory                 U   G   3
Lab course for physics majors. Three advanced experiments from a variety of physics disciplines are carried out. Emphasis is on experimental techniques, analysis of collected data, and formal presentation of experimental results.
Prereq: 2301 (283); and 3700 (416); and 5400 (555) or 5400H; and 5500 (631) or 5500H. Not open to students with credit for 5400H.

5710  Advanced Engineering Physics Laboratory    U   G   3
Lab course for eng physics majors. Experiments in optics, materials, and nuclear physics are carried out in a team approach, emphasizing DAQ methods and experimental design, analysis of collected data, and formal presentation of experimental results.
Prereq: 3700 (416) and 2301 (283), and 5400 (555) or 5400H, and 5500 (631) or 5500H. Not open to students with credit for 5400H.

5740  Quantitative Cell Biology for Engineers and Scientists U   G   3
Introduction to the biophysical and biochemical principles underlying the behavior of cellular processes with an emphasis on surveying engineering models and quantitative measurements.
Prereq: Permission of instructor. Cross-listed in CHBE.

5800  Engineering Physics Design I               U   G   3
Presents fundamentals of engineering-physics design and leads to skills development relevant to a specific design proposal. Technical communication skills, both written and oral, are employed throughout.
Prereq: 2301 (283) and a Second Writing course, and Sr standing in Engineering Physics.

5801  Engineering Physics Design II              U   G   3
Continues training in engineering-physics design. Preliminary designs are refined and prototypes are fabricated and tested. Technical communication skills, both written and oral, are employed throughout.
Prereq: 5800, and Sr standing in Engineering Physics.

6201  Grad Holography I                          G   3
Introduction to the theory and basic technique of 3D image making. Students will construct a diode laser and use it to make holograms. For grad students in the grad specialization "Analysis of Material Culture".
Prereq: Grad standing.

6700  Electronics for Physicists                 G   3
An intensive introduction to electronic circuits, devices, and instrumentation with emphasis on laboratory experience.
Prereq: 2301, or Grad standing. Not open to students with credit for 617.

6740  Introduction to Astrochemistry             G   4
A treatment of chemistry occurring in interstellar clouds, areas of star formation, and atmospheres of stars.
Prereq: Permission of instructor. Not open to students with credit for 740 or Astron 740. Cross-listed in Chem.

6780  Special Topics Seminar                    G   1
A survey of current research problems in physics.
Prereq: Grad standing or permission of instructor. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

6802  Topics in Elementary Particle Physics     G   4
Experimental and theoretical aspects of areas of current interest in physics. Elementary Particle Physics.
Prereq: 5501 or grad standing or permission of instructor.

6803  Topics in Astroparticle Physics            G   4
Experimental and theoretical aspects of areas of current interest in Astroparticle Physics. Prereq: 5501 or grad standing or permission of instructor.

6804  Topics in Atomic and Molecular Physics    G   4
Experimental and theoretical aspects of areas of current interest in physics. Atomic and Molecular Physics.
Prereq: 5501 or grad standing or permission of instructor.

6805  Topics in Nuclear Physics                 G   4
Experimental and theoretical aspects of areas of current interest in physics. Nuclear Physics.
Prereq: 5501 or grad standing or permission of instructor.

6806  Topics in Condensed Matter Physics         G   4
Experimental and theoretical aspects of areas of current interest in physics. Condensed Matter Physics.
Prereq: 5501 or grad standing or permission of instructor.

6809  Topics in Biophysics                      G   4
Experimental and theoretical aspects of areas of current interest in Biophysics. Prereq: 5501 or grad standing or permission of instructor.

6810  Topics in Computational Physics           G   4
Experimental and theoretical aspects of areas of current interest in Computational Physics. Prereq: 5501 or grad standing or permission of instructor.

6820  Special Topics                            G   4
Experimental and theoretical aspects of areas of current interest in physics. Special Topics.
Prereq: 5501 or grad standing. Repeatable to a maximum of 24 cr hrs.

7193  Individual Studies                        G   1 - 6
Designed to give a properly qualified student opportunity for independent reading, study, or laboratory work in a specialized field of interest.
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 6 completions. This course is graded S/U.

7194  Group Studies                             G   1 - 5
Group Studies.
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 6 completions.

7401  Electromagnetic Field Theory              G   3
Electric and magnetic fields in material media, Maxwell's equations, electromagnetic waves, radiation by simple systems and by moving charges. Special theory of relativity.
Prereq: 5401 and 7701, or permission of instructor.
7501 Quantum Mechanics 1  
Postulates and Schrödinger eq., linear vector spaces, path-integral formulation; symmetry, orbital angular momentum, central potentials, spin angular momentum. 
Prereq: 5501 or equivalent, or permission of instructor.

7502 Quantum Mechanics 2  
Variational method; perturbation theory, semiclassical treatment of electromagnetic radiation, quantized electromagnetic radiation, scattering theory; density matrix; Dirac equation. 
Prereq: 7501.

7503 Quantum Mechanics 3  
Systems with several electrons, exclusion principle, applications to atoms and molecules, and to scattering; Hartree-Fock approximation; Dirac equation for free electrons and for hydrogen. 
Prereq: 7502.

7601 Classical and Statistical Physics I  
Lagrangian dynamics, variational principles, Hamilton's equations, canonical transformations, symmetries and conservation laws. Introduction to statistical physics; fundamental postulates. 
Prereq: 5300 or grad standing in Physics or permission of instructor.

7602 Classical and Statistical Physics II  
Entropy, therm. potentials and changes of phase; microscopic expression for entropy and basis of classical ensemble theory. Canonical and grand ensembles; Quantum statistical mechanics. 
Prereq: 5600 or equiv. or 7601.

7603 Advanced Statistical Physics  
Interacting systems; Ising and Heisenberg models of magnetism, theory of dense gases and liquids, phase transitions and critical phenomena; non-equilibrium statistical physics, Boltzmann equation. 
Prereq: 7502 and 7602, or permission of instructor.

7701 Analytic and Numeric Methods of Physics  
Analytical and numeric boundary value problems, complex analysis, Fourier series, Legendre polynomials, spherical harmonics, and Bessel functions. 
Prereq: grad standing in Physics or permission of instructor.

7891 Departmental Seminar or Workshop  
Departmental Seminar or Workshop 
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

7998 Graduate Research  
Laboratory and/or theoretical research on an individual basis on topics of current interest. 
Prereq: 5700, or equiv, and permission of instructor. Repeatable to a maximum of 36 cr hrs or 6 completions. This course is graded S/U.

8301 Elasticity and Fluid Mechanics  
Elasticity of solids, stress and strain tensors, dislocations; fluid mechanics; ideal and viscous fluids, chaos, and turbulence. 
Prereq: 7601 or permission of instructor.

8802.01 Topics in Elementary Particle Physics 1  
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Elementary Particle Physics. 
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8802.02 Topics in Elementary Particle Physics 2  
A (continued) systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Elementary Particle Physics. 
Prereq: 8802.01 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8803.01 Topics in Astroparticle Physics 1  
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Astroparticle Physics. 
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8803.02 Topics in Astroparticle Physics II  
A (continued) systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Astroparticle Physics. 
Prereq: 8803.01 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8804.01 Topics in Atomic and Molecular Physics 1  
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Atomic and Molecular Physics. 
Prereq: 7501, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8804.02 Topics in Atomic and Molecular Physics 2  
A (continued) systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Atomic and Molecular Physics. 
Prereq: 8804.01 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8805.01 Topics in Nuclear Physics 1  
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Nuclear Physics. 
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8805.02 Topics in Nuclear Physics 2  
A (continued) systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Nuclear Physics. 
Prereq: 8805.01 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8806.01 Topics in Condensed Matter Physics 1  
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Condensed Matter Physics. 
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8806.02 Topics in Condensed Matter Physics 2  
A (continued) systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Condensed Matter Physics. 
Prereq: 8806.01 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8807.01 Topics in the Theory of Quantized Fields I  
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Theory of Quantized Fields. 
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8807.02 Topics in the Theory of Quantized Fields II  
A (continued) systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Theory of Quantized Fields. 
Prereq: 8807.01 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8808.01 Topics in Biophysics  
A systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Biophysics. 
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8808.02 Topics in Biophysics 2  
A (continued) systematic advanced treatment of areas of current interest in physics; topics will be announced each semester. Biophysics. 
Prereq: 8808.01 or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8820 Special Topics  
A systematic advanced treatment of areas of current interest in physics; topics will be announced each quarter. Special Topics. 
Prereq: 7501 or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8999 Research in Physics  
Research for thesis or dissertation purposes only. 
Prereq: 5700, or equiv. 
Repeatable. This course is graded S/U.

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**Physics     403**

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**Physiology and Cell Biology**

3101 Human Physiology I  
First of a two-semester sequence. In this course the following areas of physiology are covered: cell membrane, neurophysiology, muscle and gastroenterology physiology. 
Prereq: Two semesters of Chem.

3102 Human Physiology II  
Second of a two-semester sequence. In this course the following areas of physiology are covered: cardiovascular, respiration, renal, endocrine and reproductive systems. 
Prereq: 3101 (PhysioCB 311).

3200 Human Physiology  
Teaches the physiology of human organ systems, including the following: nervous system, muscle, gastrointestinal, cardiovascular, respiratory, renal, endocrine, and reproductive systems. This course is designed for students who are planning careers in the health sciences. This is a one-semester course. 
Prereq: 6 sem cr hrs in the biological sciences.

6101 Advanced Human Physiology I  
First in two-semester graduate course sequence covering Cell, Neuro, Muscle, Cardiovascular, GI, Respiratory, Renal & Endocrine Physiology. 
Prereq: Enrollment in one of the following graduate programs: IBGP, BiomedE, Sport & Exercise Science, Pharm, Anatomy, Pathology Associate, or permission of course director. Not open to students with credit for PhysioCB 601.

6102 Advanced Human Physiology II  
Second in two-semester graduate course sequence covering Cell, Neuro, Muscle, Cardiovascular, GI, Respiratory, Renal & Endocrine Physiology. 
Prereq: Grade of C- or above in Physio 6101 (PhysioCB 601); and enrollment in IBGP, BiomedE, Sport & Exercise Science, Pharm, Anatomy, or Pathol; or permission of course director. Not open to students with credit for PhysioCB 602.

7931 Individual Studies in Physiology and Cell Biology  
Reading, conferences, and laboratory work by individual arrangement with qualified students who desire more intensive and specialized study than is available in other courses. 
Repeatable to a maximum of 18 completions. This course is progress graded (S/U).

8101 Advanced Cardiac Physiology  
Advanced presentation of cardiovascular physiology. 1 hr journal club and 2 hr class. 
Prereq: Physio 6101 or 6102, or equiv, and permission of instructor.
404  Physiology and Cell Biology

8501  Cardiovascular Journal Club  G  1  
Journal Club - presentation and discussion of pertinent research articles. Au, Sp Sem. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8999  Research (Independent Study)  G  1 - 16  
Research for thesis or dissertation purposes only. Repeatable to a maximum of 18 completions. This course is progress graded (S/U).

Plant Pathology

1100  Exploring Plant Pathology  U  %  
Basic understanding of the global trends within plant pathology, the diversity of career opportunities within the industry, planning for a career and opportunities for professional development.

2000  Molds, Mushrooms, and Mankind  U  3  
Fungi have influenced human health, migration, and nutrition for thousands of years. This course studies fungal biology and the impact of fungi in society both historically and currently. Sp Sem. GE nat sci bio course.

2001  Sick Plants and a Hungry World  U  2  
Review of the interactions of plants with plant pathogens and the social, economic, and historic consequences for civilization. Entirely online course. Au, Sp Sem. Prereq: Not open to students with credit for 201.

3001  General Plant Pathology Lecture  U  3  
An introduction to plant diseases caused by fungi, bacteria, viruses, nematodes and parasitic higher plants. Video-linked to Wooster. Au Sem. Prereq: Biology 1101 (101), 1113 (113), 1115H (115H), or Entomology 1101 (Entomol 101). Not open to students with credit for 401 or 6001.

3002  General Plant Pathology Lab  U  2  
The lab portion of general plant pathology. Lab work will include experiments involving fungi, bacteria, viruses, nematodes and parasitic higher plants. Video-linked to Wooster. Au Sem. Prereq: Biology 1101 (101), 1113 (113), 1115H (115H), or Entomology 1101 (Entomol 101). Concurs: 3001 (401). Not open to students with credit for 6001 or 401.

3195  Plant Health Science Forum  U  1  
A seminar series for those interested in plant health science. Students will meet with professional plant health managers and take field trips. Professional development issues also covered. * May Term. Repeatable to a maximum of 7 cr hrs. This course is graded S/U.

3797  Study at a Foreign Institution  U  1 - 6  
Study abroad opportunities for students in plant pathology, plant health management, etc. and receive Ohio State credit for that work. Prereq: Pre-departure course, and permission of instructor.

4191  Internship Experiences in Plant Health Management  U  1 - 6  
Ten or more weeks of an individualized experiential learning opportunity designed to link theoretical classroom knowledge with practical field application. Au, Sp, Su Sem. Prereq: 3001 (401) and 3002, or 6001. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4193  Undergraduate Individual Studies  U  1 - 3  
Problems may be selected in the various areas of plant pathology. Au, Sp, Su Sem. Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

4550  Bioterrorism: An Overview  U  3  
A broad awareness course on the bioterrorism threat to our food supply, crops, animals and public health, and bioterrorist organizations. Sp Sem. Prereq: Jr or Sr standing. Not open to students with credit for 455 or IntStds 4550 (455). Cross-listed in IntStds.

4597  Societal Issues: Pesticides, Alternatives, and the Environment  U  3  
Contemporary, cultural, and social issues related to pesticide use, genetic engineering and sustainable plant management. Au, Sp Sem. Prereq: Jr or Sr standing. Not open to students with credit for 597. GE cross-disciplinary seminar course.

4998  Undergraduate Research  U  1 - 6  
Conducting research. Au, Sp, Su Sem. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4999  Research with Distinction  U  1 - 5  
Conducting and reporting research with distinction. Students are expected to present at the CFAES Undergraduate Research Forum and the Denman University Undergraduate Research Forum. Au, Sp, Su Sem. Prereq: CPHR 3.0 or above, and GPA 3.0 or above in major, and permission of project supervisor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4999H  Honors Research with Distinction  U  1 - 3  
Conducting and reporting research with Distinction. Au, Sp, Su Sem. Prereq: Honors standing, and FAES 4590.01H (590H), and CPHR 3.4 or above, and GPA 3.4 or above in major, and permission of honors project supervisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.

5010  Phytopathology  U  2  
Taxonomy, molecular biology, physiology, and ecology of plant-associated bacteria that interact with plants, especially those that cause disease and affect plant health. Video-linked to Wooster. Sp Sem. Prereq: 3001 and 3002, or 6001 (401), or permission of instructor. Not open to students with credit for 600.01.

5020  Introductory Plant Virology  U  2  
Plant virus structures, genome organizations and replication strategies. Symptoms and diagnosis of virus diseases of plants. Video-linked to Wooster. Sp Sem. Prereq: 3001 and 3002, or 6001 (401), and at least one course taken in Biochem, MolBiol, MolGen, or Microbiol; or permission of instructor. Not open to students with credit for 600.02.

5030  Plant Nematology  U  2  
Introduction to plant-parasitic nematodes, with emphasis on identification, epidemiology and host interactions. Video-linked to Wooster. Sp Sem. Prereq: 3001 and 3002, or 6001 (401), or permission of instructor. Not open to students with credit for 636.

5040  Science of Fungi: Mycology Lecture  U  3  
Fungi are some of the most important organisms on the planet. This course covers the diversity, biology, and genetics of fungi. Video-linked to Wooster. Au Sem. Prereq: A course in the Biological Sciences, or permission of instructor. Not open to students with credit for 660.

5041  Science of Fungi: Mycology Lab  U  1  
Fungi are some of the most important organisms on the planet. This lab covers the diversity, biology and genetics of fungi. Video-linked to Wooster. Au Sem. Prereq: A course in the Biological Sciences, or permission of instructor. Concurs: 5040. Not open to students with credit for 660.

5110  Ecology and Management of Pathogens and Insects Affecting Trees in Forest and Urban Environments  U  3  
Overview of major pathogens and insects affecting health of forest and shade trees with emphasis on diagnosis, ecology, and management. Video-linked to Wooster. Offered odd years. Sp Sem. Prereq: Not open to students with credit for 610 or Entomology 5110 (Entomol 461). Cross-listed in Entomology.

5120  Diseases of Ornamental Plants  U  2  
Biology and integrated control of important diseases of ornamental plants. Sp Sem. Prereq: 3001 (401) and 3002, or 6001, or permission of instructor. Not open to students with credit for 501.

5130  Turf Diseases and Integrated Turf Health Management  U  4  
A detailed study of the diseases of turfgrass, factors influencing disease severity, and specific measures for disease control such as genetic, cultural, biological, and chemical. Au Sem. Prereq: 3001 (401) and 3002, or 6001, or permission of instructor. Not open to students with credit for 612 and 613.

5140  Diseases of Field Crops  U  2  
Key diseases that impact crop plants with emphasis on identification, management and field evaluations of management strategies. Video-linked to Wooster. Sp Sem. Prereq: Two courses in the Biological Sciences, or permission of instructor. Not open to students with credit for 614.

5150  Fruit and Vegetable Diseases  U  2  
Study the major diseases of fruit and vegetable crops with emphasis on disease diagnosis and management. Video-linked to Wooster. Sp Sem. Prereq: 3001 (401) and 3002, or 6001, or permission of instructor. Not open to students with credit for 615.

5550  Quantitative Methods for Agricultural Scientists  U  3  
A practical introduction to the variety of quantitative methods used for data analysis by agricultural, environmental, and life sciences researchers. Students learn how to make statistically valid comparisons, associations, and classifications, and make appropriate inferences about experimental outcomes based on them. Video-linked to Wooster. Sp Sem. Prereq: Not open to students with credit for 655.

5603  Plant Disease Management  U  3  
Theory and practice of plant disease management; emphasis on integration of cultural, biological, chemical methods and plant disease resistance. Video-linked to Wooster. Au Sem. Prereq: 3001 (401) and 3002, or 6001, or permission of instructor. Not open to students with credit for 603.
Capstone Course: Problem-Based Studies in Plant Health

Students will be presented with a current plant health problem from the industry. They will gather diverse information from consultants, synthesize novel solutions, and develop implementation plans.

Prereq: Jr, Sr, or Grad standing in PlantPth, Entmlgy, or Plant Health Management. Not open to students with credit for Entmlgy 5604. Cross-listed in Entmlgy.

5685 Plant Disease Diagnosis

Study of field and laboratory procedures for diagnosis of plant diseases.

Su Sem. May Term. Prereq: 3001 (401) and 3002, or 6001, or permission of instructor. Not open to students with credit for 685. Repeatable to a maximum of 4 cr hrs.

6001 Advanced Plant Pathology

An advanced level of study in plant diseases caused by fungi, bacteria, viruses, nematodes and parasitic higher plants. For graduates. Video-linked to Wooster.

Au Sem. Prereq: A course in Biological Sciences, and Grad standing; or permission of instructor. Not open to students with credit for 3001 (401) or 3002.

6193 Individual Studies

Problems may be selected in the various areas of plant pathology.

Au, Sp, Su Sem. Prereq: CPHR 2.5 or above, and permission of instructor. Repeatable to a maximum of 8 or hrs or 3 completions. This course is graded S/U.

7002 Plant Disease Epidemiology

Study of the dynamics of plant diseases; statistical modeling of plant disease epidemics.

Video-linked to Wooster.

Sp Sem. Prereq: 3001 (401) and 3002, or 6001, and an introductory Stat course; or permission of instructor. Not open to students with credit for 702.

7003.01 Agricultural Genomics: Principles and Applications

Reviews the principles of most genomic technologies, new developments in the field and emphasize their application in agriculture. Video-linked to Wooster.

Sp Sem. Prereq: MolGen 4500 (500) or Biochem 5615 (613), or permission of instructor. Concur: HCS 7003.02. Not open to students with credit for 7003 (703), or HCS 7003.

8300 Current Topics in Plant Pathology

Readings from the current literature will be examined in detail for both technical and conceptual content. Video-linked to Wooster.

Au, Sp, Su Sem. Prereq: Grad standing. Repeatable to a maximum of 6 cr hrs.

8300.01 Molecular Fungal Biology, Genetics, and Genomics

Designed to explore the biology and genetics of fungal microorganisms. Topics include: fungal reproduction for the major clades, molecular underpinnings of growth, development, and interactions with diverse hosts and whole genome based studies of fungi, including proteomic and systems biology analyses. Primarily literature based.

Prereq: 5040.

8300.02 Host Resistance: History and Future Implications

Focuses on the development and knowledge of host resistance and pathogenic diversity in determining what type of resistance should be deployed and explore factors that may impact future success of new genetically modified techniques.

Prereq: 5630 or 5410; or permission of instructor.

8400 Molecular Bases of Plant Host-Microbe Interactions

Introduction to plant host-pathogen interactions, with emphasis on molecular bases of pathogen virulence and host resistance. Video-linked to Wooster.

Sp Sem. Prereq: 5010 (600.01), 5020 (600.02), 5030 (636), and 5040 (660); or permission of instructor. Not open to students with credit for 602, 841, 842 and 843.

8899 Plant Pathology Seminar

Covers various ongoing research topics presented by current graduate students and invited speakers. Video-linked to Wooster.

Au, Sp Sem. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 or hrs. This course is graded S/U.

8901 Mentored Teaching in Plant Pathology

Students work with faculty members to gain intensive hands-on and mentored experiences focused on direct interaction with students and on the scholarly aspects of teaching.

Prereq: Grad standing, permission of instructor and completion of OSU Orientation on Teaching. Repeatable to a maximum of 5 or hrs or 3 completions. This course is graded S/U.

8902 Mentored Extension/Outreach Teaching in Plant Pathology

Provides graduate students interested in Extension/Outreach programs with hands-on experience in developing and delivering extension educational programs and materials.

Prereq: Grad standing and permission of instructor. Repeatable to a maximum of 5 or hrs or 5 completions. This course is graded S/U.

8999 Plant Pathology Research

Research for thesis of dissertation purposes only.

Prereq: Grad standing. Repeatable. This course is graded S/U.

Introduction to American Politics

Introduction to American politics, the institutions and processes which create public policy, the strengths and weaknesses of the American political systems.

Prereq: Not open to students with credit for 3100 (300), 101, or 101H. This course is available for EM credit. GE soc sci orgs and polities course. SS Admis Cond course.

1100H Introduction to American Politics

Introduction to American politics, the institutions and processes which create public policy, the strengths and weaknesses of the American political systems.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for 3100 (300), 101, or 101H. This course is available for EM credit. GE soc sci orgs and polities course. SS Admis Cond course.

1105 American Political Controversies

Contemporary challenges to fulfilling the promise of American democracy, including such issues as poverty, discrimination, education, health, environment, and public participation.

Prereq: Not open to students with credit for 110.

1165 Introduction to Politics

Introduction to politics and political science: power, democracy and authoritarianism, political participation, the state, political institutions, subfields of the discipline, and political research methodology.

Prereq: Not open to students with credit for 165 or 165H. GE soc sci orgs and polities course. SS Admis Cond course.

1165H Introduction to Politics

Introduction to politics and political science: power, democracy and authoritarianism, political participation, the state, political institutions, subfields of the discipline, and political research methodology.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for 165 or 165H. GE soc sci orgs and polities course. SS Admis Cond course.

1200 Introduction to Comparative Politics

Introduction to modern nation-states outside the United States: problems of state- and nation-building, representation, conflict, and making of government policy in selected countries.

Prereq: Not open to students with credit for 100 or 100H. This course is available for EM credit. GE soc sci orgs and polities and diversity global studies course.

1200H Introduction to Comparative Politics

Introduction to modern nation-states outside the United States: problems of state- and nation-building, representation, conflict, and making of government policy in selected countries.

Prereq: Honors standing, or permission of instructor. Not open to students with credit for 100 or 100H. GE soc sci orgs and polities and diversity global studies course. SS Admis Cond course.


### Political Science

#### 1300 Global Politics

Cooperation and conflict in world politics. Covers basic theories of international relations and key issues, including security, political economy, international organizations, and the environment. 

Prereq: Not open to students with credit for 145 or 145H. GE soc sci human, nat, and econ resources and diversity global studies course.

**Units:** 3  
**Credit Hours:** 3

#### 1300H Global Politics

Cooperation and conflict in world politics. Covers basic theories of international relations and key issues, including security, political economy, international organizations, and the environment. 

Prereq: Not open to students with credit for 145 or 145H. GE soc sci human, nat, and econ resources and diversity global studies course.

**Units:** 3  
**Credit Hours:** 3

#### 2150 Voters and Elections

Study of US elections, focusing on voter attitudes, group behavior, and political participation. 

Prereq: Not open to students with credit for 201 or 201H. GE soc sci indivs and groups course. SS Admin Cond course.

**Units:** 3

#### 2150H Voters and Elections

Study of U.S. elections, focusing on voter attitudes, group behavior, and political participation. 

Prereq: Honors standing, or permission of instructor. Not open to students with credit for 201 or 201H. GE soc sci indivs and groups course.

**Units:** 3

#### 2194.01 Group Studies in American Politics

Group studies in American politics. 

Repeatable to a maximum of 6 cr hrs or 2 completions.

**Units:** 1 - 3

#### 2194.02 Group Studies in Comparative Politics

Group studies in comparative politics. 

Repeatable to a maximum of 6 cr hrs or 2 completions.

**Units:** 1 - 3

#### 2194.03 Group Studies in International Politics

Group studies in international politics. 

Repeatable to a maximum of 6 cr hrs or 2 completions.

**Units:** 1 - 3

#### 2194.04 Group Studies in Political Theory

Group studies in political theory. 

Repeatable to a maximum of 6 cr hrs or 2 completions.

**Units:** 1 - 3

#### 2194.05 Group Studies in Public Policy

Group studies in public policy. 

Repeatable to a maximum of 6 cr hrs or 2 completions.

**Units:** 1 - 3

#### 2300 American Foreign Policy

The role of the United States in world politics since the Second World War, emphasizing structural change in economic and political-military relations. 

Prereq: Not open to students with credit for 245 or 245H. GE soc sci orgs and polities and diversity global studies course.

**Units:** 3

#### 2300H American Foreign Policy

The role of the United States in world politics since the Second World War, emphasizing structural change in economic and political-military relations. 

Prereq: Honors standing, or permission of instructor. Not open to students with credit for 245 or 245H. GE soc sci orgs and polities and diversity global studies course.

**Units:** 3

#### 2367 Contemporary Issues in American Politics

Discussion of and critical writing about controversies in contemporary American politics; aimed at fostering analytical abilities in reading comprehension, oral, and written expression. 

Prereq: 101 or 300, and English 110 or 111, and Soph standing; or permission of instructor. Not open to students with credit for 367.01 or 367.01H. GE writing and comm course: level 2 and soc sci orgs and polities course.

**Units:** 3

#### 2367H Contemporary Issues in American Politics

Discussion of and critical writing about controversies in contemporary American politics; aimed at fostering analytical abilities in reading comprehension, oral, and written expression. 

Prereq: 101 or 300, and English 110 or 111, and Soph standing; or permission of instructor. Not open to students with credit for 367.01 or 367.01H. GE writing and comm course: level 2 and soc sci orgs and polities course.

**Units:** 3

#### 2400 Introduction to Political Theory

An introduction to the field of political theory through classic and contemporary texts and selected case studies. 

Prereq: Not open to students with credit for 210 or 210H. GE soc sci orgs and polities course. SS Admin Cond course.

**Units:** 3

#### 2400H Introduction to Political Theory

An introduction to the field of political theory through classic and contemporary texts and selected case studies. 

Prereq: Honors standing, or permission of instructor. Not open to students with credit for 210 or 210H. GE soc sci orgs and polities course.

**Units:** 3

#### 2496 Study at a Domestic Institution

An opportunity for students to study at a domestic institution and receive Ohio State credit for that work. 

Prereq: Permission of department. Repeatable to a maximum of 10 completions.

**Units:** 1 - 12

#### 3100 American Politics and Policy Making

An examination of American political institutions and the policy-making process. 

Prereq: Not open to students with credit for 1100 (101), 1300 (145), or 300.

**Units:** 3

#### 3115 Introduction to the Policy Process

Introduction to the workings of policy-making processes within governments, and the use of social science reasoning to evaluate and improve the content of policies. 

Prereq: Not open to students with credit for 302.

**Units:** 3

#### 3170 Political Psychology

Introduces students to political psychology, its development from parent disciplines, its topics and problems, its research results and methods, and their applications to current affairs. 

Prereq: Not open to students with credit for 403 or Psych 403.

**Units:** 3

#### 3191 Political Science Internship

Combines experience in political institutions or policy processes with analysis of that experience. 

Prereq: Permission of the department. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

**Units:** 1

#### 3220 Politics of the Developing World

A general introduction to the theoretical and substantive literature dealing with the historical development and contemporary characteristics of the new states of Asia and Africa. 

Prereq: Not open to students with credit for 541. GE soc sci human, nat, and econ resources and diversity global studies course.

**Units:** 3

#### 3420 Political Theories of Democracy

An examination of theories of democracy, focusing on normative and descriptive dilemmas such as participation versus liberty in democratic societies. 

Prereq: 2406 (210). Not open to students with credit for 571.

**Units:** 3

#### 3430 Political Theories of Freedom

Provides an overview of the various ways in which the value of human freedom has been understood and pursued in political life. 

Prereq: 2460 (210). Not open to students with credit for 570.

**Units:** 3

#### 3440 Political Theories of Justice

Focuses on debates among political theorists about the meaning of justice; "What is justice?" and "How might we order our world justly?" 

Prereq: 2460 (210). Not open to students with credit for 572.

**Units:** 3

#### 3450 Ethics and Public Policy

Contemporary approaches to public policy evaluation and their ethical foundations, including efficiency, security, rights, welfare, and equity. 

Prereq: Not open to students with credit for 304.

**Units:** 3

#### 3460 Global Justice

Examines the idea of justice between states and among the people of the world. What would a just world look like? How should we live in our unjust world? Current debates about war, the environment, diversity and poverty will be considered.

**Units:** 3

#### 3549 Survey Research in Political Science

The conducting of public opinion polls. 

Prereq: Not open to students with credit for 449, 581, or Comm 449.

**Units:** 3

#### 3590 Nationalism and Ethnicity

Explores socio-political identities, especially ethnicity and nationality, from a comparative perspective. Drawing upon theories from political science, psychology, anthropology, sociology, and economics, we will study the origins and characteristics of these identities, as well as their consequences for democracy, economic development, and violent conflict. 

GE soc sci indivs and groups and cross-disciplinary seminar course.

**Units:** 3

#### 3590H Honors Nationalism and Ethnicity

Explores socio-political identities, especially ethnicity and nationality, from a comparative perspective. Drawing upon theories from political science, psychology, anthropology, sociology, and economics, we will study the origins and characteristics of these identities, as well as their consequences for democracy, economic development, and violent conflict. 

Prereq: Honors standing, or permission of instructor. GE soc sci indivs and groups and cross-disciplinary seminar course.

**Units:** 3

#### 3780 Data Literacy and Data Visualization

Introduction to the tools of data analysis in political science, with an emphasis on data visualization. 

GE data only course.

**Units:** 3

#### 3905 Political Manipulation

Examines how political actors manipulate the rules and the salience and availability of information to shift political outcomes in their favor. 

Prereq: Not open to students with credit for 577.

**Units:** 3

#### 3910 Identity Politics

Explores who controls the meaning of identity in society; examining identity from the perspective of liberal, sociological, and social psychological, structuralist, and institutionalist theories. 

Prereq: Not open to students with credit for 547.

**Units:** 3
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>U/A</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>3912</td>
<td>Political Leadership</td>
<td>U</td>
<td>3</td>
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<tr>
<td></td>
<td>Establishment of a working definition of political leadership, investigation of recruitment of leaders, analysis of major functions political leaders perform, and assessment of consequences of political leadership. Prereq: 1100 (100), 1200 (101), or 3100 (300). Not open to students with credit for 612.</td>
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<tr>
<td>4110</td>
<td>The American Presidency</td>
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<td></td>
<td>An examination of the American presidency, emphasizing the contemporary role of the president, the institutionalized presidency, and theories of presidential behavior. Prereq: Not open to students with credit for 501.</td>
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<tr>
<td>4115</td>
<td>Bureaucracy and Public Policy</td>
<td>U</td>
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<td></td>
<td>An examination of bureaucracies as political institutions, and a consideration of their role in several areas of public policy implementation. Prereq: Not open to students with credit for 510.</td>
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<tr>
<td>4120</td>
<td>U.S. Congress</td>
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<td>Analysis of legislatures and legislators, with a focus on the U.S. Congress and some attention to state legislatures and representative assemblies in other countries. Prereq: Not open to students with credit for 517. GE soc sci orgs and polities course.</td>
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<tr>
<td>4123</td>
<td>Political Crisis and Reform</td>
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<td>A survey of previous episodes of major reform in American politics, focusing on strategies used by reformers, evaluating the policy and political impact of their reforms, and applying lessons from these cases to contemporary political problems. GE historical study and soc sci orgs and polities course.</td>
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<tr>
<td>4125</td>
<td>American State Politics</td>
<td>U</td>
<td>3</td>
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<tr>
<td></td>
<td>Comparative analysis of politics in the American states. Prereq: 1100 (101) or 3100 (300) or permission of instructor. Not open to students with credit for 507.</td>
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<tr>
<td>4126</td>
<td>Ohio Politics</td>
<td>U</td>
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<td>Examination of state politics with special reference to Ohio. Prereq: Not open to students with credit for 506.</td>
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<tr>
<td>4127</td>
<td>City Politics</td>
<td>U</td>
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<td></td>
<td>Introduction to the governance of urban communities in the United States. Prereq: Not open to students with credit for 505.</td>
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<tr>
<td>4127H</td>
<td>City Politics</td>
<td>U</td>
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<tr>
<td></td>
<td>Introduction to the governance of urban communities in the United States. Prereq: Honors standing. Not open to students with credit for 4127 (505).</td>
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<tr>
<td>4130</td>
<td>Law and Politics</td>
<td>U</td>
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<td>Analysis of the roles of judges and lawyers as participants in the American political process; analysis of courts as political institutions. Prereq: Not open to students with credit for 516.</td>
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<tr>
<td>4132H</td>
<td>Supreme Court Decision Making</td>
<td>U</td>
<td>3</td>
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<td>Study of explanations for Supreme Court decisions; use of those explanations and independent research to predict justices' positions in current cases. Prereq: Honors standing or permission of instructor. Not open to students with credit for 521H.</td>
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<tr>
<td>4135</td>
<td>American Constitutional Law</td>
<td>U</td>
<td>3</td>
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<td></td>
<td>Assessment of the contemporary realities of U.S. governmental authority as interpreted by the judiciary; emphasis on judicial review, case and controversy requirements, and legislative and executive power. Prereq: Not open to students with credit for 520.</td>
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<tr>
<td>4136</td>
<td>Civil Liberties</td>
<td>U</td>
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<td></td>
<td>An examination of civil liberties decisions by American courts, their legal and political bases, and their effects on government and society. Prereq: Not open to students with credit for 519.</td>
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<tr>
<td>4137</td>
<td>The Politics of Legal Decision Making</td>
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<td></td>
<td>An examination of the literature relating social-science theories and research to the law, focusing on the criminal justice system. Prereq: Not open to students with credit for 515.</td>
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<tr>
<td>4138</td>
<td>Women and the Law</td>
<td>U</td>
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<td>An examination of the legal status of women and the ways in which law affects the situation of women in American society. Prereq: Not open to students with credit for 514.</td>
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<tr>
<td>4139</td>
<td>Gun Politics</td>
<td>U</td>
<td>3</td>
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<td>Examination of the arguments and issues surrounding gun control in the United States. Prereq: Not open to students with credit for 518.</td>
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<tr>
<td>4140</td>
<td>Black Politics</td>
<td>U</td>
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<td>Economic, political, and social constraints on the development of black political power; the efforts made by black people in recent times to organize for effective political action. Prereq: Not open to students with credit for 504 or AfrAmSt 4504 (504). Cross-listed in AfrAmSt 4504.</td>
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<tr>
<td>4145</td>
<td>Asian American Politics</td>
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<td>An examination of the experiences of Asian Americans in the political process, including public opinion, mass political behavior, elite politics, and contemporary policy debates. Prereq: Not open to students with credit for 508. GE diversity soc div in the US course.</td>
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<tr>
<td>4150</td>
<td>American Political Parties</td>
<td>U</td>
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<td>Theories of political parties, party organization, individual voting behavior, and electoral politics, the party in government. Prereq: Not open to students with credit for 575. GE soc sci orgs and polities course.</td>
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<tr>
<td>4152</td>
<td>Campaign Politics</td>
<td>U</td>
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<td>The organization and strategy of American political campaigns; practical politics seen in the light of knowledge about political behavior and public opinion. Prereq: Not open to students with credit for 502.</td>
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<tr>
<td>4160</td>
<td>Public Opinion</td>
<td>U</td>
<td>3</td>
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<td>Origins and nature of political attitudes; the content of public opinion; the public's influence on policy-making. Prereq: Not open to students with credit for 503.</td>
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<tr>
<td>4162</td>
<td>Religion and American Politics</td>
<td>U</td>
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<td></td>
<td>Investigates the relationship between politics and religion in America, considering historical context and influence of religion on political culture, coalitions and political behavior. Prereq: Not open to students with credit for 576.</td>
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<tr>
<td>4164</td>
<td>Political Participation and Voting Behavior</td>
<td>U</td>
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<td>A study of political participation and its correlates, determinants of the vote decision, and analysis of recent American elections. Prereq: Not open to students with credit for 574.</td>
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<tr>
<td>4165</td>
<td>The Mass Media and American Politics</td>
<td>U</td>
<td>3</td>
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<td>An overview of the influence of the mass media on contemporary American politics; primary focus on news media with consideration of entertainment programming. Prereq: Not open to students with credit for 509.</td>
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<tr>
<td>4170</td>
<td>Gender and Politics</td>
<td>U</td>
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<td></td>
<td>An examination of women's participation in political activity, including changes over time in women's political roles and comparison with the roles of men. Prereq: Not open to students with credit for 512.</td>
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<tr>
<td>4175</td>
<td>Women, Government, and Public Policy</td>
<td>U</td>
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<td></td>
<td>An examination of policymaking on gender-related issues and the impact of women in government. Prereq: Not open to students with credit for 513 or WGSSt 4513 (513). Cross-listed in WGSSt 4513.</td>
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<tr>
<td>4190</td>
<td>Political Decision Making and Public Policy</td>
<td>U</td>
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<td></td>
<td>Analysis of decision-making processes considering welfare, education, economic, and environmental policy. Prereq: Not open to students with credit for 678.</td>
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<td>4191</td>
<td>Internship</td>
<td>U</td>
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<td></td>
<td>Combines experience in political institutions or policy processes with analysis of that experience in light of relevant scholarly literature. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 3 completions.</td>
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<tr>
<td>4192</td>
<td>Policy Analysis</td>
<td>U</td>
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<td></td>
<td>An analysis of the policy process emphasizing the determinants of public policy, theories of public choice, and the implementation, impact, and evaluation of policy decisions. Prereq: Not open to students with credit for 679.</td>
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<td>4193</td>
<td>Individual Studies</td>
<td>U</td>
<td>1 - 10</td>
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<td></td>
<td>Students will devote their time to special projects including papers, exams and practical political experience. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.</td>
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<tr>
<td>4200</td>
<td>Politics of Modern Democracies</td>
<td>U</td>
<td>3</td>
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<tr>
<td></td>
<td>A survey of the basic institutions and politics of modern democracies, with emphasis on representativeness and democratic stability. Prereq: Not open to students with credit for 535.</td>
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<tr>
<td>4210</td>
<td>Politics of European Integration</td>
<td>U</td>
<td>3</td>
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<tr>
<td></td>
<td>A survey of the politics of European integration since the Second World War; topics include theories of political integration, institutions of the EU, its policies and decision making, common currency, and internal and external relations. Prereq: Not open to students with credit for 528.</td>
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<tr>
<td>4212</td>
<td>From Dictatorship to Democracy in Spain, Portugal, Italy and Greece</td>
<td>U</td>
<td>3</td>
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<tr>
<td></td>
<td>Survey of the emergence and distinguishing characteristics of stable democracies and modern societies in Spain, Portugal, Italy and Greece. Prereq: Not open to students with credit for 532. GE soc sci orgs and polities and diversity global studies course.</td>
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<td>Course Code</td>
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<tr>
<td>4214</td>
<td>Northern European Politics</td>
<td>U 3</td>
<td>Survey of politics in selected countries of Northern Europe, including Britain, France, Germany, and the smaller European democracies; themes include social welfare, corporatism, parties, and party systems. Prereq: Not open to students with credit for 534. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4216</td>
<td>East European Politics</td>
<td>U 3</td>
<td>Systematic comparison of the sources, dynamics, and outcomes of political, economic, and social transformations in the former Communist countries of Eastern Europe. Prereq: Not open to students with credit for 530.</td>
</tr>
<tr>
<td>4218</td>
<td>Russian Politics</td>
<td>U 3</td>
<td>Survey of the politics of Russia and the former soviet states with emphasis on democratization, economic reform, institutional development, elites, mass behavior, and ideology. Prereq: Not open to students with credit for 533.</td>
</tr>
<tr>
<td>4219</td>
<td>European Political Development</td>
<td>U 3</td>
<td>Uses experience of France, Germany, Great Britain, and Italy as foundation for understanding the emergence, functioning, and sustainability of different types of political regimes over time. Prereq: Not open to students with credit for 529.</td>
</tr>
<tr>
<td>4225H</td>
<td>Democracy in Muslim Majority Countries</td>
<td>U 3</td>
<td>A seminar on democracy in Muslim majority nations, concentrating on such issues as ethnicity, economic development, and colonialism, and their effects on these countries' political development. Prereq: Honors and Jr standing, or permission of instructor. Not open to students with credit for 531H.</td>
</tr>
<tr>
<td>4230</td>
<td>Chinese Political System</td>
<td>U 3</td>
<td>A study of the contemporary political process of Communist China; considerable time will be spent on an analysis of recent political change in China and the process of revolution. Prereq: Not open to students with credit for 537.</td>
</tr>
<tr>
<td>4231</td>
<td>China: State and Society</td>
<td>U 3</td>
<td>The 21st-century rise of China and its effects on Chinese politics and society. Prereq: Not open to students with credit for 536.</td>
</tr>
<tr>
<td>4232</td>
<td>Contemporary Politics of South Asia</td>
<td>U 3</td>
<td>A survey of the politics of South Asia since 1947; topics include the development and consolidation of democracy, the role of social cleavages in politics, and economic development and reform. Prereq: Not open to students with credit for 539.</td>
</tr>
<tr>
<td>4235</td>
<td>Japanese Politics</td>
<td>U 3</td>
<td>The government and politics of Japan, with special emphasis given to the impact of cultural and social patterns on the processes of government with imported political institutions. Prereq: Not open to students with credit for 635.</td>
</tr>
<tr>
<td>4236</td>
<td>Southeast Asian Politics</td>
<td>U 3</td>
<td>Government and politics in the Philippines, Indonesia, Indo-China, Malaysia, Thailand, Burma; problems of this region in relation to world politics. Prereq: Not open to students with credit for 636.</td>
</tr>
<tr>
<td>4240</td>
<td>Latin American Politics</td>
<td>U 3</td>
<td>A study of political processes, institutions, and groups in Latin America, with emphasis on constitutional, geographical, social, and economic environments in which they operate. Prereq: Not open to students with credit for 540.01.</td>
</tr>
<tr>
<td>4241</td>
<td>Special Topics in Latin American Politics</td>
<td>U 3</td>
<td>Examination of contemporary political challenges confronting Latin America in the twenty-first century, including globalization, poverty, inequality, and democratic consolidation. Prereq: Not open to students with credit for 540.02. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4242</td>
<td>Incomplete Democracies</td>
<td>U 3</td>
<td>Explores various forms of violence including electoral violence and political assassination, organized crime, police brutality, and other human rights abuses in Latin America. Prereq: Soph standing or above. Not open to students with credit for 542 or IntStds 4242 (542). Cross-listed in IntStds.</td>
</tr>
<tr>
<td>4249</td>
<td>Domestic Politics of International Conflict</td>
<td>U 3</td>
<td>Examination of war and the impact of domestic politics on the war-making decision; influence of domestic institutions and public opinion on leaders' ability/willingness to wage war. Prereq: Not open to students with credit for 570.</td>
</tr>
<tr>
<td>4250</td>
<td>African Politics</td>
<td>U 3</td>
<td>An introductory survey of Sub-Saharan African politics from the pre-colonial period to the contemporary era. It will examine the common themes, issues, and trends that shape politics and development across forty-nine countries. Students will gain an understanding of how context shapes political behavior and how historical and political forces have influenced African politics. Prereq: Not open to students with credit for 4597.02 (Au13, African Politics), 4250H, or AfrAmAST 4250. GE soc sci orgs and polities and diversity global studies course. Cross-listed in AfrAmAST.</td>
</tr>
<tr>
<td>4250H</td>
<td>African Politics</td>
<td>U 3</td>
<td>An introductory survey of Sub-Saharan African politics from the pre-colonial period to the contemporary era. It will examine the common themes, issues, and trends that shape politics and development across forty-nine countries. Students will gain an understanding of how context shapes political behavior and how historical and political forces have influenced African politics. Prereq: Honors standing. Not open to students with credit for 4597.02 (Au13, African Politics), 4250, or AfrAmAST 4250. GE soc sci orgs and polities and diversity global studies course.</td>
</tr>
<tr>
<td>4252</td>
<td>The New Religious Politics</td>
<td>U 3</td>
<td>How religious beliefs and practices affect politics in a variety of countries: variation in &quot;church-state&quot; relations; religiously-based political divisions; democracy and religion. Prereq: Not open to students with credit for 526.</td>
</tr>
<tr>
<td>4270</td>
<td>The Canadian Political System</td>
<td>U 3</td>
<td>The Canadian political system, including institutional, behavioral, socio-economic, cultural, and ideological components, often in comparison with the United States' political system. Prereq: Not open to students with credit for 527.</td>
</tr>
<tr>
<td>4280</td>
<td>State and Economy</td>
<td>U 3</td>
<td>Introduction to comparative political economy; relations between the state and the economy, politics and markets, and democracy and capitalism; the consequences of state intervention. Prereq: Not open to students with credit for 580.</td>
</tr>
<tr>
<td>4282</td>
<td>The Politics of Income Inequality</td>
<td>U 3</td>
<td>Introduces fundamental politics of income inequality and redistribution, including social policy development, redistribution policy differences between countries, and popularity of differing welfare programs. Prereq: Not open to students with credit for 582.</td>
</tr>
<tr>
<td>4285</td>
<td>The Comparative Politics of the Welfare State</td>
<td>U 3</td>
<td>Analyzes different kinds of welfare capitalism including social, economic, and political considerations shaping welfare policy; and contemporary welfare reform as an exercise in reallocation, reorganization, and budget-cutting. Prereq: Not open to students with credit for 576.</td>
</tr>
<tr>
<td>4300</td>
<td>Theories of International Relations</td>
<td>U 3</td>
<td>Various theories of world politics, such as realism, liberalism, long cycles, domestic and bureaucratic politics, and decision-making level theory. Prereq: 1300 (145). Not open to students with credit for 550.</td>
</tr>
<tr>
<td>4310</td>
<td>Security Policy</td>
<td>U 3</td>
<td>National security and military policy issues and trends since 1945; covers containment, deterrence, Vietnam, nuclear weapons, terrorism, and globalization. Prereq: Not open to students with credit for 552.</td>
</tr>
<tr>
<td>4315</td>
<td>International Security and the Causes of War</td>
<td>U 3</td>
<td>Examines various issues regarding international conflict and cooperation, including theories of strategic interaction and the causes of war. Prereq: Not open to students with credit for 544.</td>
</tr>
<tr>
<td>4316</td>
<td>The Politics of International Terrorism</td>
<td>U 3</td>
<td>Examines international terrorism's concepts and actors, the motivations and causes of terrorism, the experience of the United States, and tensions between freedoms and security. Prereq: Not open to students with credit for 548.</td>
</tr>
<tr>
<td>4320</td>
<td>Strategies for War and Peace</td>
<td>U 3</td>
<td>Examination of how political leaders make decisions, emphasizing such issues as leaders' reasoning processes and the impact of public opinion and foreign policy bureaucracies. Prereq: Not open to students with credit for 545.</td>
</tr>
<tr>
<td>4326</td>
<td>Russian Foreign Policy</td>
<td>U 3</td>
<td>Basic concepts about, and choices in, Russian foreign policy; development and presentation of patterns of relations with key nations; major problems in future relationships. Prereq: Not open to students with credit for 555.</td>
</tr>
<tr>
<td>4327</td>
<td>Politics in the Middle East</td>
<td>U 3</td>
<td>Politics of Arab-Israel relations, Persian Gulf, Islamic fundamentalism, and oil; processes of change and their effects on governments and international relations. Prereq: Not open to students with credit for 546.</td>
</tr>
<tr>
<td>4330</td>
<td>Global Governance</td>
<td>U 3</td>
<td>Examination of emergence and form of global governance, including questions of legitimation, democratization, and enforcement; as well as collective security, humanitarian intervention, and proliferation. Prereq: Not open to students with credit for 556.</td>
</tr>
<tr>
<td>4331</td>
<td>The United Nations System</td>
<td>U 3</td>
<td>Activities and potential of the United Nations system in promoting economic well-being, environmental management, resource sharing, social justice, and control of violence. Prereq: Not open to students with credit for 551.</td>
</tr>
<tr>
<td>4332</td>
<td>Politics of Globalization</td>
<td>U 3</td>
<td>Examines globalization's origins, impacts on human welfare, and political conflicts that arise from it, including actions of governments, multinational corporations, and the anti-globalization movement. Prereq: Not open to students with credit for 557.</td>
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<td>Course Code</td>
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<tr>
<td>4335</td>
<td>International Environmental Politics</td>
<td>U 3</td>
<td>Theories and debates over sustainable development, environment, and security, and effectiveness of international regimes with a focus on international fisheries management and global climate change. Prereq: Not open to students with credit for 559.</td>
</tr>
<tr>
<td>4380</td>
<td>Political Analysis of International Economic Relations</td>
<td>U 3</td>
<td>Examines the relationship between political and economic events in the international system; topics include global interdependence, inequality, scarce resources, and periphery nation strategies. Prereq: Not open to students with credit for 553 or 553H.</td>
</tr>
<tr>
<td>4380H</td>
<td>Political Analysis of International Economic Relations</td>
<td>U 3</td>
<td>Examines the relationship between political and economic events in the international system; topics include global interdependence, inequality, scarce resources, periphery nation strategies. Prereq: Honors standing or permission of instructor. Not open to students with credit for 553 or 553H.</td>
</tr>
<tr>
<td>4381</td>
<td>Comparative International Political Economy</td>
<td>U 3</td>
<td>A survey of foreign economic policies followed by European and other advanced industrial economies since the Napoleonic Wars, with a special emphasis on Britain, France, Germany, the United States, and Japan. Prereq: Not open to students with credit for 554.</td>
</tr>
<tr>
<td>4411</td>
<td>Ancient and Medieval Political Thought</td>
<td>U 3</td>
<td>The study of major works in ancient and medieval political thought, including texts by Plato, Aristotle, Machiavelli, and others. Prereq: Not open to students with credit for 470 or 6411 (670).</td>
</tr>
<tr>
<td>4412</td>
<td>Early Modern Political Thought</td>
<td>U 3</td>
<td>The study of major works in early modern political thought including texts by Hobbes, Locke, Rousseau, and others. Prereq: Not open to students with credit for 471 or 6412 (671).</td>
</tr>
<tr>
<td>4413</td>
<td>Modern Political Thought</td>
<td>U 3</td>
<td>The study of major works in 19th-century political thought, including texts by Marx, Mill, Nietzsche, and others. Prereq: Not open to students with credit for 6413 (672) or 472.</td>
</tr>
<tr>
<td>4414</td>
<td>Contemporary Political Thought</td>
<td>U 3</td>
<td>An advanced undergraduate-level survey of significant debates in contemporary political theory. Prereq: Not open to students with credit for 6414 (673) or 473.</td>
</tr>
<tr>
<td>4420</td>
<td>Debating Democracy</td>
<td>U 3</td>
<td>Intensive examination of theories of democracy, focusing on normative and descriptive dilemmas such as participation versus liberty in democratic societies. Prereq: Honors standing or permission of instructor. Not open to students with credit for 565H.</td>
</tr>
<tr>
<td>4450H</td>
<td>Politics and Ethics</td>
<td>U 3</td>
<td>Explores the relationship between ethical action and political reality, including the problem of &quot;dirty hands&quot; in political theory and the conflicts among ethical frameworks that appear to give rise to it. Prereq: Honors standing or permission of instructor. Not open to students with credit for 567H.</td>
</tr>
<tr>
<td>4455</td>
<td>Human Rights</td>
<td>U 3</td>
<td>Examines human rights, the United Nations Declaration on Human Rights; coercive enforcement of rights, as well as hunger, violence, persecution, and economic rights. Prereq: Not open to students with credit for 564.</td>
</tr>
<tr>
<td>4460</td>
<td>American Political Ideas</td>
<td>U 3</td>
<td>An analysis of American ideas on law and government, authority and liberty, oligarchy and democracy. Prereq: 2400 (210). Not open to students with credit for 573.</td>
</tr>
<tr>
<td>4465</td>
<td>Feminist Political Theory</td>
<td>U 3</td>
<td>Examines concepts in feminist political theory including the articulation of feminism, the subjects of feminist theory, the relation of race, class and sexuality to gender experience, and the use of feminist theory to transform conceptions of justice. Prereq: Not open to students with credit for WGSS/4465. Cross-listed in WGSS/4465.</td>
</tr>
<tr>
<td>4553</td>
<td>Game Theory for Political Scientists</td>
<td>U 3</td>
<td>Provides entry-level understanding of the basic concepts of game theory and how these concepts are applied to the study of political phenomena. Prereq: Not open to students with credit for 587.</td>
</tr>
<tr>
<td>4591</td>
<td>Seminar in Public Policy</td>
<td>U 3</td>
<td>Integrative course based on social and behavioral science perspectives about public policy; methods, case studies, analyses, policy solutions. Prereq: 3115 (305), and Econ 4320 (522), AEDEcon 5330 (631), or PubAffs 3000 (PubPol) 522, and two courses in Public Policy specialization, and enrollment in Public Policy minor. Not open to students with credit for SSBCol 591.</td>
</tr>
<tr>
<td>4597.01</td>
<td>International Cooperation and Conflict</td>
<td>U 3</td>
<td>An examination of the relationships industrialized countries have with each other and developing nations; focus on potential for cooperation and conflict. Prereq: Jr or Sr standing. Not open to students with credit for 597.01 or 597.01H. GE cross-disciplinary seminar.</td>
</tr>
<tr>
<td>4597.01H</td>
<td>International Cooperation and Conflict</td>
<td>U 3</td>
<td>An examination of the relationships industrialized countries have with each other and developing nations; focus on potential for cooperation and conflict. Prereq: Honors Jr or Sr standing. Not open to students with credit for 597.01 or 597.01H. GE cross-disciplinary seminar.</td>
</tr>
<tr>
<td>4597.02</td>
<td>Political Problems of the Contemporary World</td>
<td>U 3</td>
<td>Critical political problems of industrialized and developing societies, including governmental legitimacy, conflict and violence, social welfare, equality, and economic development. Prereq: Jr or Sr standing. Not open to students with credit for 597.02, 597.02E, or 597.02H. GE cross-disciplinary seminar.</td>
</tr>
<tr>
<td>4597.02E</td>
<td>Political Problems of the Contemporary World</td>
<td>U 3</td>
<td>Critical political problems of industrialized and developing societies, including governmental legitimacy, conflict and violence, social welfare, equality, and economic development. Prereq: Honors standing or permission of instructor; and Jr or Sr standing. Not open to students with credit for 597.02, 597.02H, or 597.02E. GE cross-disciplinary seminar.</td>
</tr>
<tr>
<td>4597.02H</td>
<td>Political Problems of the Contemporary World</td>
<td>U 3</td>
<td>Critical political problems of industrialized and developing societies, including governmental legitimacy, conflict and violence, social welfare, equality, and economic development. Prereq: Honors standing or permission of instructor; and Jr or Sr standing. Not open to students with credit for 597.02, 597.02H, or 597.02E. GE cross-disciplinary seminar.</td>
</tr>
<tr>
<td>4597.03</td>
<td>Gender and Democracy in the Contemporary World</td>
<td>U 3</td>
<td>Highlighting perspectives from various contexts across the globe, this course explores issues of gender and democracy in the contemporary world. Prereq: Sr standing, or permission of instructor. Not open to students with credit for 597.03 or WGSS/4597 (507). GE cross-disciplinary seminar course. Cross-listed in WGSS/4597.</td>
</tr>
<tr>
<td>4760</td>
<td>Thesis Research Colloquium</td>
<td>U 3</td>
<td>Designed for Political Science majors writing senior theses. We will study the elements of a successful research paper including how to formulate a question, how to identify the right method for investigating it, and how to conduct research. Concour: Second semester Jr standing, or permission of instructor.</td>
</tr>
<tr>
<td>4781</td>
<td>Data Analysis in Political Science I</td>
<td>U 3</td>
<td>Covers basic techniques for analyzing data in political science. Prereq: Math 1151 and one course in PolSci at the 3000 level or above; or permission of instructor. Not open to students with credit for 485, 4781H (485H), 585, or 585H. GE data anly course.</td>
</tr>
<tr>
<td>4781H</td>
<td>Data Analysis in Political Science I</td>
<td>U 3</td>
<td>Covers advanced techniques for analyzing data in political science. Prereq: Honors standing, Math 1151, and one course in PolSci at the 3000 level or above; or permission of instructor. Not open to students with credit for 4781H (485H), 485H, 585H, or 565H. GE data anly course.</td>
</tr>
<tr>
<td>4782</td>
<td>Data Analysis in Political Science II</td>
<td>U 3</td>
<td>Covers advanced techniques for analyzing data in political science. Prereq: Math 1151 and 4781 (485), or permission of instructor. Not open to students with credit for 566.</td>
</tr>
<tr>
<td>4891</td>
<td>Topics in American Politics</td>
<td>U 3</td>
<td>Selected topics in American politics; topics vary by section and instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4891H</td>
<td>Honors Seminar in American Politics</td>
<td>U 3</td>
<td>Intensive study of selected political science topics and issues in a seminar format; topics vary. Prereq: Honors standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>4892</td>
<td>Topics in Comparative Politics</td>
<td>U 3</td>
<td>Selected topics in comparative politics; topics vary by section and instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4892H</td>
<td>Honors Seminar in Comparative Politics</td>
<td>U 3</td>
<td>Intensive study of selected political science topics and issues in a seminar format; topics vary. Prereq: Honors standing or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>4893</td>
<td>Topics in International Politics</td>
<td>U 3</td>
<td>Selected topics in international politics; topics vary by section and instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4893H</td>
<td>Honors Seminar in International Politics</td>
<td>U 3</td>
<td>Intensive study of selected political science topics and issues in a seminar format; topics vary. Prereq: Honors standing or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>4894</td>
<td>Topics in Political Theory</td>
<td>U 3</td>
<td>Selected topics in political theory; topics vary by section and instructor. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
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<tr>
<td>4894H</td>
<td>Honors Seminar in Political Theory</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>4895</td>
<td>Topics in Public Policy</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>4895H</td>
<td>Honors Seminar in Public Policy</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>4910</td>
<td>Business-Government Relations</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>4910H</td>
<td>Business-Government Relations</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>4920</td>
<td>Politics in Film and Television</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>4920H</td>
<td>Politics in Film and Television</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>4940</td>
<td>The Politics of Immigration</td>
<td>U</td>
<td>3</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research in Political Science</td>
<td>U</td>
<td>1-10</td>
</tr>
<tr>
<td>4999</td>
<td>Undergraduate Thesis Research</td>
<td>U</td>
<td>2-4</td>
</tr>
<tr>
<td>4999H</td>
<td>Honors Thesis Research</td>
<td>U</td>
<td>2-4</td>
</tr>
<tr>
<td>5124</td>
<td>Urban Politics</td>
<td>U</td>
<td>G 3</td>
</tr>
<tr>
<td>5140</td>
<td>Ethnic Politics in American Cities</td>
<td>U</td>
<td>G 3</td>
</tr>
<tr>
<td>5797</td>
<td>Study at a Foreign Institution</td>
<td>U</td>
<td>G 1-10</td>
</tr>
<tr>
<td>6194.01</td>
<td>Contemporary Political Problems</td>
<td>G</td>
<td>3</td>
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<tr>
<td>6194.02</td>
<td>Contemporary American Political Problems</td>
<td>G</td>
<td>3</td>
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<tr>
<td>6194.03</td>
<td>Contemporary Comparative Political Problems</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>6194.04</td>
<td>Contemporary International Political Problems</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>6194.05</td>
<td>Contemporary Theoretical Political Problems</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>6194.06</td>
<td>Ancient and Medieval Political Thought</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>6194.07</td>
<td>Early Modern Political Thought</td>
<td>G</td>
<td>3</td>
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<tr>
<td>6194.08</td>
<td>Modern Political Thought</td>
<td>G</td>
<td>3</td>
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<tr>
<td>6414</td>
<td>Topics in Contemporary Political Thought</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>7000</td>
<td>Foundations of Political Science</td>
<td>G</td>
<td>3</td>
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<tr>
<td>7095</td>
<td>Teaching Political Science</td>
<td>G</td>
<td>1</td>
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<tr>
<td>7100</td>
<td>Foundations of American Politics</td>
<td>G</td>
<td>3</td>
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<tr>
<td>7101</td>
<td>Classics in American Politics</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>7110</td>
<td>The American Presidency</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>7115</td>
<td>Bureaucratic Politics</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>7120</td>
<td>Legislative Politics</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>7125</td>
<td>Intergovernmental Relations</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>7130</td>
<td>Courts</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>7140</td>
<td>Race and Ethnicity</td>
<td>G</td>
<td>3</td>
</tr>
<tr>
<td>7150</td>
<td>Readings in American Political Parties</td>
<td>G</td>
<td>3</td>
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</tbody>
</table>
**Political Science 411**

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7155</td>
<td>Interest Groups</td>
<td>G 3</td>
<td>Roles and impact of interest groups in American politics, including formation, recruitment, and maintenance of organizations; grassroots mobilization; and lobbying in legislatures, courts, and bureaucracies. Prereq: Not open to students with credit for 711.</td>
</tr>
<tr>
<td>7160</td>
<td>Public Opinion</td>
<td>G 3</td>
<td>Intensive analysis of literature on selected topics in public opinion. Prereq: Not open to students with credit for 703.</td>
</tr>
<tr>
<td>7164</td>
<td>Political Behavior</td>
<td>G 3</td>
<td>Intensive examination of literature on selected topics in the area of participation and voting behavior in the United States. Prereq: Not open to students with credit for 774.</td>
</tr>
<tr>
<td>7168</td>
<td>Political Communication</td>
<td>G 3</td>
<td>A graduate-level examination of the role of communication in American politics, acquainting the student with the literature on political communication and stimulating ideas for original research in political communication. Prereq: Not open to students with credit for 713 or Comm 7713 (713). Cross-listed in Comm 7713.</td>
</tr>
<tr>
<td>7170</td>
<td>Gender and Politics</td>
<td>G 3</td>
<td>An examination of the role of gender in American politics, including public opinion, electoral behavior, political institutions, and policy making. Prereq: Not open to students with credit for 712.</td>
</tr>
<tr>
<td>7190</td>
<td>Readings on the Policy Process</td>
<td>G 3</td>
<td>Consideration of the basic theories, concepts, and techniques used in policy analysis; the determinants of public policy; and the impact and evaluation of public policy. Prereq: Not open to students with credit for 779.</td>
</tr>
<tr>
<td>7193.01</td>
<td>American Politics</td>
<td>G 1 - 10</td>
<td>Individual studies in political science; student work is evaluated by papers and/or special examinations. Repeatable to a maximum of 36 or hrs or 36 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7193.02</td>
<td>Comparative Politics</td>
<td>G 1 - 10</td>
<td>Individual studies in political science; student work is evaluated by papers and/or special examinations. Repeatable to a maximum of 36 or hrs or 36 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7193.03</td>
<td>International Politics</td>
<td>G 1 - 10</td>
<td>Individual studies in political science; student work is evaluated by papers and/or special examinations. Repeatable to a maximum of 36 or hrs or 36 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7193.04</td>
<td>Political Theory</td>
<td>G 1 - 10</td>
<td>Individual studies in political science; student work is evaluated by papers and/or special examinations. Repeatable to a maximum of 36 or hrs or 36 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7193.05</td>
<td>Political Methodology</td>
<td>G 1 - 10</td>
<td>Individual studies in political science; student work is evaluated by papers and/or special examinations. Repeatable to a maximum of 36 or hrs or 36 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7200</td>
<td>Basic Theories in the Study of Comparative Politics</td>
<td>G 3</td>
<td>Examination of such concepts and theories as structural-functional analysis, general systems theory, and sociocultural systems as determinants of governmental structures. Prereq: Not open to students with credit for 725.</td>
</tr>
<tr>
<td>7205</td>
<td>Democratic Transitions</td>
<td>G 3</td>
<td>Theoretical examination of the dynamics of the transition from authoritarian to democratic regimes, with special attention to southern Europe and South America. Prereq: Not open to students with credit for 744.</td>
</tr>
<tr>
<td>7206</td>
<td>Comparative Political Institutions</td>
<td>G 3</td>
<td>Study of state building process, regime types, and contemporary governmental institutions from a broad cross-national perspective. Prereq: Not open to students with credit for 776.</td>
</tr>
<tr>
<td>7208</td>
<td>State-Building</td>
<td>G 3</td>
<td>Where do national states come from? How strong are they? Course surveys contemporary answers to both questions, examining political, military-strategic, ecological, and cultural explanations for formation and development of national states in Europe. Prereq: Not open to students with credit for 726.</td>
</tr>
<tr>
<td>7210</td>
<td>Special Topics in European Politics</td>
<td>G 3</td>
<td>Intensive examination of special topics in European politics and government. Repeatable to a maximum of 6 or hrs.</td>
</tr>
<tr>
<td>7212</td>
<td>Southern European Politics</td>
<td>G 3</td>
<td>A comprehensive overview of government and politics in Greece, Italy, Portugal, and Spain. Prereq: Not open to students with credit for 727.02.</td>
</tr>
<tr>
<td>7214</td>
<td>Northern European Politics</td>
<td>G 3</td>
<td>A comprehensive overview of government and politics in the United Kingdom, Germany, France, and the smaller European democracies. Prereq: Not open to students with credit for 727.03.</td>
</tr>
<tr>
<td>7216</td>
<td>East European Politics</td>
<td>G 3</td>
<td>An examination of the transformation of East European societies since the end of the Communist era. Prereq: Not open to students with credit for 727.04.</td>
</tr>
<tr>
<td>7220</td>
<td>The Politics of the Developing World</td>
<td>G 3</td>
<td>Theories, approaches, and methods in the analysis of political life in Asia, Africa, and Latin America; discussion of selected case and cross-national studies with theoretical importance. Prereq: Not open to students with credit for 741.</td>
</tr>
<tr>
<td>7230</td>
<td>Chinese Politics</td>
<td>G 3</td>
<td>A seminar for the purpose of reading advanced scholarly materials on contemporary Chinese politics. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>7234</td>
<td>Contemporary Politics of South Asia</td>
<td>G 3</td>
<td>Examination of core theories in the study of South Asian politics. Topics include party and electoral politics, religious violence, economic development and reform, international conflict. Prereq: Not open to students with credit for 739.</td>
</tr>
<tr>
<td>7240</td>
<td>Problems in Latin American Politics</td>
<td>G 3</td>
<td>A structured examination of the major theories, concepts, and approaches used in the analysis of Latin American politics. Prereq: Not open to students with credit for 740.</td>
</tr>
<tr>
<td>7245</td>
<td>Politics of Development</td>
<td>G 3</td>
<td>Political factors that have affected the economic development of the western world and the developing areas. Prereq: Not open to students with credit for 743.</td>
</tr>
<tr>
<td>7250</td>
<td>Comparative Political Parties and Interest Groups</td>
<td>G 3</td>
<td>Comparative analysis of the nature and role of political parties and interest groups in contemporary societies. Prereq: Not open to students with credit for 779 (783) in AEDEcon or BusMktg or Econ or EduPoli or Geog or JCom or Psych or PubHlth or PubPolM or Sociol, and Stat 778.</td>
</tr>
<tr>
<td>7264</td>
<td>Comparative Political Behavior</td>
<td>G 3</td>
<td>A cross-national examination of political behavior, including such topics as socialization, participation, voting, elite behavior, mass-elite linkages. Prereq: Not open to students with credit for 777.</td>
</tr>
<tr>
<td>7280</td>
<td>Comparative Political Economy</td>
<td>G 3</td>
<td>A graduate-level course designed to survey contemporary theories on the interaction between economic policies, domestic institutions, the international economy, and their consequences on the macroeconomy. Prereq: Not open to students with credit for 781.</td>
</tr>
<tr>
<td>7300</td>
<td>Theories of International Relations</td>
<td>G 3</td>
<td>Examination of such basic concepts and theories as equilibrium models, balance of power, national interest, geopolitical configurations. Prereq: Not open to students with credit for 745.</td>
</tr>
<tr>
<td>7305</td>
<td>Synthesizing International Political Scholarship</td>
<td>G 3</td>
<td>Synthesis of international politics research and writings, intended for advanced graduate students. Prereq: Not open to students with credit for 746.</td>
</tr>
<tr>
<td>7310</td>
<td>Security Policy</td>
<td>G 3</td>
<td>Theories of conflict and war causation and an assessment of their durability in a new era of world politics. Prereq: Not open to students with credit for 752.</td>
</tr>
<tr>
<td>7315</td>
<td>Conflict and Peace</td>
<td>G 3</td>
<td>Sources and types of social conflict with special attention to international violence; causes of war, their avoidance and control. Prereq: Not open to students with credit for 751.</td>
</tr>
<tr>
<td>7320</td>
<td>Foreign Policy Design</td>
<td>G 3</td>
<td>Problems of designing foreign policy, including organizational, contextual, economic, and public opinion constraints; how to create an information retrieval system to aid decision-making. Prereq: Not open to students with credit for 756.</td>
</tr>
<tr>
<td>Code</td>
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<td>Credits</td>
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<tr>
<td>7325</td>
<td>Comparative Foreign Policies</td>
<td>G 3</td>
<td>Examines comparatively the sources and classes of behavior of territorial actors in the international political system. Prereq: Not open to students with credit for 757.</td>
</tr>
<tr>
<td>7330</td>
<td>International Organization: Global Governance</td>
<td>G 3</td>
<td>Examination of global governance in such terms as changing political, legal, and normative contexts; security, economic, and environmental issues; state and non-state actors; and tools such as force, discipline, and law. Prereq: Not open to students with credit for 760.</td>
</tr>
<tr>
<td>7334</td>
<td>International Organization: Rationalist Approaches</td>
<td>G 3</td>
<td>Comprehensive view of international governmental, non-governmental, and business organizations; their roles in solving problems such as poverty, war, pollution; particular attention to the United Nations system. Prereq: Not open to students with credit for 759.</td>
</tr>
<tr>
<td>7340</td>
<td>Social Theories of International Relations</td>
<td>G 3</td>
<td>An examination of the main themes, debates, and social theories of world politics. Prereq: Not open to students with credit for 748.</td>
</tr>
<tr>
<td>7360</td>
<td>Game Theory for International Relations</td>
<td>G 3</td>
<td>The refinement and application of game theory techniques in such areas as war, deterrence, cooperation, and institution building. Prereq: 7682 (788). Not open to students with credit for 848.</td>
</tr>
<tr>
<td>7375</td>
<td>Quantitative Studies of International Security</td>
<td>G 3</td>
<td>Survey of quantitative empirical studies of war, civil war, militarized disputes, and conflict. Prereq: 7553 (786). Not open to students with credit for 849.</td>
</tr>
<tr>
<td>7380</td>
<td>Theories of International Political Economy</td>
<td>G 3</td>
<td>Contemporary literature in international political economy; its ties to classical schools of thought in international relations and political economy; points of contention between them. Prereq: Not open to students with credit for 753.</td>
</tr>
<tr>
<td>7381</td>
<td>Institutions and International Political Economy</td>
<td>G 3</td>
<td>Examines international political economy from the perspective of institutions and institutional theorists in political science, economics, and international relations. Prereq: Not open to students with credit for 770.</td>
</tr>
<tr>
<td>7383</td>
<td>International Security and Political Economy</td>
<td>G 3</td>
<td>Examination of connections between economic growth/stagnation and interstate conflict, and the effects of economic ties upon cooperation and armed strife. Prereq: Not open to students with credit for 773.</td>
</tr>
<tr>
<td>7400</td>
<td>Fundamental Concepts in Political Theory</td>
<td>G 3</td>
<td>A graduate survey of the scope, concepts, and methods of political theory, examining important debates throughout political science through works of both canonical and contemporary thinkers. Prereq: Not open to students with credit for 763.</td>
</tr>
<tr>
<td>7420</td>
<td>Democratic Theory</td>
<td>G 3</td>
<td>Democratic theory. Prereq: Not open to students with credit for 764.</td>
</tr>
<tr>
<td>7470</td>
<td>Interpretation of Texts in Political Theory</td>
<td>G 3</td>
<td>Approaches to interpretation of texts of political theory, contemporary as well as classic, grounded in study of selected texts. Prereq: Not open to students with credit for 765.</td>
</tr>
<tr>
<td>7499</td>
<td>Selected Topics in Political Theory</td>
<td>G 3</td>
<td>Intensive joint readings and discussions concentrating upon one of the major themes, problems, or movements in political theory; topic information available from instructor. Prereq: Not open to students with credit for 766.</td>
</tr>
<tr>
<td>7510</td>
<td>Qualitative Political Analysis</td>
<td>G 3</td>
<td>An examination of theories and concepts used in modern qualitative political analysis, including attention to political economy and political institutions. Prereq: Not open to students with credit for 768.</td>
</tr>
<tr>
<td>7551</td>
<td>Quantitative Political Analysis: I</td>
<td>G 3</td>
<td>Explication, interpretation, and application of techniques for quantitative analysis of political data; descriptive and inferential statistics, with emphasis on bivariate analysis. Prereq: Not open to students with credit for 685.</td>
</tr>
<tr>
<td>7552</td>
<td>Quantitative Political Analysis: II</td>
<td>G 3</td>
<td>Descriptive and inferential statistics with emphasis on multivariate analysis; additional topics offered as desired and possible: scaling, index construction, sampling, measurement reliability. Prereq: 7551. Not open to students with credit for 686.</td>
</tr>
<tr>
<td>7553</td>
<td>Quantitative Political Analysis: III</td>
<td>G 3</td>
<td>A continuation of subjects begun in 7552, including such topics as scaling, index construction, sampling, and measurement reliability. Prereq: 7551 and 7552. Not open to students with credit for 786.</td>
</tr>
<tr>
<td>7555</td>
<td>Causal Mechanisms</td>
<td>G 3</td>
<td>A survey of causal mechanisms in political science, including models of processes, equilibration, optimization, learning, integration, aggregation, evolution, complexity, and universal, contextual, and synthetic models. Prereq: Not open to students with credit for 680.</td>
</tr>
<tr>
<td>7681</td>
<td>Formal Theories of Politics I</td>
<td>G 3</td>
<td>Major approaches used in modeling politics, including social choice, game theory, and probability models. Prereq: Not open to students with credit for 788.</td>
</tr>
<tr>
<td>7682</td>
<td>Formal Theories of Politics II</td>
<td>G 3</td>
<td>Introduction to various mathematical theories of political phenomena and the role of formal analysis in political science. Prereq: 7681. Not open to students with credit for 788.</td>
</tr>
<tr>
<td>7683</td>
<td>Formal Theories of Politics III</td>
<td>G 3</td>
<td>Design and examination of research focusing on a problem in mathematical political science. Repeatable to a maximum of 21 cr hrs.</td>
</tr>
<tr>
<td>7700</td>
<td>Foundations of Political Psychology</td>
<td>G 3</td>
<td>Overview of the field of political psychology; causes, dynamics, and consequences of human thinking and action in politics. Prereq: Not open to students with credit for 806.</td>
</tr>
<tr>
<td>7702</td>
<td>Survey and Questionnaire Design</td>
<td>G 3</td>
<td>Theories of the survey research process and their implications for question wording and question order effects. Prereq: Not open to students with credit for 702.</td>
</tr>
<tr>
<td>7720</td>
<td>Political Psychology and International Relations</td>
<td>G 3</td>
<td>A seminar introducing students to theories of international relations that employ psychological perspectives; cognitive world views and political identity, especially nationalism, receive special attention. Prereq: Not open to students with credit for 761.</td>
</tr>
<tr>
<td>7725</td>
<td>Research on Cognition in International Politics</td>
<td>G 3</td>
<td>Problem representation and research in cognition in international politics and foreign policy, including computational research, text analysis, and experimentation examining such cognition. Prereq: Not open to students with credit for 750.</td>
</tr>
<tr>
<td>7780</td>
<td>Political Science Research Methods</td>
<td>G 3</td>
<td>Introduction to political science research with emphasis on survey and experimental designs, data generation techniques, data processing, and computer utilization. Prereq: Not open to students with credit for 684.</td>
</tr>
<tr>
<td>7783</td>
<td>Research Methods in International Politics</td>
<td>G 3</td>
<td>Examines a number of research techniques and approaches common in international politics such as content analysis, simulation, mathematical modeling, and factor analysis. Prereq: Not open to students with credit for 747.</td>
</tr>
<tr>
<td>7785</td>
<td>Experimental Design</td>
<td>G 3</td>
<td>Experimental methods appropriate for research in political psychology. Prereq: Not open to students with credit for 805.</td>
</tr>
<tr>
<td>7786</td>
<td>Selected Topics in Political Methodology</td>
<td>G 3</td>
<td>An intensive examination of special topics in political methodology. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>7789</td>
<td>Survey Research Practicum</td>
<td>G 3</td>
<td>Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey. Prereq: Enrollment in graduate interdisciplinary specialization in survey research or permission of instructor. Not open to students with credit for 7789 or 789 in AEDecon, AgrEcon, Econ, Ed,PL, Geog, Comm, PolitSc, Psych, PubHlth, PubAffs, Sociol, or Stat. Cross-listed in Econ, Comm, and Stat.</td>
</tr>
<tr>
<td>7800</td>
<td>The Field of Political Economy</td>
<td>G 3</td>
<td>The modern field of political economy; the interaction of markets and politics as well as the use of the tools of economics to explain social behavior. Prereq: Not open to students with credit for 780 or Econ 760.</td>
</tr>
<tr>
<td>7888</td>
<td>Field Research Methods</td>
<td>G 3</td>
<td>This seminar introduces students to various field methods for developing and testing theories in political science.</td>
</tr>
<tr>
<td>7910</td>
<td>Identity Politics</td>
<td>G 3</td>
<td>Explores origins, reproduction, and effects of social identity from perspectives of self, group, society, and state. Includes examination of nation, ethnicity, gender, and race in identity politics. Prereq: Not open to students with credit for 737.</td>
</tr>
<tr>
<td>7912</td>
<td>Political Elites and Leadership</td>
<td>G 3</td>
<td>Advanced research seminar on political leadership behavior and political elite structure. Prereq: Not open to students with credit for 812.</td>
</tr>
</tbody>
</table>
7999 Research for Thesis in Political Science  G  1 - 12
Research for thesis purposes only. Repeatable to a maximum of 48 cr hrs or 16 completions. This course is graded SU.

8190 Research on Public Policy  G  3
Research into the process of policy making and the substance of public policy; consultation on substantive and methodological problems offered by instructor. Prereq: Not open to students with credit for 878. Repeatable to a maximum of 12 cr hrs. This course is graded SU.

8194.01 Contemporary Political Problems: US  G  3
Group studies to examine specific contemporary problems in American politics. Repeatable to a maximum of 21 cr hrs.

8194.02 Contemporary Political Problems: Comparative  G  3
Group studies to examine specific contemporary problems in comparative politics. Repeatable to a maximum of 21 cr hrs.

8194.03 Contemporary Political Problems: International  G  3
Group studies to examine specific contemporary problems in international politics. Repeatable to a maximum of 21 cr hrs.

8194.04 Contemporary Political Problems: Political Theory  G  3
Group studies to examine specific contemporary problems in political theory. Repeatable to a maximum of 21 cr hrs.

8194.05 Contemporary Political Problems: Methodology  G  3
Group studies to examine specific contemporary problems in political-science methodology. Repeatable to a maximum of 21 cr hrs.

8194.06 Contemporary Political Problems  G  3
Group studies to examine specific contemporary political problems. Repeatable to a maximum of 21 cr hrs.

8330 Research in International Political Economy  G  3
Advanced study and research in international political economy. Prereq: 7380 (753). Not open to students with credit for 853. Repeatable to a maximum of 12 cr hrs. This course is graded SU.

8700 Research in Political Psychology  G  3
Development and execution of a research design on a selected topic in political psychology; consultation on substantive and methodological problems offered by faculty. Repeatable to a maximum of 12 cr hrs. This course is graded SU.

8781 Research in American Politics  G  3
Development and execution of a research design on a selected topic in American politics; consultation on substantive and methodological problems offered by faculty. Repeatable to a maximum of 12 cr hrs. This course is graded SU.

8782 Research in Comparative Politics  G  3
Research seminar on various topics in comparative politics. Prereq: Not open to students with 12 cr hrs for 826. Repeatable to a maximum of 12 cr hrs. This course is graded SU.

8783 Research in International Politics  G  3
Research seminar on various topics in international politics. Prereq: Not open to students with 12 cr hrs for 846. Repeatable to a maximum of 12 cr hrs. This course is graded SU.

8784 Research in Political Theory  G  3
Research seminar in political theory. Prereq: Not open to students with 12 cr hrs for 866. Repeatable to a maximum of 12 cr hrs. This course is graded SU.

8889 Interdepartmental Seminar  G  1 - 3
Two or more departments may collaborate in presenting seminars on subjects of mutual interest; topics to be announced. Repeatable to a maximum of 9 cr hrs or 3 completions.

8890 Dissertation Workshop  G  3
Development and execution of a research design on a selected topic in political science; consultation on substantive and methodological problems offered by faculty. Repeatable to a maximum of 12 cr hrs. This course is graded SU.

8892 Workshop  G  3
Intensive study of an area of problem in political science. Repeatable to a maximum of 12 cr hrs.

8999 Dissertation Research in Political Science  G  1 - 12
Research for dissertation purposes only. Repeatable. This course is graded SU.

Portuguese

1101.01 Portuguese I  U  4
Development of listening, reading, speaking, and writing skills in cultural contexts. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: Not open to students with credit for 101.01 or 101.51. This course is available for EM credit. GE for lang course. FL Admns Cond course.

1101.51 Portuguese I Individualized  U  1 - 4
Development of listening, reading, speaking, and writing skills in cultural contexts. This course is designed for individualized instruction. Completion of 4 cr hrs before end of semester required for 1102.51. Progress sequential or cr to cr or hr, with 80% proficiency required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: Not open to students with credit for Portgese 1101.01 (Portgese 101.01), 101.51, or 501, Repeatable to a maximum of 4 cr hrs or 4 completions. GE for lang course. FL Admns Cond course.

1102.01 Portuguese II  U  4
Further development of listening, reading, speaking, and writing skills in cultural contexts. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: Portgese 1101.01 (Portgese 101.01) or 1101.51 (101.51). Not open to students with credit for Portgese 1102.51 (Portgese 102.51), 102.01, or 501. This course is available for EM credit. GE for lang course. FL Admns Cond course.

1102.51 Portuguese II Individualized  U  1 - 4
Further development of listening, reading, speaking, and writing skills in cultural contexts. This course is designed for individualized instruction. Completion of 4 cr hrs before end of semester required for 1103.51. Progress sequential or cr to cr or hr, with 80% proficiency required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: A grade of B- or above in Portgese 1101.01 (Portgese 101) or 4 cr hrs in 1101.51 (101.51). Not open to students with credit for Portgese 1102.01 (Portgese 102.01), 102.51, or 501. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admns Cond course.

1103.01 Portuguese III  U  4
Continued development of listening, reading, speaking, and writing skills in cultural contexts. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: Portgese 1102.01 (Portgese 101.01 and 102.01), 102.51, or 501. Not open to students with credit for Portgese 5502 (Portgese 502), 103.01, 103.51, 104, or 104.51. This course is available for EM credit. GE for lang course. FL Admns Cond course.

1103.51 Portuguese III Individualized  U  1 - 4
Continuing development of listening, reading, speaking, and writing skills in cultural contexts. This course is designed for individualized instruction. Progress sequential or cr to cr or hr, with 80% proficiency required for advancement. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: A grade of B- or above in Portgese 1102.01 (Portgese 101.01 and 102.01) or 4 cr hrs in 1102.51 (102.51). Not open to students with credit for Portgese 5502 (Portgese 502), 103.01, 103.51. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admns Cond course.

2150 Introduction to the Literatures of the Portuguese-Speaking World  U  3
Offers an overview of major works of the literatures of the Portuguese-speaking world. Students learn about major periods, authors, and aesthetic currents. Prereq: Not open to students with credit for Portgese 150. GE lit and diversity global studies course.

2159 Narratives of Travel and Intercultural Contact in the Early Modern Imperial World  U  3
Studies relationship between literature and empire by reading early modern narratives of travel and intercultural contact, with particular attention to Portuguese role in European expansion. Prereq: Not open to students with credit for Portgese 159. GE lit and diversity global studies course.

2193 Individual Studies  U  1 - 9
Independent study for subject matter not covered in regularly offered courses. Prereq: Permission of instructor. Repeatable to a maximum of 59 cr hrs or 59 completions. This course is graded SU.

2194 Group Studies  U  1 - 9
Group Studies. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded SU.

2330 Introduction to Brazilian Culture  U  3
Integrated, multidisciplinary overview of modern Brazilian culture in terms of its visual, plastic, musical, literary, dramatic, and popular arts within socio-economic and political context. Prereq: Not open to students with credit for Portgese 330. GE cultures and ideas and diversity global studies course.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>2335</td>
<td>Cannibal Brazil: Cultural Encounters and Negotiations of Identity in Literature and Culture</td>
<td>U 3</td>
<td></td>
</tr>
<tr>
<td>2797</td>
<td>Topics in Foreign Study</td>
<td>U 1 - 9</td>
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<tr>
<td>2798.10</td>
<td>Contemporary Issues in Brazil: Cultural, Environmental, &amp; Racial Politics in the SE &amp; NE Regions</td>
<td>U 3</td>
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<tr>
<td>3401</td>
<td>Advanced Portuguese Grammar</td>
<td>U 3</td>
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<tr>
<td>3402</td>
<td>Portuguese Reading and Listening</td>
<td>U 3</td>
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<tr>
<td>3403</td>
<td>Portuguese Conversation and Composition</td>
<td>U 3</td>
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<tr>
<td>3450</td>
<td>Introduction to the Study of Literatures and Cultures</td>
<td>U 3</td>
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<tr>
<td>3570</td>
<td>CLLC Radio</td>
<td>U 3</td>
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<tr>
<td>4193</td>
<td>Individual Studies</td>
<td>U 1 - 9</td>
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<tr>
<td>4194</td>
<td>Group Studies</td>
<td>U 1 - 9</td>
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<tr>
<td>4510</td>
<td>Portuguese Translation</td>
<td>U 3</td>
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<tr>
<td>4550</td>
<td>Literatures of the Portuguese Speaking World</td>
<td>U 3</td>
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<tr>
<td>4560</td>
<td>Cultural Expressions of Portugal and Lusophone Africa</td>
<td>U 3</td>
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<tr>
<td>4561</td>
<td>Cultural Expressions of Brazil</td>
<td>U 3</td>
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<tr>
<td>4959</td>
<td>Special Topics in Foreign Study</td>
<td>U 1 - 9</td>
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<tr>
<td>4959.01</td>
<td>Coloniality and Postcoloniality in the Literatures of Portugal and Portuguese-Speaking Africa</td>
<td>U 3</td>
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<td>4978</td>
<td>Study Tours</td>
<td>U 1 - 9</td>
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<tr>
<td>4998H</td>
<td>Honors Research</td>
<td>U 1 - 9</td>
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<tr>
<td>4999</td>
<td>Research for Thesis</td>
<td>U 1 - 9</td>
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<tr>
<td>5501</td>
<td>Portuguese for Spanish Speakers I</td>
<td>U G 3</td>
<td></td>
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<tr>
<td>5502</td>
<td>Portuguese for Spanish Speakers II</td>
<td>U G 3</td>
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<tr>
<td>5510</td>
<td>Literatures and Cultures in Portuguese, From the Middle Ages to Neoclassicism</td>
<td>U G 3</td>
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<tr>
<td>5520</td>
<td>Literatures and Cultures in Portuguese, from Romanticism to Modernism</td>
<td>U G 3</td>
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<tr>
<td>5550</td>
<td>Literatures and Cultures in Portuguese, from Modernism to the Present</td>
<td>U G 3</td>
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</tr>
</tbody>
</table>
The Portuguese Language | U G 3
---
Focus on the diversity of Portuguese. Examines the principal areas of linguistic variation in Portuguese and the main dialect differences between Brazil and Portugal. Students conduct basic analyses of linguistic data using computerized corpus tools for hypothesis-testing. Taught in Portuguese.
Prereq: 3401 (401); or 5502 (502) and Grad standing; or permission of instructor. Not open to students with credit for Portguese 611.

Studies in Literatures and Cultures of the Portuguese-Speaking World | U G 3
---
Intensive exploration of a specific topic or problem; topic varies, for example: modern Brazilian novel, Luso-African literature, Portuguese poetry since 1974.
Prereq: Portgese 3450 (Portgese 450) and one 4500 (500) level literature and/or culture course; or 5502 (502) and Grad standing; or permission of instructor. Not open to students with credit for Portguese 650.

Study at a Foreign Institution | U G 1 - 9
---
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Repeatable.

Individual Studies | G 1 - 9
---
Individual studies.
Prereq: Permission of instructor. Repeatable to a maximum of 59 or hrs or 16 completions. This course is graded S/U.

Group Studies | G 1 - 9
---
Group studies.
Prereq: Permission of instructor. Repeatable to a maximum of 18 or hrs or 6 completions. This course is graded S/U.

Research for Thesis | G 1 - 9
---
Research for thesis.
Prereq: Permission of instructor. Repeatable to a maximum of 59 or hrs or 16 completions. This course is graded S/U.

Studies in Portuguese Linguistics | G 3
---
Analysis of Portuguese morphology and phonology using contemporary linguistic framework; topic varies from year to year and may be historical or synchronic.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 or hrs.

Cinema of the Portuguese-Speaking World | G 3
---
In-depth study of a major topic or problem in the cinema of the Portuguese-speaking world (Portugal, Brazil, Lusophone Africa, and Lusophone Asia).
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 or hrs.

Studies in Literatures and Cultures of the Portuguese-Speaking World | G 3
---
In-depth study of topics in the literatures and cultures of Brazil, Portugal, Lusophone Africa, and Lusophone Asia.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 or hrs.

Independent Study | G 1 - 3
---
Independent Study of a focused problem or topic in the literatures and cultures of the Portuguese-speaking world.
Prereq: Permission of instructor. Repeatable. This course is progress graded (S/U).

Group Studies | G 1 - 3
---
Group study of focused problems and topics in the literatures and cultures of the Portuguese-speaking world.
Prereq: Permission of instructor. Repeatable to a maximum of 18 or hrs or 18 completions.

Seminar in Literatures and Cultures of the Portuguese-Speaking World | G 3
---
Detailed exploration of advanced issues in the literatures and cultures of Brazil, Portugal, Lusophone Africa and Lusophone Asia.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 or hrs.

Research for Dissertation | G 1 - 9
---
Research for dissertation.
Prereq: Permission of instructor. Repeatable to a maximum of 59 or hrs or 16 completions. This course is graded S/U.

Introduction to Psychology | U 3
---
A prerequisite to advanced courses; a broad survey of psychological science. Application of the scientific method to the empirical study of behavior with emphasis on individual and cultural differences.
Prereq: Not open to students with credit for 100, 1100H (100H) or 1100E (100E). This course is available for EM credit. GE soc sci indivs and groups and diversity soc div in the US course.

Introduction to Psychology | U 3
---
A prerequisite to advanced courses; a broad survey of psychological science. Application of the scientific method to the empirical study of behavior with emphasis on individual and cultural differences.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 1100 (1100H), 1100H (100H), or 100E. GE soc sci indivs and groups and diversity soc div in the US course.

Introduction to Psychology | U 3
---
A prerequisite to advanced courses; a broad survey of psychological science. Application of the scientific method to the empirical study of behavior with emphasis on individual and cultural differences.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 1100 (1100H), 1100E (100E), or 100H. GE soc sci indivs and groups and diversity soc div in the US course.

Applied Psychology: Human Behavior in the Wild | U 3
---
Examines how psychological concepts & phenomena are applied in real world contexts, such as law, medicine, social communities, education, sports, business & engineering. It will introduce constructs & research in applied psychology with a focus on domains not covered in traditional intro psych courses. Practicum sessions will be used for student discussion & interactive activities.
GE soc sci indivs and groups and diversity soc div in the US course.

Professional Development in Psychology | U 1
---
Professional Development in Psychology will provide students with information and skills to be successful as a psychology major and plan a career in psychology or a psychology-related field. Students will learn about the various resources available at the university to support their success in psychology and the options available to them following their undergraduate education.
Prereq: Psych major.

Data Analysis in Psychology | U 3
---
Discussion of statistical analysis of psychological data - random samples, graphical and numerical techniques of descriptive statistics, correlation, regression, probability, sampling distribution, and hypothesis testing.
Prereq: 1100 (100) or 1100H (100H), and Stat 1450 (145), Math 1148 (148), Math 1149, 1150 (150), 1151 (151), or 152, or equv, or Math Placement Level M or higher; or permission of instructor. Not open to students with credit for 220, 220H, 320, or 320H. This course is available for EM credit.

Data Analysis in Psychology | U 3
---
Discussion of statistical analysis of psychological data - random samples, graphical and numerical techniques of descriptive statistics, correlation, regression, probability, sampling distribution, and hypothesis testing.
Prereq: Honors standing, and 1100 (100) or 1100H (100H), and Stat 1450 (145), Math 1148 (148), 1149, 1150 (150), 1251.xx (151), 152, or Math Placement Level M or above; or permission of instructor. Not open to students with credit for 2220 (220), 2220H (220H), 320, or 320H.

Data Analysis in Psychology | U 3
---
Discussion of statistical analysis of psychological data - random samples, graphical and numerical techniques of descriptive statistics, correlation, regression, probability, sampling distribution, and hypothesis testing.
Prereq: Honors standing, and 1100 (100) or 1100H (100H), and Stat 1450 (145), Math 1148 (148), Math 1149, 1150 (150), 1151 (151), or 152, or equv, or Math Placement Level M or higher; or permission of instructor. Not open to students with credit for 2220 (220), 2220H, 320, or 320H.

Research Methods in Psychology | U 3
---
An overview of issues, methods, and techniques of scientific psychological research. Students must be pursuing majors or minors in Psychology.
Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 300.

Psychology of Extraordinary Beliefs | U 3
---
Considers beliefs in extraordinary phenomena through the application of the findings and principles of psychological science.
Prereq: Not open to students with credit for 301.

Positive Psychology | U 3
---
Introduction to the field of positive psychology. Topics include positive affect, subjective well-being, optimism, psychological strengths, emotional intelligence, compassion, humor, and spirituality.
Prereq: Not open to students with credit for Psych 303.

Psychology of Motivation | U 3
---
A survey of major approaches to motivation and the study of important concepts in motivation, with emphasis on everyday applications.
Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 311.

Psychology of Human Sexuality | U 3
---
Overview of the psychology of human sexuality including the nature and variety of human sexual experience, theories and therapies regarding sexual issues.
Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 333.02.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
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<tbody>
<tr>
<td>2350</td>
<td>Contemporary Developmental Psychology</td>
<td>U 3</td>
<td>A survey course acquainting students with issues resulting from the social changes of the past decade and from an increased interest in the life span. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 350.</td>
</tr>
<tr>
<td>2367.01</td>
<td>Social Psychology</td>
<td>U 3</td>
<td>Survey of group processes as they affect individual behavior; topics include individual motivation, group behavior, attitudes, and perception of self and others. Prereq: 1100 (100) or 1100H (100H), and English 1110.01, 1110.01H, 1110.02, 1110.02H, 1110.03, 110, or 111, or equiv, and Soph standing or above. Not open to students with credit for 3235 (325), 3235H (325H), or 367.01. GE writing and comm: level 2 and soc sci indivs and groups course.</td>
</tr>
<tr>
<td>2367.02</td>
<td>Abnormal Psychology Analysis</td>
<td>U 3</td>
<td>Major psychological disorders, such as anxiety, mood, and personality disorders, will be clinically described &amp; diagnosed defined. Students will compare &amp; contrast symptoms of psychological disorders with non-disordered behaviors, cognitions, &amp; affects. The emphasis is on critical thinking &amp; analysis of theories, research methods, &amp; empirical findings regarding psychopathology &amp; its treatment. Prereq: 1100 (100) or 1100H (100H), and English 1110.01, 1110.01H, 1110.02, 1110.02H, 1110.03, 110, 111, or equiv; and Soph standing or above. Not open to students with credit for 3331 (331) or 3331H (331H). GE writing and comm course: level 2.</td>
</tr>
<tr>
<td>2376</td>
<td>Interpersonal Relationships</td>
<td>U 3</td>
<td>Surveys the scientific literature on interpersonal relationships, including family, friends, and romantic partnerships. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 376.</td>
</tr>
<tr>
<td>2389</td>
<td>Career Exploration in Psychology</td>
<td>U 3</td>
<td>Designed for psychology majors to explore career paths of interest, as well as facilitate vocational development and acquisition of career search skills. Credit does not apply to hours in the psychology major. Prereq: 1100 (100) or 1100H (100H), and enrollment in Psych major. Not open to students with credit for 389.</td>
</tr>
<tr>
<td>2420</td>
<td>Psychology Applied to Sport</td>
<td>U 3</td>
<td>Psychological factors that influence sport participation and performance; psychological techniques to enhance performance; psychological problems associated with sport. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 420.</td>
</tr>
<tr>
<td>2462</td>
<td>Psychology of Creativity</td>
<td>U 3</td>
<td>A critical examination of conceptual, theoretical, and methodological problems related to the systematic study of creativity; special attention to background factors related to creative behavior. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 462 or 462.</td>
</tr>
<tr>
<td>3191</td>
<td>Internship in Psychology</td>
<td>U 1 - 2</td>
<td>Provides psychology majors with an opportunity to intern in a professional setting to integrate academic knowledge with experience in the work of world. Maximum 3 credit hours may be applied to the undergraduate Psychology major. Prereq: 1100 (100) or 1100H (100H), and GPA 2.8 or above, and enrollment in Psych, and permission of instructor. Not open to students with credit for 489. Repeatable to a maximum of 15 or hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>3193.01</td>
<td>Individual Studies in Psychology</td>
<td>U 1 - 5</td>
<td>Specialized academic project by individualized agreement between instructor and student. Maximum 3 credit hours may be applied to the undergraduate major in psychology. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>3193.02</td>
<td>Individual Studies: Teaching of Psychology</td>
<td>U 1 - 3</td>
<td>Specialized study &amp; experience in teaching of psychology. Classroom management, development of presentation materials &amp; skills, demonstrations &amp; active learning, &amp; assessment. Maximum of 3 or hrs may be applied to undergrad major in psychology. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>3194</td>
<td>Group Studies</td>
<td>U 3</td>
<td>Various topics within the field of psychology. Prereq: 1100 (100) or 1100H (100H). Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>3302</td>
<td>Perception and Language</td>
<td>U 3</td>
<td>Foundational issues in perceptual and cognitive psychology will be covered in the context of human language, examining communication via the eyes, ears, and hands. Prereq: 1100 (100) or 1100H (100H), or permission of instructor. Not open to students with credit for 302.</td>
</tr>
<tr>
<td>3310</td>
<td>Sensation and Perception</td>
<td>U 3</td>
<td>Examination of how observers perceive their environment through sensory information; emphasis on major sensory systems including vision, audition, spatial orientation, touch, taste, and olfaction. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 310.</td>
</tr>
<tr>
<td>3310H</td>
<td>Sensation and Perception</td>
<td>U 3</td>
<td>Examination of how observers perceive their environment through sensory information; with emphasis on vision and audition. Prereq: Honors standing, and 1100, 1100H, or 1100E. Not open to students with credit for 3310 (310).</td>
</tr>
<tr>
<td>3312</td>
<td>Memory and Cognition</td>
<td>U 3</td>
<td>An introduction to experimental study of human memory and cognition. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 312.</td>
</tr>
<tr>
<td>3313</td>
<td>Introduction to Behavioral Neuroscience</td>
<td>U 3</td>
<td>Introduction to the structure and function of the nervous system in relation to behavior. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 313.</td>
</tr>
<tr>
<td>3313H</td>
<td>Introduction to Behavioral Neuroscience</td>
<td>U 3</td>
<td>Introduction to the structure and function of the nervous system in relation to behavior. Prereq: Honors standing, and 1100 (100) or 1100H (100H). Not open to students with credit for 3313 (313).</td>
</tr>
<tr>
<td>3321</td>
<td>Quantitative and Statistical Methods in Psychology</td>
<td>U 3</td>
<td>A concentrated examination of applications of statistical tools in inference in contemporary psychology; hypothesis testing, regression, correlation, and analysis of variance. Prereq: 1100 (100) or 1100H (100H), and a grade of B or above in 2220 (220) or 2220H (220H). Not open to students with credit for 321 or 321H.</td>
</tr>
<tr>
<td>3321H</td>
<td>Quantitative and Statistical Methods in Psychology</td>
<td>U 3</td>
<td>A concentrated examination of applications of statistical tools in inference in contemporary psychology; hypothesis testing, regression, correlation, and analysis of variance. Prereq: Honors standing, and 1100 (100) or 1100H (100H), and a grade of B or above in 2220 (220) or 2220H (220H). Not open to students with credit for 321 or 321H.</td>
</tr>
<tr>
<td>3325</td>
<td>Introduction to Social Psychology</td>
<td>U 3</td>
<td>An introduction to research in social psychology; topics include individual motivation, group behavior, attitudes, and perception of self and others. Prereq: Honors standing, and 1100 (100) or 1100H (100H). Not open to students with credit for 2367.01 (367.01), 3235H (325H), or 325.</td>
</tr>
<tr>
<td>3325H</td>
<td>Introduction to Social Psychology</td>
<td>U 3</td>
<td>An in-depth, empirically based introduction to research in social psychology; topics include individual motivation, group behavior, attitudes, and perception of self and others. Prereq: Honors standing, and 1100 (100) or 1100H (100H); or permission of instructor. Not open to students with credit for 2367.01 (367.01), 3235 (325), or 325H.</td>
</tr>
<tr>
<td>3331</td>
<td>Abnormal Psychology</td>
<td>U 3</td>
<td>Examination of current theories and empirical findings regarding the major forms of psychopathology and treatment. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 2367.02, 331, 3331H (331H), or 3331E (331E).</td>
</tr>
<tr>
<td>3331E</td>
<td>Abnormal Psychology</td>
<td>U 3</td>
<td>Examination of current theories and empirical findings regarding the major forms of psychopathology. Prereq: Honors standing, and 1100 (100) or 1100H (100H); or permission of instructor. Not open to students with credit for 2367.02, 3331 (331), 3331H (331H), or 3331E.</td>
</tr>
<tr>
<td>3335</td>
<td>Psychology of Adjustment</td>
<td>U 3</td>
<td>Examination of psychological concepts and theories related to individual adjustment and adaptation. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 335.</td>
</tr>
<tr>
<td>3340</td>
<td>Introduction to Life Span Developmental Psychology</td>
<td>U 3</td>
<td>Consideration of theories and research on psychological development across the lifespan; includes consideration of social policies that influence developmental outcomes. Prereq: 1100 (100) or 1100H (100H). Not open to students with credit for 340, 340H, or 340E.</td>
</tr>
<tr>
<td>3340E</td>
<td>Introduction to Life Span Developmental Psychology</td>
<td>U 3</td>
<td>A survey of developmental psychology including some phylogenetic perspective. Prereq: Honors standing, and 1100 (100) or 1100H (100H); or permission of instructor. Not open to students with credit for 340, 340H, or 340E.</td>
</tr>
<tr>
<td>3340H</td>
<td>Introduction to Life Span Developmental Psychology</td>
<td>U 3</td>
<td>Consideration of theories and research on psychological development across the lifespan; includes consideration of social policies that influence developmental outcomes. Prereq: Honors standing, and 1100 (100) or 1100H (100H); or permission of instructor. Not open to students with credit for 340, 340H, or 340E.</td>
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<tr>
<td>Course Number</td>
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<td>Prerequisites</td>
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<tr>
<td>3371</td>
<td>Language and the Mind</td>
<td></td>
<td>Introduction to psychological processes for producing and understanding speech, the means by which these processes arise in the child, and their bases in the brain. Pre Req: 1100 (100), 1102H (100H), Ling 2000 (Linguist 201), 2000H (201H), 4000 (601); or permission of instructor. Not open to students with credit for 3371H (371H), 371, Ling 3701 (371), or 3701H (371H). GE soc sci indivs and groups course. Cross-listed in Ling 3701.</td>
</tr>
<tr>
<td>3371H</td>
<td>Language and the Mind</td>
<td></td>
<td>Introduction to psychological processes for producing and understanding speech, the means by which these processes arise in the child, and their bases in the brain. Pre Req: Honors standing, and 1100 (100), 1102H (100H), Ling 2000 (Linguist 201), 2000H (201H), 4000 (601); or permission of instructor. Not open to students with credit for 3371 (371), 371H, Ling 3701 (371), or 3701H (371H). GE soc sci indivs and groups course. Cross-listed in Ling 3701H.</td>
</tr>
<tr>
<td>3375</td>
<td>Stereotyping and Prejudice</td>
<td></td>
<td>Lectures address experimental research in stereotyping and prejudice; readings focus on historical, cultural, and sociological perspectives on issues related to gender, ethnicity, and social class. Pre Req: 1100 (100) or 1101H (100H). Not open to students with credit for 375. GE diversity soc div in the US course.</td>
</tr>
<tr>
<td>3415H</td>
<td>Psychology of Aggression</td>
<td></td>
<td>Examination of the biological mechanisms underlying aggression, with an emphasis on genes, brain structure, and neurotransmitters to understand animal aggression and human violence. Pre Req: Honors standing, and 1100 (100) or 1102H (100H), or permission of instructor. Not open to students with credit for 415H.</td>
</tr>
<tr>
<td>3513</td>
<td>Introduction to Cognitive Neuroscience</td>
<td></td>
<td>Examination of the neuroscientific approach to the study of cognition; primary focus on the psychology of memory, attention, language, and spatial orientation. Pre Req: 1100 (100) or 1102H (100H). Not open to students with credit for 513.</td>
</tr>
<tr>
<td>3530</td>
<td>Theories of Personality</td>
<td></td>
<td>Major theoretical and research orientations in the study of normal and abnormal personality development, with a focus on personality processes. Pre Req: 1100 (100) or 1102H (100H). Not open to students with credit for 530.</td>
</tr>
<tr>
<td>3550</td>
<td>Psychology of Childhood</td>
<td></td>
<td>Introduction to the major phenomena, methods, theories, and findings of developmental psychology, especially as they apply to infancy and childhood. Pre Req: 1100 (100) or 1102H (100H). Not open to students with credit for 550 or 550H.</td>
</tr>
<tr>
<td>3550H</td>
<td>Psychology of Childhood</td>
<td></td>
<td>Introduction to the major phenomena, methods, theories, and findings of developmental psychology, especially as they apply to infancy and childhood. Pre Req: Honors standing, and 1100 (100) or 1102H (100H), or permission of instructor. Not open to students with credit for 550 or 550H.</td>
</tr>
<tr>
<td>3551</td>
<td>Psychology of Adolescence</td>
<td></td>
<td>An examination of the biological, psychological, and social aspects of normal adolescent development. Pre Req: 1100 (100) or 1102H (100H). Not open to students with credit for 551.</td>
</tr>
<tr>
<td>3551H</td>
<td>Psychology of Adolescence</td>
<td></td>
<td>An examination of the biological, psychological, and social aspects of normal adolescent development. Pre Req: Honors standing, and 1100 (100) or 1102H (100H). Not open to students with credit for 3551 (551).</td>
</tr>
<tr>
<td>3624</td>
<td>Primate Cognition</td>
<td></td>
<td>Research about monkeys and apes with emphasis on their learning, arts, memory, curiosity, language, and neuropsychological problems. Pre Req: 1100 (100) or 1102H (100H), or permission of instructor. Not open to students with credit for 624.</td>
</tr>
<tr>
<td>4035</td>
<td>Introduction to Psychopharmacology</td>
<td></td>
<td>Introduction to the effects of drugs upon brain function. Pre Req: 3313 (313), 2220 (220), and 2200 (200); or Neuroscience major. Not open to students with credit for 3305, 305, or 597.01.</td>
</tr>
<tr>
<td>4309</td>
<td>Human Motor Control and Learning</td>
<td></td>
<td>Experimental analyses of the processes underlying the performance, learning, and adaptation of movement skills. Pre Req: 2220 (220) or 2220H (220H), and 2300 (300); or permission of instructor. Not open to students with credit for 309.</td>
</tr>
<tr>
<td>4475</td>
<td>The Self</td>
<td></td>
<td>Survey of classic and contemporary theory and research on social psychological study of the self, diverse approaches, and various gender, ethnic, and cross-cultural perspectives. Pre Req: 2220, 2300, and 2367 (367.01), 3325 (325), 3325H (325H), or 3375 (375). Not open to students with credit for 475.</td>
</tr>
<tr>
<td>4485</td>
<td>Psychology and the Law</td>
<td></td>
<td>Contributions of psychological theories to the legal system and the role of mental health professionals in this system. Pre Req: 2220, 2220H, or 2220E, and 2300. Not open to students with credit for 485.</td>
</tr>
<tr>
<td>4501</td>
<td>Advanced Behavioral Neuroscience</td>
<td></td>
<td>Advanced discussion of contemporary issues in behavioral neuroscience, including: synaptic pharmacology, drugs, and behavior, neurodegenerative diseases and the biological bases of psychopathology. Pre Req: A grade of B or above in 3313 (313); and 2220 and 2300, or Neuroscience major. Not open to students with credit for 501.</td>
</tr>
<tr>
<td>4505</td>
<td>History of Psychology</td>
<td></td>
<td>Development of psychology from the 19th century to present status as science and profession. Emphasis on contributions and lives of psychologists. Pre Req: 2220, 2220H, or 2220E, and 2300. Not open to students with credit for 505.</td>
</tr>
<tr>
<td>4508</td>
<td>Psychology of Judgment and Decision-Making</td>
<td></td>
<td>An overview of current models and empirical research on cognitive processes in human decision-making and judgment under risk or uncertainty. Pre Req: 2220 and 2300. Not open to students with credit for 508 or 4508H (508H).</td>
</tr>
<tr>
<td>4508H</td>
<td>Psychology of Judgment and Decision-Making</td>
<td></td>
<td>An overview of current models and empirical research on cognitive processes in human decision-making and judgment under risk or uncertainty. Pre Req: Honors standing, and 2220, 2220H, or 2220E, and 2300. Not open to students with credit for 4508 (508) or 508H.</td>
</tr>
<tr>
<td>4509</td>
<td>Perception of Space and Motion in Sports</td>
<td></td>
<td>Discussion of cognitive, perceptual, and statistical issues that have special application to performance in sports. Pre Req: 2220 (220), 2300 (300), and 3310 (310).</td>
</tr>
<tr>
<td>4510</td>
<td>Cognitive Psychology Laboratory</td>
<td></td>
<td>Training in experimental and quantitative methods in cognitive psychology; laboratory experiments include topics such as memory, perception, and attention. Pre Req: 3322 (322), 3310 (310), or 3312 (312), and 2220 (220) or 2220H (220H), and 2300 (300), and enrollment in Psych major. Not open to students with credit for 4520 (520) or 510.</td>
</tr>
<tr>
<td>4511</td>
<td>Psychological Testing</td>
<td></td>
<td>An overview of theoretical and practical aspects of the assessment and prediction of human behavior; topics include achievement, intelligence, personality, attitudes, interests, and interpersonal relations. Pre Req: 2220 and 2300. Not open to students with credit for 511 or 597.02.</td>
</tr>
<tr>
<td>4515</td>
<td>Psychology of Emotion</td>
<td></td>
<td>An examination of emotion focusing on how emotions are interconnected to other basic psychological processes such as cognition, motivation, decision making, and well-being. Pre Req: 2220 and 2300. Not open to students with credit for 515.</td>
</tr>
<tr>
<td>4518</td>
<td>Attitudes: Structure, Function, and Consequences</td>
<td></td>
<td>Survey of theory and evidence related to the structure and functional value of attitudes and their effects on information processing, judgments, and behavior. Pre Req: 2220, 2300, and 2367 (367.01), 3325 (325), 3325H (325H), or 3375 (375). Not open to students with credit for 518.</td>
</tr>
<tr>
<td>4520</td>
<td>Social Psychology Laboratory</td>
<td></td>
<td>Training in experimental and quantitative methods in social psychology. Experiments include topics such as attitudes, persuasion, social cognition, and group processes. Pre Req: 2220 (220) or 2220H (220H), and 2300 (300), and 2367 (367.01), 3325 (325), 3325H (325H), or 3375 (375), and enrollment in Psych major. Not open to students with credit for 4510 (510) or 520.</td>
</tr>
<tr>
<td>4522</td>
<td>Organizational Psychology</td>
<td></td>
<td>Overview of theory, method, and practice of organizational psychology: motivation, job attitudes, leadership, groups, organizational design. Pre Req: 2220 and 2300. Not open to students with credit for 522.</td>
</tr>
<tr>
<td>4525</td>
<td>Psychology of Personal Security: Global and Local Perspectives</td>
<td></td>
<td>Surveys the diverse psychological literature on personal security, a key ingredient in psychological well-being. Pre Req: 1100. Not open to students with credit for 525.</td>
</tr>
<tr>
<td>4531</td>
<td>Health Psychology</td>
<td></td>
<td>Introduction to health psychology, health-promoting and health-damaging behaviors; modification of health behaviors; stress and coping; management of illness; stress management strategies. Pre Req: 2220 and 2300. Not open to students with credit for 531.</td>
</tr>
</tbody>
</table>
4532 Clinical Psychological Science  U  3
Surveys the scientific foundations of clinical psychological interventions and assessment techniques and considers their implications for the profession of clinical psychology. Prereq: 2220 and 2300, and 2367.02, 3311 (311), 3331H (331H), or 3331E (331E). Not open to students with credit for 532.

4540 Counseling Psychology  U  3
Issues within the field of counseling psychology including assessment, counseling skills, multicultural issues, career, professional, and ethical issues. Prereq: 2220 and 2300, and 2367.02, 3311 (311), 3331H (331H), 3331E (331E), 3335 (335) or 3350 (350). Not open to students with credit for 540.

4543 Psychology of Gender  U  3
An examination of the origins and implications of gender differences and similarities and the role that gender plays in the interpretation of behavior. Prereq: 2220 and 2300. Not open to students with credit for 543 or 5434E (543E).

4543E Psychology of Gender  U  3
An examination of the origins and implications of gender differences and similarities and the role that gender plays in the interpretation of behavior. Prereq: Honors standing, and 2220 and 2300. Not open to students with credit for 4543 (543) or 5434E.

4545 Cross-Cultural Psychology  U  3
Introduction to cross-cultural theories and research in various specialties in psychology (e.g., social, developmental, and counseling psychology). Prereq: 2220, 2220H, or 2220E, and 2300. Not open to students with credit for 4545.

4552 Psychology of Adult Years  U  3
Theory and research related to adulthood as a sequence of psychological stages involving adjustment and coping behaviors; relationship of adulthood to other life-span stages. Prereq: 2220, 2220H, or 2220E, and 2300. Not open to students with credit for 552.

4554 Language Development  U  3
A survey of children's language acquisition, including phonemes, words, morphology, and syntax. Roles for universal grammar, linguistic input, social interaction, and statistical learning are considered. Prereq: 2220, 2300, and 3550 (550) or 3550H (550H); or permission of instructor. Not open to students with credit for 554.

4554S Language Development-S  U  3
A survey of children's language acquisition, including phonemes, words, morphology, and syntax. Roles for universal grammar, linguistic input, social interaction, and statistical learning are considered. Students will participate in a local elementary school literacy program. Prereq: 2220 and 2300, and 3550 (550) or 3550H (550H); or permission of instructor. Not open to students with credit for 4554 (554).

4555 Adolescent Sexuality  U  3
An examination of the psychological, biological, and social influences on adolescent sexuality. Prereq: 2220, 2220H, or 2220E, and 2300. Not open to students with credit for 555.

4571 Psychology of Developmental Disabilities  U  3
Overview of developmental disabilities including causes, nature, and psychological characteristics; diagnosis and psychometric assessments; and behavioral, psychoeducational, and biological forms of prevention and intervention. 20-hr off-campus practicum req. Prereq: 2220, 2220H, or 2220E, and 2300. Not open to students with credit for 571.

4597.01 Contemporary World: Aging, Health, and Psychological  U  3
Functioning in the Modern World
Addresses primary psychological, social, physical and economic changes related to aging and ramifications of these changes. Prereq: 1100 (100), 1100H (100H), or 1100E (100E), and Jr or Sr standing; or permission of instructor. Not open to students with credit for 597.03. GE cross-disciplinary seminar course.

4623 Biological Clocks and Behavior  U  3
The broad variety of biological rhythms of animals and humans, including ultradian, daily, lunar, tidal, and annual cycles. Properties of biological clocks and ways in which rhythms are generated and how they are synchronized to the external environment. Prereq: 2220, 2300, and 3313 (313) or a course in Physiology. Not open to students with credit for 623.

4630 Attitudes and Persuasion  U  3
Overview of the major psychological theories and research in the area of attitudes and persuasion - how people's opinions, beliefs, and evaluations are formed and modified. Prereq: 2220, 2300, and 2367 (367) or 3225 (325), 3225H (325H), or 3375 (375). Not open to students with credit for 630.

4644 Hormones and Behavior  U  3
Exploration of the interactions among hormones, brain, and behavior through an integrative approach. Prereq: 3313 (313); and 2220 and 2300, or Neuroscience major. Not open to students with credit for 644 or NeuroSc 5644 (644).
5612 Introduction to Cognitive Science  U G 3
Cognitive science is an interdisciplinary study of the nature of human thought: psychological, philosophical, linguistic, and artificial intelligence approaches to knowledge representation. Prereq: A total of 12 cr hrs from any of the following areas: CSE, Ling, Philos, or Psych, or Grad standing, or permission of instructor. Not open to students with credit for 612, CSE 5531 (612), Ling 5612 (Linguist 612), or Philos 5830 (612). Cross-listed in CSE 5531, Ling 5612, and Philos 5830.

5613H Biological Psychiatry  U G 3
Provides a contemporary overview of the biological bases of several significant psychopathologies, including mood disorders, schizophrenia, and PTSD/dissociative identity disorders. Prereq: Honors standing, and 2220, 2220H, or 2220E, and 2300, and 4501, and permission of instructor; or Grad standing, and permission of instructor. Not open to students with credit for 613H.

5614 Cognitive Neuroscience  U G 3
Neuronal mechanisms of information processing. Prereq: 2220, 2300, and 3313 (313) or 3513 (513); or permission of instructor. Not open to students with credit for 913.

5615 Psychology of Language  U G 3
An introduction to high-level language processing, including word recognition, sentence understanding, and discourse processing. Prereq: 2220, 2220H, or 2220E, and 2300, and Ling 2000 (Linguist 201), 4000 (601), or 202; or permission of instructor. Not open to students with credit for 615.

5616 Models of Language  U G 3
Critically examines psychological models of language. Phenomena examined include word recognition, lexical semantics, sentence processing, discourse processing, and general verbal cognition. Prereq: 2220, 2220H, or 2220E, and 2300, and permission of instructor; or Grad standing.

5617 Models of Memory  U G 3
Examines models of memory and their construction and critically evaluate their claims. Coverage includes abstract and neural models of episodic memory attempting to capture a wide range of behaviors in recognition and recall. Prereq: 2220, 2220H, or 2220E, and 2300, and permission of instructor; or Grad standing.

5618 Introduction to Computational Cognitive Neuroscience  U G 3
Introductory survey of neural-network models, emphasizing their neural foundations and applications to perceptions, memory, and language. Hands-on explorations with simulation software. Prereq: 2220, 2220H, or 2220E, and 2300; or Grad standing. Not open to students with credit for 617 and 618.

5620 Technology, Efficiency, and Happiness  U G 3
Considers various dimensions for evaluating the behavioral effects of any technology: efficiency, safety, time cost, complexity, environmental impact, social impact. Prereq: Psych 1100 (100), or Grad standing. Not open to students with credit for 597.04.

5621 Introduction to Event-Related-Potentials  U G 3
Training to become an independent event-related-potential researcher. Develop skills in experimental programming, application of electrode nets, artifact detection, filtering and component analysis, and localization. Prereq: 2220, 2220H, or 2220E, and 2300, and permission of instructor; or Grad standing.

5652 Behavior Modification with Children  U G 3
Focuses on the basic principles and procedures of applied behavior analysis and behavior modification with young children with intellectual disability and autism spectrum disorders. Prereq: 2220, 2300, and 3331 (313), 3331H (313H), or 3335 (335). Not open to students with credit for 652.

5681 Development and Psychopathology  U G 3
Examines theories and research on psychopathology (e.g., autism) during infancy, childhood, and adolescence from a developmental-contextual perspective; emphasis on description, prevalence, etiology, prognosis, and assessment. Prereq: 2220, 2300, and 3550 (550) or 3550H (550H); or permission of instructor. Not open to students with credit for 681.

5684 Psychology of Delinquency  U G 3
Characterization, risk and protective factors, and treatment of delinquency with emphasis on current theories and research practices. Prereq: 2220, 2300, and 3551 (551); or permission of instructor. Not open to students with credit for 684.

5700 Training in Informal Science Outreach  U G 3
The purpose of this course is to provide students with hands-on training in informal science education at the COSI museum. All students will learn to provide outreach education at the museum; advanced students will develop outreach materials, assist in the visible research operations, and mentor other students. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs. Cross-listed in Ling and EduTL.

5797 Study at a Foreign Institution  U G 1 - 10
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: 1100 (100) and written permission of dept chairperson. Students will pay Ohio State fees and any fees in excess of Ohio State tuition, as well as all travel and subsistence costs. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is progress graded.

5832 Lifespan Sociomoral Development  U G 3
Cognitive, emotional and cross-cultural aspects of moral development and social behavior across the life span. Emphasis on current theories and research practices. Prereq: 2220 and 2300; or Grad standing. Not open to students with credit for 832.

5891 Proseminar in Cognitive Science  U G 3
Provides an in-depth examination of cognitive science from an interdisciplinary perspective. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in CSE, Ling, Philos, and SphHrng.

5896 Seminar in Behavioral Neuroscience  U G 3
Team-taught seminar on selected topics from contemporary research areas in the field of behavioral neuroscience. Prereq: 2220, 2220H, or 2220E, and 2300 and 4501, and permission of instructor; or Grad standing, and permission of instructor. Not open to students with credit for 726 or NeuroGSP 726.

6193.01 Individual Studies: Clinical Psychology  G 1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.

6193.02 Individual Studies: Counseling Psychology  G 1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.

6193.03 Individual Studies: Developmental Psychology  G 1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.

6193.04 Individual Studies: Cognitive Psychology  G 1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.

6193.05 Individual Studies: Industrial and Organizational Psychology  G 1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.

6193.06 Individual Studies: Quantitative Psychology  G 1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.

6193.07 Individual Studies: Social Psychology  G 1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.

6193.08 Individual Studies: Behavioral Neuroscience  G 1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.

6193.09 Individual Studies: Intellectual and Developmental Disabilities  G 1 - 9
Individual reading or research projects by special agreement between instructor and student. Prereq: Permission of instructor. Repeatable to a maximum of 27 cr hrs or 15 completions. This course is graded S/U.

6609 Introduction to Mathematical Models in Experimental Psychology  G 3
An introduction to cognition with a focus on the application of mathematical models. Topic areas include memory, decision making, categorization, word recognition, priming, and reaction time. Prereq: Not open to students with credit for 609.

6619 Natural Scene Perception  G 3
Considers how humans perceive their natural environment. Explores philosophical, psychological, and computational aspects of the perception of natural scenes in readings and discussions.
6650 Seminar in Advanced fMRI Analysis Techniques  G  3
For students who have already completed the intro-level fMRI course. We will discuss techniques such as fMRI-adaptation, retinotopic mapping, multi-voxel pattern analysis, functional connectivity, representational similarity analysis, real-time fMRI, etc. We will discuss journal articles and experiment ideas applying these techniques. This course is intended for students with prior fMRI experience.
Prereq: 5425, or permission of instructor. Repeatable to a maximum of 15 cr hrs.

6700 Introduction to the Language Sciences  G  3
A core course that provides students with a general overview of linguistics and surveys the areas covered by the specialization: Language and Cognition, Language and Brain Function, Language and Society, Language and Technology, and Language Description and Fieldwork. Guest faculty will present in their areas of expertise and students will read and prepare assignments in multiple areas.
Prereq: Not open to students with credit for German 6700. Cross-listed in German.

6806 Neurobiology of Learning and Memory  G  3
Examines the experience-dependent changes in neuroanatomy, neurophysiology, and neurochemistry that occur within specific neural circuits as a consequence of learning and remembering.
Prereq: Not open to students with credit for both 806 and 807.

6807 Neuropsychopharmacology  G  3
The use of pharmacological agents to influence brain function, slow brain aging and induce recovery of function.
Prereq: Not open to students with credit for both 807 and 808.

6808 Sex Differences in the Brain and Behavior  G  3
This seminar will explore sex differences in both normal and abnormal brain function and behavior and will address the genetic, hormonal and neural bases of these differences.

6809 Historical Development of Psychology  G  3
Development of psychology from the philosophical antecedents to its present status as a science and a profession; assignments in original sources as far as possible.
Prereq: Not open to students with credit for 809.

6810 Statistical Methods in Psychology I  G  4
Basic concepts of descriptive and inferential statistics; includes estimation, hypothesis testing, non-parametric techniques, and analysis of variance.
Prereq: 2220 (220), or Grad standing, or permission of instructor. Not open to students with credit for 826 and 827.

6811 Statistical Methods in Psychology II  G  4
Simple linear regression and correlation, multiple linear regression, interactions; introduction to other related methods such as nonlinear regression and random effects models.
Prereq: 6810 (826 and 827), or equiv. Not open to students with credit for 828.

6820 Introduction to Bayesian Statistics for Psychological Data  G  3
An introduction to Bayesian statistics & data analysis for graduate students in the Dept of Psychology. It reviews basic probability theory & Bayes theorem, provides a broad introduction to inference from the modern Bayesian perspective & contrasts that to more traditional frequentist inference. Topics covered include analysis of proportions & means, interval estimates, regression, & Bayes factors.
Prereq: 6820 (828), and enrollment in Psychology.

6822 Statistical Mediation, Moderation, and Conditional Process Analysis  G  3
The application of principles of linear modeling to exploring questions about mediated (mechanisms) and moderated (conditional) effects. Topics include classic and contemporary approaches to testing mediation and moderation hypotheses, path analysis, indirect and direct effects, probing and plotting interactions, and analytically integrating moderation and mediation analysis.
Prereq: 6811 (828) or equiv, or permission of instructor.

6835 Child Development  G  3
Major developmental aspects of childhood; review of theory, methodology, research studies, and historical and contemporary writing about children; consideration of interdisciplinary approaches.
Prereq: Not open to students with credit for 835.

6849 Research Methods in Developmental Psychology  G  3
A critical survey and evaluation of concepts and techniques in study of developmental psychology.
Prereq: Not open to students with credit for 849.

6850 Ethics and Professional Issues in Psychology of Intellectual and Developmental Disabilities  G  3
Considers ethical questions and dilemmas that psychologists encounter in their everyday practice, research, and teaching. It will take a problem-solving approach to ethical decision-making with students working toward consensus around constructive means for preventing problems, recognizing, approaching, and resolving ethical predicaments in the field of IDD Psychology.

6851 Seminar on the Teaching of Psychology  G  5
Designed for first-time teachers of psychology; theory, philosophy, ethics, research, course planning and delivery, and practical strategies to promote teaching excellence.
Prereq: Grad standing. Not open to students with credit for both 851 and 852.

6853 Lifespan Developmental Psychopathology I  G  3
Part one of a two-course sequence surveying the major psychopathological disorders across the lifespan from a developmental psychopathology perspective.
Prereq: Permission of instructor. Not open to students with credit for 844.01.

6854 Lifespan Developmental Psychopathology II  G  3
Part two of a two-course sequence surveying the major psychopathological disorders across the lifespan from a developmental psychopathology perspective.
Prereq: Not open to students with credit for 854.

6860 Personality and Its Disorders  G  2
General survey course on current theories of personality and personality disorders with an introduction to some of the supporting research. Basic understanding of the major theories of personality development.
Prereq: Permission of instructor. Not open to students with credit for 860.

6861 Research Design and Methods in Clinical Psychology  G  3
Introduction to the theory and use of clinical methods in psychology, designed for first-year graduate students in clinical psychology.
Prereq: Permission of instructor. Not open to students with credit for 861.

6863 Psychometrics  G  3
In-depth coverage of classic and contemporary topics in psychological measurement including test construction, reliability, validity, Item Response Theory, and computerized adaptive testing.
Prereq: Permission of instructor. Not open to students with credit for 864.06.

6865 Introduction to Clinical Psychology: History, Ethics, and Pragmatics  G  3
Overview of clinical interviewing skills, theory and application of a cognitive behavioral orientation to psychotherapy, and ethical issues in clinical psychology.
Prereq: Admission to psychology’s clinical doctoral program. Not open to students with credit for 865.

6866 Empirically Supported Treatments  G  2
Examination of current theories and empirical findings regarding the major forms of psychopathology and treatment.
Prereq: Permission of instructor. Not open to students with credit for 866.02.

6870 Basic Principles of Social Psychology  G  3
An overview of theory and research in experimental social psychology, emphasizing the basic motivational and information processing principles underlying the discipline.
Prereq: Grad standing. Not open to students with credit for 870.

7188 Practicum in Clinical Psychology  G  1 - 9
Supervised practice in psychological assessment and intervention in the department's psychological services center. Open only to students in clinical psychology.
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.

7189 Supervised Field Experience in Psychology  G  1 - 9
Supervised experience, either research or operational, in any agency doing professional psychological work such as a school system, a psychological clinic, an industrial personnel department, or a counseling center.
Prereq: Soph standing in Psych, and approval of local staff of area in which student is specializing; Supervised by member of local staff and, in the case of an external placement, some member of the outside agency approved by the Dept of Psychology. Repeatable to a maximum of 18 cr hrs or 15 completions. This course is graded S/U.

7695.01 Seminar in Clinical Psychology  G  1 - 3
Seminar in clinical psychology.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

7695.02 Health Psychology  G  1 - 3
Seminar in health psychology.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

7695.03 Developmental Seminar in developmental psychology.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

7695.04 Cognitive Seminar in cognitive psychology.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

7695.06 Quantitative Seminar in quantitative psychology.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.

7695.08 Behavioral Neuroscience Seminar in behavioral neuroscience.
Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions.
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Notes:
- The course is graded S/U.
- Topics in developmental psychology.
- Topics in social psychology.
Psychology

8192 Internship in Intellectual and Developmental Disability   G   0 - 9

Psychology

Full or part-time supervised training in an approved predoctoral internship agency; applied
setting serving children or adults with IDD; supervision and directed experiences coordinated
by student's advisor, program training director, and internship training director.
Prereq: PhD candidacy in IDD Psychology, an approved dissertation proposal, and written
permission of advisor. Repeatable to a maximum of 36 cr hrs or 4 completions. This course is
graded S/U.

8876 Professional Issues in Social Psychology   G   3

Overview of professional issues facing the social psychologist seeking an academic career -
focus on review of journal articles and grants as well as broader issues.
Prereq: Permission of instructor. Not open to students with credit for 876.03.

8877 Current Research: Attitudes   G   3

Advanced training in the conduct, evaluation, and presentation of research related to
attitudes, attitude change, and the consequences of attitudes for judgments and behavior.
Cannot be taken concurrently with 8878.
Prereq: Admission to Psychology's Social Psychology doctoral program. Repeatable to a
maximum of 24 cr hrs.

8878 Current Research: Social Cognition   G   3

Advanced training in the conduct, evaluation, and presentation of research related to social
cognition. Cannot be taken concurrently with 8877.
Prereq: Admission to Psychology's Social Psychology doctoral program. Repeatable to a
maximum of 24 cr hrs.

8880 Current Research in Decision Psychology   G   2

Advanced training in the conduct, evaluation, and presentation of research related to the
psychology of decision making.
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs.

8881 Cognitive and Affective Influences in Decision Making   G   3

Provides an introduction to recent trends in decision research. We make choices and perceive
risk based on cognitive, affective, and motivational factors that influence how we perceive
meaning and construct our preferences. The course will cover theoretical distinctions and
their application to practical domains such as health, finances, and the environment.
Prereq: Permission of instructor.

8890 Topical seminar in Decision Psychology   G   2 - 5

Provides an in-depth analysis of a specialized research area in decision psychology. The
course will cover theoretical distinctions and might cover their application to practical domains
such as health, finances, and the environment. The course is repeatable when the topic
changes.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions.

8891 Advanced Seminar in Clinical Psychology   G   2 - 3

Advanced topics in clinical psychology. Repeatable to a maximum of 12 cr hrs or 6 completions.

8896 Advanced Seminar in Quantitative Psychology   G   1 - 3

Advanced seminars in quantitative psychology.
Prereq: Permission of instructor. Not open to students with credit for 831.08. Repeatable to a
maximum of 15 cr hrs or 5 completions.

8999 Dissertation Research in Psychology   G   1 - 15

Research for dissertation purposes only. Repeatable to a maximum of 60 cr hrs or 15 completions. This course is graded S/U.

Public Affairs Advising Survey   U   1

Introduction to the Public Affairs major at Ohio State, as well as University and Glenn School
academic policies and procedures.
Prereq: Permission of instructor. Not open to students with credit for 100. This course is
graded S/U.

1190 Introduction to Policy for High School Internship Program   U   3

Intended to provide HSIP students insight into three main areas: (1) American democracy, (2)
the need for public service and public participation in a democratic system, and (3) how public
policy is made in modern American democracy.
Concur: 1191 (294). Not open to students with credit for 294.

1191 High School Internship   U   3

Part of an innovative public service internship program for selected high school seniors who
are admitted to the OSU Academy. It is coupled with a related intensive academic seminar
(PublicAffairs 1190).
Concur: 1190 (294). Not open to students with credit for 294.

2110 Introduction to Public Affairs   U   3

Outlines the public affairs profession and discusses how policy decisions are formulated,
implemented, and evaluated. GE socsci human, nat, and econ resources course.

2120 Public Service and Civic Engagement   U   3

Explores how students learn to be engaged citizens, concepts related to citizenship and
leadership, and how to incorporate these concepts into their lives and the lives of others with
whom they interact.
Prereq: Not open to students with credit for 240.

2130 Leadership in the Public and Nonprofit Sectors   U   3

An examination of conceptual frameworks and theories of leadership effectiveness in the
public and nonprofit sectors, as well as the practices, strategies, and habits of successful
public and non-profit leaders.
Prereq: Not open to students with credit for 290.

2150 Introduction to Nonprofit Organizations   U   3

Introduces students to the world of nonprofit organizations, in particular those whose missions
address social issues and public service.
Prereq: Not open to students with credit for 337 or ArtsSci 337.

2160 Exploring Public Affairs   U   1

Overview of public affairs as a field. Exposes students to relevant career opportunities. The
course draws on experience of faculty and practicing professionals, providing public affairs
perspectives in traditional and nontraditional career paths.
Prereq: Open to John Glenn Learning Community students only or by permission of instructor.
Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

2193 Individual Study   U   1 - 6

Individual studies in public affairs.
Prereq: Fresh or Soph standing and permission of Associate Director of Academic Affairs and
Research. Repeatable to a maximum of 12 cr hrs or 5 completions. This course is graded S/U.

2194 Group Studies   U   1 - 6

Designed to give groups of undergraduate students an opportunity to pursue special studies
in topics not otherwise offered.
Prereq: Fresh or Soph standing and permission of Associate Director of Academic Affairs and
Research. Repeatable to a maximum of 15 cr hrs or 6 completions.

3000 Public Policy Analysis   U   3

Introduction to analytical techniques employed at policy formulation, implementation, and
evaluation stages of public policy analysis process; strengths and weaknesses of techniques;
development of related research strategies.
Prereq: Econ 2001.01 or 2001.02, and GE Data Analysis course; or permission of instructor.

3110 Education Policy in a Changing World   U   3

Provides an introduction to education policy for public sector leaders and an overview of the
following topics: education and the economy; education and governance; teaching and
learning in education; student outcomes; and career opportunities in education policy.

3140 Nonprofit Management and Governance   U   3

Survey and analysis of nonprofit organization management and governance, in particular
those whose missions address social issues and public service.
Prereq: Not open to students with credit for 594 (WI 2011 only).

3500 Public Management   U   3

Students will be introduced to public management concepts and gain the competencies
required to function in a managerial (or pre-managerial) capacity in a public sector
organization. Students will also develop perspectives on and approaches to address the
unique challenges presented at the managerial level in public sector organizations.

4000 Public Policy Evaluation   U   3

The purpose of this course is to develop and apply research design and analytic methods for
public policy evaluation. The course will enable students to design and perform policy
evaluations focused on policy processes and outcomes, using both qualitative and
quantitative data.
Prereq: Stat 1350 or above, and Econ2001.01 or equiv.

4010 Public Affairs Decision-Making: Columbus OH   U   3

Capstone course designed to integrate knowledge of how analysts and managers in the
public sector can make decisions and pursue strategies to achieve important public goals,
identifying places where progress can be effected.
Prereq: 3000, and Jr or Sr standing; or permission of instructor.

4011 Policy Analysis Application: Columbus OH   U   3

Capstone course to write an analytic policy research paper that examines an important policy
or management challenge in the public sector.
Prereq: 4010.

4020 Public Affairs Decision-Making: Washington DC   U   3

Capstone course designed to integrate knowledge of how analysts and managers in the
public sector can make decisions and pursue strategies to achieve important public goals,
identifying places where positive progress can be effected.
Prereq: Jr standing or permission of Associate Director of Academic Studies. Concur: 4191 and
4021. Not open to students with credit for 4010 (678.01), 878.02 or 4011 (679.01).
4021  Policy Analysis Application: Washington DC  U  3
Capstone course to write an analytic policy research paper that examines an important policy or management challenge in the public sector. 
Prereq: Jr standing or permission of Associate Director of Academic Studies. Concur: 4020 and 4191. Not open to students with credit for 4011 (679.01) or 4197.02.

4030  Public Budgeting  U  3
Public budgeting provides the policy & management oriented student knowledge of proper financial administration of the public sector in the economy. Includes basic methods for public sector finance budgeting and analysis.
Prereq: Econ 2001 (200), Recommended for students specializing in public or nonprofit management areas. Not open to students with credit for 434 or Econ 4300 (530).

4060  Senior Leadership Seminar  U  3
Students integrate multidisciplinary theoretical and practical approaches of leadership development and civic engagement to reflect on how leadership is defined, how it changes, and how individuals and groups can apply experience in college to civic minded engagement and change after graduation.
Prereq: Sr standing.

4191.01  Nonprofit Studies Internship  U  1 - 3
Internship with non-profit or similar organization in which students learn about sector combined with academic research component relevant to internship area.
Prereq: Students must have internship approved by John Glenn School prior to registering. Students may not receive credit for an internship already completed. Prior approval required. Repeatable to a maximum of 6 cr hrs or 2 completions.

4191.02  Student Internship in Public Affairs: Washington DC  U  3
Washington D.C. Academic Internship Program offered through the John Glenn School of Public Affairs. Students from any discipline at the university may apply. Interns explore public policy issues and link experience to theoretical foundations. Students must be accepted to program in order to participate.
Concur: 4011 and 4021. Not open to students with credit for 589. Repeatable to a maximum of 9 cr hrs or 3 completions.

4310  State and Local Government Finance  U  3
Financing public services by state/local governments. The fiscal relationship between state/local governments and the federal government. Apply techniques of economic analysis to policy issues.
Prereq: 4030 (730), or Econ 4300 (530), or equiv. Not open to students with credit for 4431 (531). Cross-listed in Econ 4310.

4510  Law and Public Affairs  U  3
Introduces students to the legal environment within which public employees and administrators operate, emphasizing the work of the judiciary, and providing a legal basis for the study of public affairs, with a focus on how the courts engage in the policy making process.

4600  Ohio Public Safety Leadership Program  U  10
10-week intensive course designed specifically for Ohio’s Public Safety Officers to develop and refine leadership and management skills. Participants must be approved by Ohio State Highway Patrol selection process. Must have prior acceptance through Ohio State Highway Patrol selection process in order to enroll.
Prereq: Permission of unit. Repeatable to a maximum of 20 cr hrs.

4998  Undergraduate Research  U  1 - 12
Individually supervised undergraduate research and project work in Public Affairs.
Prereq: Jr or Sr standing, and permission of the Associate Director of Academic Affairs and instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded.

4999.01H  Honors Undergraduate Thesis  U  1 - 3
Honors Thesis in various topics related to Public Policy. Requires an Honors Thesis.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is progress graded.

4999.02H  Honors Undergraduate Thesis II  U  1 - 3
Honors Thesis in various topics related to Public Policy. Requires an Honors Thesis.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is progress graded.

5030  Local Government  U  G  3
Designed to provide a basic introduction to local governments and their relationship to state government. The course will cover organization, structure, responsibilities, management, and financing of local governments.

5193  Individual Study  U  G  1 - 6
Individual Studies in Public Affairs. 
Prereq: Jr standing and permission of Associate Director of Academic Affairs.
Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

5194  Group Studies  U  G  1 - 6
Designed to give groups of students an opportunity to pursue special studies in topics not otherwise offered. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.

5300  Federal Finance and Fiscal Policy  U  G  3
The economics of government spending and taxation; analysis of the fiscal role and instruments and their effects on the economy.
Prereq: Econ 4330 (530), or equiv. Not open to students with credit for 631, or Econ 5770 (631). Cross-listed in Econ 5770 (Quarter Econ 631).

5400  Planning for Housing  U  G  3
Housing - including its uses, meaning, design, and role. The creation of a range of housing to support growth and revitalization of cities and regions.
Prereq: Not open to students with credit for CRPlan 320, 752, or 5400. Cross-listed in CRPlan.

5590  Fundraising and Philanthropy for Nonprofit Organizations  U  G  3
Designed for students interested in careers and/or volunteer roles in nonprofit administration and current professionals in this area: basic skills, theories, and applied methods of generating funding and creating development plans.
Prereq: Not open to students with credit for 880.06.

5591  Lobbying and Government Relations  U  G  3
Designed to provide an introduction to lobbying government affairs and at the local, state and federal levels of government.
Prereq: Not open to students with credit for 880.06.

5592  Marketing for Nonprofit and Public Organizations  U  G  3
Examines marketing principles of mission-driven organizations, specifically nonprofits and government agencies. It will provide students with an introduction to marketing theory, and will equip them with practical experience in developing a strategic marketing plan that addresses challenges unique to nonprofit and public sector marketers. 7553 is a recommended prerequisite for Grad students.
Prereq: 3140 for undergraduate students.

5600  Science, Engineering, and Public Policy  U  G  3
Presents the history of the interactions between science, engineering, and public policy in the United States and in the context of global concerns (e.g. climate change, competitiveness). Inquires into how various federal government, universities, & corporations conduct & fund science and engineering & explore how public sector interests & processes influence science, engineering & public policy.
Prereq: Jr, Sr, or Grad standing; or permission of instructor. Cross-listed in EnvEng.

5700  Rebuilding Failed and Weak States  U  G  3
Tackles the question of how to design policies and programs to rebuild failed and weak states into functioning, if not vibrant, democracies.
Prereq: Soph standing or higher or permission of instructor. Not open to students with credit for 670 or IntStds 5700 (670). Cross-listed in IntStds.

5750  Public Policy: The Business-Government Relationship  U  G  3
Business tools and strategy for influencing government; evolution and direction of public policy toward business.
Prereq: Sr standing and permission of the Associate Director of Academic Affairs and Research. Not open to students with credit for 796.

5750H  Public Policy: The Business-Government Relationship - Honors  U  G  3
Business tools and strategy for influencing government; evolution and direction of public policy toward business.
Prereq: Honors and Jr standing or higher, or permission of John Glenn School of Public Affairs. Not open to students with credit for 796.

5760  Managing in the Political Environment  U  G  3
Introduction to public policy process and stakeholder approaches to issue management; strategic options and policy tools (political action committees, advocacy, and image advertising), state policy incentives, and international relations.
Prereq: Not open to students with credit for 796.

5800  Special Topics Seminar in Public Affairs  U  G  3
Designed to give students an opportunity to pursue special studies in topics not otherwise offered.
Prereq: Jr standing or above or permission of instructor. Repeatable to a maximum of 12 cr hrs.

5881  Interdepartmental Seminar  U  G  1 - 3
Two or more departments may collaborate in presenting seminars in subjects of mutual interest; topics to be announced. Repeatable to a maximum of 15 cr hrs or 5 completions.

5900  Food System Planning and the Economy  U  G  3
Examines the social, environmental and economic costs and benefits of our food production, distribution, and consumption.
Prereq: Not open to students with credit for AED/ Econ 5900 or CRPlan 5900. Cross-listed in AED/Econ and CRPlan.

6000  Public Policy Formulation and Implementation  U  G  4
Overview of the public policy process and the historical and contemporary context in which policy making and implementation are carried out in the United States at the federal, state and local levels.
Prereq: Not open to students with credit for 801.
### Legal Environment of Public Organizations
- **Course Code:** 6010
- **Credit Hours:** 4
- **Description:** Provides students with an understanding of the legal foundations of public affairs. Students use legal reasoning to examine and analyze the constraints imposed on public policy making and program management and implementation by the legal environment.
- **Prerequisites:** Not open to students with credit for 802.

### Managing Human Resources in Public Organizations
- **Course Code:** 6030
- **Credit Hours:** 4
- **Description:** Economic analysis in the public sector. Application of economic analytical techniques to identify and frame public policy problems; analysis of policy solution trade-offs; efficiency; market failure; public choice.
- **Prerequisites:** Econ 2001 (202). Not open to students with credit for 830.

### Public Budgeting and Finance
- **Course Code:** 6040
- **Credit Hours:** 4
- **Description:** Survey/analysis of government fiscal activities; taxation principles, intergovernmental relations, fiscal problems; public sector budgeting; budgets as mechanism for planning/allocation/controlling resources; tools for program and results evaluation.
- **Prerequisites:** 6030 or PubHHMP 7602 (CoPH students only); or permission of instructor.

### Managing Public Sector Organizations
- **Course Code:** 6050
- **Credit Hours:** 4
- **Description:** Learn to manage public sector organizations with a focus on the external environment: context of public sector organizations, their structure, how they operate; managing organizational performance, innovation, and change.
- **Prerequisites:** Not open to students with credit for 810.

### Managing Human Resources in Public Organizations
- **Course Code:** 6060
- **Credit Hours:** 4
- **Description:** Management of public sector organizations with focus on internal operations, processes, and resources; human resource management, information technology; other aspects of internal capacity.
- **Prerequisites:** Not open to students with credit for 811.

### Public Affairs Statistics
- **Course Code:** 6070
- **Credit Hours:** 4
- **Description:** Provides students with analytical knowledge and tools necessary to acquire, manage and analyze data. Students learn probability and statistics to conduct analysis and evaluation and evaluate the quality of analyses conducted by others.
- **Prerequisites:** Not open to students with credit for both 820 and 822.

### Public Affairs Program Evaluation
- **Course Code:** 6080
- **Credit Hours:** 4
- **Description:** Equips students with knowledge and skills to evaluate public policies and programs. Students learn about different types of evaluations and research designs for conducting evaluations. Exposure to ethical considerations in conducting evaluations.
- **Prerequisites:** 6070, 6070.01, or 6070.02.

### Individual Studies
- **Course Code:** 6193
- **Credit Hours:** 1 - 6
- **Description:** Master's level individual studies in public affairs.
- **Prerequisites:** Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

### Group Studies
- **Course Code:** 6194
- **Credit Hours:** 1 - 6
- **Description:** Designed to give groups of students an opportunity to pursue special studies in topics not otherwise offered. Repeatable to a maximum of 18 cr hrs or 3 completions. This course is graded S/U.

### Public Affairs Skills: Written and Oral Communication
- **Course Code:** 6500
- **Credit Hours:** 2
- **Description:** Being an effective communicator can determine the reach and impact of policy, as well as the ability of a public manager to influence change. Course information includes becoming a better writer and speaker on a topic of public policy - including communicating to diverse audiences with differing information demands.
- **Prerequisites:** Not open to students with credit for 809. Repeatable to a maximum of 4 cr hrs.

### Public Affairs Skills: Governmental Accounting
- **Course Code:** 6505
- **Credit Hours:** 1
- **Description:** Explores governmental accounting and financial reporting. Topics include long term financing and state and local government financial condition analysis.
- **Prerequisites:** Not open to students with credit for 852.

### Conveying Quantitative Data in Public Affairs
- **Course Code:** 6510
- **Credit Hours:** 1
- **Description:** Provides students with an understanding of how to convey complex information visually using software tools so as to facilitate, frame and inform debates around issues in public policy and public finance.
- **Prerequisites:** Grad standing or permission of instructor.

### Database Management
- **Course Code:** 6515
- **Credit Hours:** 1
- **Description:** Addresses the efficient and effective use of the database environment as a resource for the support of decision making at tactical, strategic and policy levels within the public sector.
- **Prerequisites:** Grad standing or permission of instructor. Not open to students with credit for 821.

### Balanced Scorecards and Dashboards
- **Course Code:** 6520
- **Credit Hours:** 1
- **Description:** Skills course that covers the development and display of performance information for decision making.
- **Prerequisites:** Grad standing or permission of instructor.

### Survey Design in Public Affairs
- **Course Code:** 6525
- **Credit Hours:** 1
- **Description:** Surveys key concepts and methods of survey design and implementation for public program evaluation and public policy analysis.
- **Prerequisites:** Grad standing or permission of instructor.

### Special Topics: Skills in Public Affairs
- **Course Code:** 6890
- **Credit Hours:** 1
- **Description:** Contains special topics exclusively appropriate to the "Skills" portion of the Glenn School Masters curriculum. Prior to scheduling, a syllabus with learning objectives, topics, and a rationale will be agreed upon by the faculty.
- **Prerequisites:** Grad standing, or permission of instructor. Repeatable to a maximum of 8 cr hrs.

### Group Studies
- **Course Code:** 7194
- **Credit Hours:** 1 - 4
- **Description:** Designed to give groups of students the opportunity to pursue special advanced studies in topics not otherwise offered. Repeatable to a maximum of 16 cr hrs or 4 completions.

### Energy Policy and the Environment
- **Course Code:** 7500
- **Credit Hours:** 3
- **Description:** Provides an historical and broad policy perspective on energy policy, energy resources and use, environmental protection, energy regulation, renewable resource economics, CO2 emission reduction strategies, and other issues.
- **Prerequisites:** Not open to students with credit for 880.06.

### Grant Writing in the Public Sector
- **Course Code:** 7501
- **Credit Hours:** 3
- **Description:** An introduction to the public sector process of grant writing including techniques and structure.
- **Prerequisites:** Not open to students with credit for 880.02 or CRPlan 6610 (837). Cross-listed in CRPlan 6610.

### Health Policy and the Public Sector
- **Course Code:** 7502
- **Credit Hours:** 3
- **Description:** Investigates the rationale for government intervention in the health care sector of the economy. It examines the structure, financing, regulation, and delivery of health services.

### Higher Education Policy for Public Leaders
- **Course Code:** 7503
- **Credit Hours:** 3
- **Description:** Provides an introduction to education policy for public sector leaders. Topics include Higher Education economic foundations, budget processes, current policies, and international education and practice.
- **Prerequisites:** Not open to students with credit for 880.06.

### Science and Technology Policy
- **Course Code:** 7504
- **Credit Hours:** 3
- **Description:** Surveys various aspects of science and technology policy such as scope, rationales, actors, politics of decisions, types of policies and priorities.
- **Prerequisites:** Not open to students with credit for 880.05.

### Wicked Policy Problems
- **Course Code:** 7505
- **Credit Hours:** 3
- **Description:** Elective course examines "wicked" policy problems, or policy problems that require attention to multiple causal factors (e.g. economic, financial, political, social, cultural, technological).

### Workforce Planning and Policy
- **Course Code:** 7506
- **Credit Hours:** 3
- **Description:** Review of national level workforce systems; examination of technical aspects of workforce planning in naaf and state policy contexts; planning governmental investments in education and workforce infrastructure using actual govt agency data.

### Criminal Justice Policy
- **Course Code:** 7507
- **Credit Hours:** 3
- **Description:** Overview of criminal justice system with focus on structural, organizational, and micro-level aspects of the criminal justice policy process, study of key systemic as well as current policy issues and fiscal impacts of policies.
- **Prerequisites:** Not open to students with credit for 840.

### Juvenile Justice System Policy
- **Course Code:** 7508
- **Credit Hours:** 3
- **Description:** Studies similarities and differences in juvenile and criminal justice processes, and explores key policy and budgetary issues in the administration of juvenile justice.
- **Prerequisites:** Not open to students with credit for 841.

### Disasters: Preparedness and Response
- **Course Code:** 7509
- **Credit Hours:** 3
- **Description:** Introduction to planning, policy and management issues that arise when disaster strikes, and the roles of government, non-profits, communities and individuals in emergency preparedness by examining a variety of recent natural and human-made disasters, both in the U.S. and abroad.

### Policy and Strategy in the Nonprofit Sector
- **Course Code:** 7525
- **Credit Hours:** 3
- **Description:** Provides students with a broad overview of the nonprofit sector, exploring historical and legal foundations, the environmental context (and related opportunities and threats), and critical issues for particular nonprofit subsectors.
- **Prerequisites:** Not open to students with credit for 880.06.

### Nonprofit Management and Governance
- **Course Code:** 7526
- **Credit Hours:** 3
- **Description:** A survey course on nonprofit management and governance, with a concentrated focus on evaluating and managing nonprofit capacity to achieve organizational performance and system impact.
- **Prerequisites:** Not open to students with credit for 880.06.

### Strategic Budgeting and Financial Management
- **Course Code:** 7530
- **Credit Hours:** 3
- **Description:** Develops students' skills in how to strategically prioritize and fund budgets using traditional tools like tax exempt municipal obligations, and more recent innovations for financing long and short term to advance goals of government agencies or non-profit organizations.
- **Prerequisites:** 6030 and 6040; or permission of instructor.

### Economic Development Policy
- **Course Code:** 7531
- **Credit Hours:** 3
- **Description:** Takes a practical approach to the legal, policy and business issues related to urban redevelopment. Gain a legal perspective as they investigate business and public policy issues surrounding redevelopment in our urban core.
- **Prerequisites:** Not open to students with credit for 880.02.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>7532</td>
<td>Governmental Accounting and Financial Management</td>
<td>G 3</td>
<td>Not open to students with credit for 880.</td>
</tr>
<tr>
<td>7533</td>
<td>Nonprofit Financial Management</td>
<td>G 3</td>
<td>Focuses on financial management in nonprofit organizations which may rely primarily on donor support through pledges, grants and endowments or on revenues generated through the provision of services. Prereq: 6940 (730 and 834), or permission of instructor.</td>
</tr>
<tr>
<td>7534</td>
<td>Privatization</td>
<td>G 3</td>
<td>Examines the theory and current practice of privatization against the backdrop of public policy and public administration. Prereq: Not open to students with credit for 880.07.</td>
</tr>
<tr>
<td>7535</td>
<td>Regulation and Deregulation</td>
<td>G 3</td>
<td>Examine the strengths and limitations of economic and social regulation, the occasion for and evolution of their policy development, and the prospects for regulation, deregulation, and re-regulation in the U.S. economy. Prereq: Not open to students with credit for 880.05.</td>
</tr>
<tr>
<td>7536</td>
<td>Pensions, Savings &amp; Insurance - The Public Perspective</td>
<td>G 3</td>
<td>Balancing personal and societal savings and risk management strategies, fundamentals of public finance and risk management, savings and insurance as complements and substitutes to facilitate retirement, disability and macroeconomic shocks. Prereq: 6930 (830) and 6940 (730 &amp; 834), or permission of instructor.</td>
</tr>
<tr>
<td>7537</td>
<td>Education Policy for Public Leaders</td>
<td>G 3</td>
<td>Improvement of education at all levels is crucial to the development of an educated, active, and competitive citizenry. Understanding US and international education sectors and policy develops critical skills for leaders in the public sector. Prereq: Not open to students with credit for ESWEDE 7696. Cross-listed in ESWEDE 7696.</td>
</tr>
<tr>
<td>7550</td>
<td>Contract Management</td>
<td>G 3</td>
<td>Provides students with a perspective on the need and methods for managing contract relationships and outsourced services in the public-sector. Prereq: Not open to students with credit for 880.05.</td>
</tr>
<tr>
<td>7551</td>
<td>Dispute Resolution</td>
<td>G 3</td>
<td>Introduces students to the field of Alternative or Appropriate Dispute Resolution (ADR) and specifically the use of ADR in managing and resolving public policy disputes. Prereq: Not open to students with credit for 880.06 or CRPlan 7500 (750). Cross-listed in CRPlan 7500 (750).</td>
</tr>
<tr>
<td>7552</td>
<td>Managing Innovation and Change</td>
<td>G 3</td>
<td>Provides students with a perspective on the need and methods for creating innovation in public programs, including government agencies and nonprofit organizations. Prereq: Not open to students with credit for 880.06.</td>
</tr>
<tr>
<td>7553</td>
<td>Nonprofit Management and Governance</td>
<td>G 3</td>
<td>Advanced survey course on nonprofit management and governance, with a concentrated focus on evaluating and managing nonprofit capacity to achieve organizational performance and system impact. Prereq: Not open to students with credit for 880.06.</td>
</tr>
<tr>
<td>7554</td>
<td>Performance Measurement and Management in the Public Sector</td>
<td>G 3</td>
<td>Provides students with an understanding of performance measurement and management principles to create useful performance information, to use data to manage operations, to develop more effective employees and to make financial decisions. Prereq: Not open to students with credit for 880.05.</td>
</tr>
<tr>
<td>7555</td>
<td>Project Management</td>
<td>G 3</td>
<td>Introduction to international standards and methods for project management (PM); the application of tools, the basic, ancillary, and &quot;soft&quot; skills for successful PM; public sector challenges; and strengths/limitations in a complex organic environment. Prereq: Not open to students with credit for 880.05 or CRPlan 6620 (880). Cross-listed in CRPlan 6620.</td>
</tr>
<tr>
<td>7556</td>
<td>Research and Development Management</td>
<td>G 3</td>
<td>Provides an understanding of how Research &amp; Development (R&amp;D) is managed in various settings and to introduce the potential ways to enhance the processes and outcomes of R&amp;D.</td>
</tr>
<tr>
<td>7557</td>
<td>Strategy for Public Organizations</td>
<td>G 3</td>
<td>Provides students with a strategic perspective on the management and leadership of public sector organizations. Prereq: Not open to students with credit for 812.</td>
</tr>
<tr>
<td>7558</td>
<td>Lobbying and Governmental Relations</td>
<td>G 3</td>
<td>Intermediate-level seminar on lobbying government affairs and at the local, state and federal levels of government. Prereq: Not open to students with credit for 5591 or 880.06.</td>
</tr>
<tr>
<td>7570</td>
<td>Public Management Information Systems</td>
<td>G 3</td>
<td>Critical study of the design and administration of management information systems for the public and nonprofit sectors. Prereq: Not open to students with credit for 821.</td>
</tr>
<tr>
<td>7571</td>
<td>Multivariate Data Analysis for Public Policy and Management</td>
<td>G 3</td>
<td>Provides an understanding of regression techniques, both from a &quot;producer’s&quot; and a &quot;consumer’s&quot; perspective. Regression, a statistical method used to study the relationships between variables, is used in public policy analysis. Prereq: Not open to students with credit for 822.</td>
</tr>
<tr>
<td>7572</td>
<td>Policy Simulation and Modeling</td>
<td>G 3</td>
<td>Introduction to the development of conceptual and data models for public policy analysis including hands-on experience with using simulations tools for agent-based and system dynamics modeling. Prereq: 6080 (804) or permission of instructor.</td>
</tr>
<tr>
<td>7573</td>
<td>Public Affairs Methods</td>
<td>G 3</td>
<td>Explores quantitative and/or qualitative decision-making methods specific to public affairs context using statistics, economics, public budgeting, finance, policy, and modeling theories. Prereq: 6070, or permission of instructor. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>7590</td>
<td>Washington D.C. Research Project Seminar</td>
<td>G 3</td>
<td>Required academic component of John Glenn School of Public Affairs Graduate Washington D.C. Internship Program. Students focus on the preliminary study of a policy problem utilizing internship and resources specific to Washington D.C. Prereq: Grad standing, and enrollment in John Glenn School, and acceptance into and participation in the Graduate Washington Academic Internship Program. Repeatable to a maximum of 9 cr hrs. This course is progress graded.</td>
</tr>
<tr>
<td>7591</td>
<td>Capstone: Research Paper in Public Affairs</td>
<td>G 3</td>
<td>Students integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth policy or management analysis of a defined topic or a specific organization. Prereq: 6000 (801), 6070 (820 &amp; 822), 6080 (804); or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>7592</td>
<td>Capstone: Public Policy Issues</td>
<td>G 3</td>
<td>Students integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth Public Policy analysis of a defined topic or a specific organization. Prereq: 6000 (801), 6070 (820 &amp; 822), 6080 (804); or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>7593</td>
<td>Capstone: Public Management</td>
<td>G 3</td>
<td>Students integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth Public Economics analysis of a defined topic or a specific organization. Prereq: 6000 (801), 6070 (820 &amp; 822), 6080 (804); or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
</tr>
<tr>
<td>7594</td>
<td>Capstone: Public Management</td>
<td>G 3</td>
<td>Students integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth Public Management analysis of a defined topic or a specific organization. Prereq: 6000 (801), 6050 (810), 6060 (811), 6070 (820 &amp; 822), 6080 (804); or permission of instructor.</td>
</tr>
<tr>
<td>7595</td>
<td>Capstone: Policy, Innovation &amp; Strategy in the Nonprofit Sector</td>
<td>G 3</td>
<td>Integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth Nonprofit Management analysis of a defined topic or a specific organization. Prereq: 6000 (801), 6060 (811), 6070 (820 &amp; 822), 6080 (804); or permission of instructor.</td>
</tr>
<tr>
<td>7596</td>
<td>Capstone: Information Management</td>
<td>G 3</td>
<td>Integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth Information Management analysis of a defined topic or a specific organization. Prereq: 6000 (801), 6050 (810), 6070 (820 &amp; 822), 6080 (804); or permission of instructor.</td>
</tr>
<tr>
<td>7597</td>
<td>Capstone: Policy in an International Context</td>
<td>G 3</td>
<td>Students integrate the knowledge and skills gained throughout the MA/MPA program by applying theory to practice through an in-depth International Context analysis of a defined topic or a specific organization. Prereq: Permission of instructor.</td>
</tr>
</tbody>
</table>
Public Affairs, John Glenn College

8000 Public Policy and Management: Foundations and Approaches  G  3
In-depth introduction to research and theory of public administration intended to familiarize students with major research streams in the field and issues and debates involved therein. Assists students in planning research directions.
Prereq: John Glenn School Doctoral students or permission of instructor. Not open to students with credit for 880.02.

8030 Seminar in Public Policy  G  3
Designed to heighten graduate students' ability to think critically about public policy research. It emphasizes the critical assessment of public policy research on policy formulation, implementation, and evaluation.
Prereq: John Glenn School Doctoral students or permission of instructor. Not open to students with credit for 880.06.

8040 Seminar in Organizational Theory  G  3
Survey of the major perspectives in organizational theory and their application to public management.
Prereq: Not open to students with credit for 880.06.

8050 Seminar in Public Sector Economics  G  3
The applications of rational choice modeling to public policy analysis and organizational decision-making.
Prereq: 6030 (830), or Econ 4001 (501), or permission of instructor. Not open to students with credit for 880.02.

8060 Seminar in Public Management  G  3
Provides an in-depth introduction to research and theory about public management. It is one of a two-course sequence in the John Glenn School of Public Affairs focusing on public management and organizations.
Prereq: Not open to students with credit for 880.06.

8193 Individual Studies  G  1 - 12
Advanced individual studies in public affairs.
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.

8194 Group Studies  G  1 - 4
Designed to give groups of students the opportunity to pursue special advanced studies in topics not otherwise offered. Repeatable to a maximum of 16 cr hrs or 4 completions.

8780 Logic of Policy Inquiry  G  3
Explore research paradigms to determine how they suit one's values, research interests and objectives. Determine object of study, approaches and language used to acquire/disseminate knowledge.
Prereq: Not open to students with credit for 880.

8782 Seminar in Policy Modeling  G  3
Analyzes conceptual frameworks underlying scholarly products to help students plan a doctoral dissertation or a paper publishable in an academic journal.
Prereq: Not open to students with credit for 880.05.

8890.01 First Year Doctoral Seminar I  G  1
First in a series of three, develops skills and capacities for first-year Glenn School doctoral students to succeed and thrive as scholars.
Prereq: Not open to students with credit for 880.06.

8890.02 First Year Doctoral Seminar II  G  1
Second in a series of three, develops skills and capacities for first-year Glenn School doctoral students to succeed and thrive as scholars.
Prereq: 8890.01 or permission of instructor. Not open to students with credit for 880.06.

8890.03 Second Year Doctoral Seminar  G  1
Last of the series of three, develops skills and capacities for second-year Glenn School doctoral students to advance in the field as scholars and prepare for academic and non-academic careers. 
Prereq: 8890.01 and 8890.02, or permission of instructor. Not open to students with credit for 880.06.

8890.04 College Teaching in Public Affairs  G  2
This interactive seminar assists advanced graduate students developing the necessary skills for college level teaching in public affairs: pedagogical strategies; theoretical and interdisciplinary practices, instructor professional development.
Prereq: Grad standing, and permission of instructor.

8999 Research in Public Affairs: Dissertation  G  1 - 12
Research for dissertation purposes only. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.

Survey of Public Health  U  1
An introduction to the University community; strategies for successful transition to and participation in that community; information about University resources and procedures; and (4) information about the College of Public Health and its programs.

Introduction to Global Public Health  U  3
Global public health concepts and associated metrics; role of cultural, social, economic, and environmental factors on public health in India; instructions in a classroom setting on an Indian campus and through field trips.
Prereq: English 1110 (110), good academic standing, and completion of minimum 4 semesters (2 academic years) of undergraduate education.

Field Experience in Global Public Health: India  U  3
Global public health concepts and associated metrics; role of cultural, social, economic, and environmental factors on public health in India; instructions in a classroom setting on an Indian campus and through field trips.
Prereq: English 1110 (110), good academic standing, and completion of minimum 4 semesters (2 academic years) of undergraduate education. EN Admis Cond course.

Field Experience in Global Public Health: China  U  3
Global public health concepts and associated metrics; role of cultural, social, economic, and environmental factors on public health in China; instructions in a classroom setting on a Chinese campus and through field trips.
Prereq: Major or minor in Public Health or in health/biology-related areas; or permission of instructor.

Field Experience in Global Public Health: Japan  U  3
Global public health concepts and associated metrics; role of cultural, social, economic, and environmental factors on public health in Japan; instructions in a classroom setting on a Japanese campus and through field trips.
Prereq: English 1110 (110), and good academic standing, and completion of minimum 4 semesters (2 academic years) of undergraduate education.

Field Experience in Global Public Health: Japan  U  3
Global public health concepts and associated metrics; role of cultural, social, economic, and environmental factors on public health in Japan; instructions in a classroom setting on a Japanese campus and through field trips.
Prereq: English 1110 (110), and good academic standing, and completion of minimum 4 semesters (2 academic years) of undergraduate education.

Undergraduate Internship in Public Health  U  2
Placement of BSPH students in a public health agency or related site for supervised practice experience.
Prereq: Jr or Sr standing, enrollment in BS Public Health major, and permission of advisor. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

Undergraduate Internship in Public Health  U  2
Placement of BSPH students in a public health agency or related site for supervised practice experience.
Prereq: 3180 or 3180E. Sr standing, enrollment in BS Public Health major, and permission of advisor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

Individual Studies in Public Health  U  1 - 3
Individual study in a public health topic approved by and under the guidance of a faculty advisor.
Prereq: Permission of a faculty advisor. Repeatable to a maximum of 6 cr hrs or 3 completions. This course is graded S/U.
3550 Special Topics in Public Health  
Regular class on topics that are relevant to students enrolled in programs in the College of Public Health undergraduate program. Prereq: Enrollment as a Public Health major or pre-major, or permission of instructor. Repeatable to a maximum of 12 cr hrs or 6 completions.

3999 Undergraduate Capstone Research in Public Health  
The goal of the Undergraduate Public Health Research Experience Capstone is to provide Public Health students with opportunities to apply public health principles outside of a typical classroom setting and build on public health coursework. This course allows students the opportunity to integrate classroom experiences and principles in an applied research setting. Prereq: 3180. This course is graded S/U.

4998 Undergraduate Research in Public Health  
Undergraduate research under the guidance of a faculty mentor in a basic or applied area of public health. Prereq: Jr or Sr standing, and Enrollment in BS PUbHlth major, and permission of advisor. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

4999.01H Senior Honors Thesis  
An independent senior thesis course with faculty advisor; subject matter will vary depending upon student's topic. At least two semesters are required for the BSPH degree with research distinction. Failure to receive a mark of 5 in this course is a disqualification for special honors. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

5760 Public Health Informatics  
Introduction to the emerging and interdisciplinary field of Public Health Informatics. This course will highlight the history, current and future use of informatics in the public health settings, and give students an understanding of the role and broad application of informatics to promoting health and preventing disease. Cross-listed in BMI.

6000 Introduction to Global Health  
Overview of current and emerging global health issues, their determinants, actions, and interventions. Prereq: Open to Grad students with registration priority for students enrolled in the Interdisciplinary Global Health specialization. Not open to students with credit for 600.

6189.01 Field Experience in Public Health  
Placement in a public health agency or related site for supervised practice experience. Prereq: Enrollment in public health degree program, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

6189.02 Field Experience in Global Health  
Placement in a public health agency or related site for supervised international practice experience. Prereq: Enrollment in public health degree program, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

7000 Public Health in Developing Countries  
Overview of core public health principles and practices applied to global health issues. Prereq: 6000; open to all Grad and professional students with registration priority for students enrolled in the graduate Interdisciplinary Global Health specialization. Not open to students with credit for 700.

7040 Public Health Organization  
Review of the historical background leading to the evolution of public health with a focus on the contemporary practice of public health; a review of current policy and practice; and, an outlook for the future of public health.

7189 Practicum in Public Health  
Placement in a public health agency or related site for supervised practice experience. Prereq: Enrollment in public health degree program, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

7191 Internship  
Placement in an agency or related site for supervised practice experience. Prereq: Enrollment in public health degree program, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

7350.01 Topics in Applied Public Health Practice: General  
The foundation of the course includes theory and applications relevant to specific rubrics of applied public health practice, with a theme of general public health practice. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.

7350.02 Topics in Applied Public Health Practice - Leadership  
Includes theory and applications relevant to specific rubrics of applied public health practice, with a theme of public health management and leadership. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.

7350.03 Topics in Applied Public Health Practice - Res Tools  
Includes theory and applications relevant to specific rubrics of applied public health practice, with a theme of public health research tools. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.

7350.04 Topics in Applied Public Health Practice: Preparedness  
Includes theory and applications relevant to specific rubrics of applied public health practice, with a theme of public health preparedness and planning. Repeatable to a maximum of 12 cr hrs or 6 completions. This course is graded S/U.

7998 Culminating Project in Public Health  
Final project for MPH degree that can be a research report, program evaluation or grant proposal. Students should see division specific requirements. Prereq: Enrollment in MPH degree program, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

7999 Thesis Research in Public Health  
Research for master's students. Thesis research. Prereq: Enrollment in MS degree program, and permission of instructor. Repeatable. This course is graded S/U.

8998 Pre-Candidacy Research in Public Health  
Independent research for doctoral students: pre-candidacy. Prereq: Enrollment in PhD program. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

8999 Post-Candidacy Research in Public Health  
Independent research for doctoral students: post-candidacy. Prereq: Enrollment as PhD Candidate in Public Health Program. Repeatable. This course is graded S/U.

2210 Biostatistics for Public Health Research  
Hands-on experience using statistical tools to answer real-world questions. Students will design and implement a short survey and analyze their results. Emphasis on analysis of actual survey data using statistical software. Statistical topics include numerical/graphical summaries, measures of association, and hypothesis testing. Focus is on interpretation, not calculation. Prereq: Stat 1350 (135) or Stat 1450 (145), or equiv.

2210H Honors Biostatistics for Public Health Research  
Hands-on experience using statistical tools to answer real-world questions. Students will design and implement a short survey and analyze their results. Emphasis on analysis of actual survey data using statistical software. Statistical topics include numerical/graphical summaries, measures of association, and hypothesis testing. Focus is on interpretation, not calculation. Prereq: Honors standing, and Stat 1350 (135) or 1450 (145), or equiv; or permission of instructor.

5280 Introduction to Genomic Data Analysis  
Provides an in-depth analysis of a specific question to which genomic methods are applied. Intersperses experimental methods and statistical analysis of biological data. Some experience with programming is recommended. Prereq: Jr standing or above, and Math 1151 or 1156, Stat 2450 or 2480, and Biology 1113 or MolGen 5660; or Grad standing; or permission of instructor.

6200 Statistical Methods for Public Health Practice I  
Theory and application of basic statistical concepts and models for design and analysis of studies in health sciences, integrated with statistical software applications. Intended for students in the PEP program. Prereq: Enrollment in PEP program. Not open to students with credit for 6210 (701).

6201 Statistical Methods for Public Health Practice II  
A second course in applied biostatistical methods and data analysis. Intended for students in the PEP program. Prereq: Enrollment in PEP program, and 6200, or permission of instructor.

6210 Design and Analysis of Studies in the Health Sciences I  
Theory and application of basic statistical concepts for design of studies in health sciences, integrated with statistical software applications. Prereq: Grad standing in PUbHlth, or permission of instructor. Not open to students with credit for 701.

6211 Design and Analysis of Studies in the Health Sciences II  
A second course in applied biostatistical methods and data analysis. Categorical data methods, nonparametric statistical testing, analysis of variance designs, and regression methods. Integrated with use of computer statistical packages. Prereq: A grade of B- or above in 6210 (701), or permission of instructor. Not open to students with credit for 702.

6212 Regression Methods for the Health Sciences  
Regression models for three problems: repeated measures data, logistic regression and time-to-event analysis. Hypothesis tests, evaluating assumptions, confounding, selection of predictors, illustrated with real data sets and analysis assignments. Prereq: A grade of B- or above in 6211 (702), or in both Stat 6410/6910 (641) and 6450/6950 (645), or permission of instructor. Not open to students with credit for 703.
### Public Health: Biostatistics

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>6270</td>
<td>Introduction to SAS for Public Health Students</td>
<td>2</td>
<td>Grad standing in PubHlth, or permission of instructor. Not open to students with credit for 604, Stat 5740, or 6740.</td>
</tr>
<tr>
<td>6280</td>
<td>Practical Biostatistics for Biomedical Laboratory Researchers</td>
<td>3</td>
<td>Introduces to statistical principles and methods appropriate for experimental laboratory data with applications in biomedical sciences. Required for students in the BiBGP Program. Prereq: Enrollment in Biostat Program (BOP), or permission of instructor. Not open to students with credit for 6210 (701x) or 6211 (702x).</td>
</tr>
<tr>
<td>7193</td>
<td>Individual Studies in Biostatistics</td>
<td>1 - 4</td>
<td>Repeatable to a maximum of 18 cr hrs or 5 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7194</td>
<td>Group Studies in Biostatistics</td>
<td>1 - 3</td>
<td>Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.</td>
</tr>
<tr>
<td>7215</td>
<td>Design and Analysis of Clinical Trials</td>
<td>2</td>
<td>Design, monitoring, and analysis of clinical trials; includes protocol development, randomization schemes, sample size methods, and ethical issues. Prereq: Stat S301 (528 and 529), or equiv; or permission of instructor. Not open to students with credit for Stat 6615 (BioStat 615). Cross-listed in Stat 6615.</td>
</tr>
<tr>
<td>7220</td>
<td>Applied Logistic Regression</td>
<td>3</td>
<td>Theoretical and practical training in statistical modeling of a categorical response variable; conditional and unconditional models, assessment of model performance, determination of scale. Prereq: A grade of B- or above in 6211 (702x). Not open to students with credit for 606.</td>
</tr>
<tr>
<td>7225</td>
<td>Survey Sampling Methods</td>
<td>3</td>
<td>Sampling from finite populations, simple random, stratified, and cluster sampling design, ratio and regression estimates, non-sampling errors, models. Prereq: 6212 (703) or Stat S301 (529); or equiv. Not open to students with credit for Stat 6510 (651). Cross-listed in Stat 6510.</td>
</tr>
<tr>
<td>7230</td>
<td>Applied Longitudinal Data Analysis</td>
<td>3</td>
<td>Statistical models and methods for the analysis of data arising from longitudinal studies with repeated measurements on subjects over time. Prereq: Stat 6450 (645) or PubHlth 6212 (703). Not open to students with credit for 624.</td>
</tr>
<tr>
<td>7240</td>
<td>Applied Statistical Analysis with Missing Data</td>
<td>3</td>
<td>Models and methods for the dataset with missing values, including imputation, likelihood-based, and Bayesian models. Prereq: 6212 (703), Stat 6201 (520 and 521), 6302 (623), 6802 (622), 6302 (623), 6450 (645), or 6950; or permission of instructor. Not open to students with credit for Stat 6520 (652). Cross-listed in Stat 6520.</td>
</tr>
<tr>
<td>7245</td>
<td>Biostatistical Collaboration</td>
<td>2</td>
<td>Basic biomedical research methodologies; collaborate with biomedical researchers to design experiments and plan analyses; protocol preparation; professional skills development; statistical report preparation. Prereq: Grad standing and permission of instructor; sufficient coursework in Stat or BioStat to serve as a biostatistical consultant. Not open to students with credit for Stat 7755 (BioStat 709). Cross-listed in Stat 7755 (BioStat 709). This course is graded S/U.</td>
</tr>
<tr>
<td>7250</td>
<td>Special Topics</td>
<td>1 - 6</td>
<td>Regular class on special topics in biostatistics. Format will include lectures, readings, presentations and discussions in an area of special interest to students and faculty. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7899</td>
<td>Seminar in Biostatistics</td>
<td>1 - 3</td>
<td>Seminar on topics that are relevant to students enrolled in programs in the Division of Biostatistics. Prereq: Grad standing in PubHlth, and permission of instructor. Repeatable. This course is graded S/U.</td>
</tr>
<tr>
<td>8230</td>
<td>Advanced Longitudinal Data Analysis</td>
<td>3</td>
<td>Classical and modern statistical approaches for continuous and discrete longitudinal data. Random effects and growth curve models, measurement error, generalized estimating equations, estimation with missing data, multivariate longitudinal data. Prereq: Stat 6802 (622) and 6950 (645). Not open to students with credit for Stat 7470 (726). Cross-listed in Stat 7470 (726).</td>
</tr>
<tr>
<td>8235</td>
<td>Advanced Regression Modeling of Time-to-Event Data</td>
<td>3</td>
<td>Advanced topics in survival analysis. Proportional hazards models, parametric regression models, length-bias and prevalent sampling, multivariate survival analysis, counting processes, recurrent events. Prereq: Stat 6802 (622) and 6950. Not open to students with credit for 706 or Stat 7605. Cross-listed in Stat 7605.</td>
</tr>
<tr>
<td>8450</td>
<td>Stochastic Epidemic Models</td>
<td>3</td>
<td>Introduces the basic methods for analyzing large population epidemic data from the viewpoint of the stochastic processes theory. The course will cover the basic SIR (susceptible-infective-removed) epidemic models both under the homogenous and restricted contact structures. Prereq: Stat 6601, and 6540 or 7540; or permission of instructor. Cross-listed in Stat.</td>
</tr>
<tr>
<td>8899</td>
<td>Doctoral Seminar</td>
<td>1 - 3</td>
<td>Seminar for doctoral students in Biostatistics. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.</td>
</tr>
</tbody>
</table>

### Public Health: Environmental Health Sciences

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>3310</td>
<td>Current Issues in Global Environmental Health</td>
<td>3</td>
<td>Fundamental concepts and principles of environmental health are presented through a critical review and discussion of current issues in global environmental health.</td>
</tr>
<tr>
<td>3320</td>
<td>Fundamentals of Environmental Health Risk</td>
<td>3</td>
<td>The scientific process used by governmental agencies to evaluate public health threats due to environmental contamination. An orientation to the fundamental and applied components of risk assessment including; hazard identification, toxicology/dose-</td>
</tr>
<tr>
<td>4530</td>
<td>Food Safety and Public Health</td>
<td>2</td>
<td>Principles and practice of food safety; transmission, inactivation and control of foodborne pathogens, hazards, toxins and allergens; risk assessment, sanitation, and pest control in foods. Cross-listed in FdScTe 4536.</td>
</tr>
<tr>
<td>5315</td>
<td>Principles of Toxicology</td>
<td>3</td>
<td>Fundamentals of dose-response, exposure, disposition and biotransformation of chemicals in mammalian systems; actions of toxicants in major organ systems. Prereq: Not open to students with credit for 732.</td>
</tr>
<tr>
<td>5320</td>
<td>Climate Change and Human Health</td>
<td>3</td>
<td>Recognize current controversies about climate change, summarize the evidence about climate change on human health, and identify major human diseases associated with climate change. Prereq: Not open to students with credit for 794.</td>
</tr>
<tr>
<td>5325</td>
<td>Principles of Occupational Health Science</td>
<td>3</td>
<td>Principles and practice of occupational health, including, among other topics, a history of the discipline and in-depth consideration of occupational hazards and risks, including types, sources, exposures and health impacts. Prereq: Not open to students with credit for 830.</td>
</tr>
<tr>
<td>6305</td>
<td>Principles of Environmental Health for Professionals</td>
<td>3</td>
<td>Survey of environmental influences on human health and strategies for prevention. Prereq: Enrollment in MPH program.</td>
</tr>
<tr>
<td>6310</td>
<td>Principles of Environmental Health Science</td>
<td>3</td>
<td>Survey of environmental influences on human health and strategies for prevention considering source emissions, environmental fate and transport, human exposure, dose, and biological effects. Prereq: Not open to students with credit for 731.</td>
</tr>
<tr>
<td>6315</td>
<td>Advanced Environmental Health Science</td>
<td>3</td>
<td>Survey of environmental influences on human health and strategies for prevention considering source emissions, environmental fate and transport, human exposure, dose, biological effects, and ultimately disease associated with exposure. Prereq: Enrollment in EHS program, and Grad standing.</td>
</tr>
<tr>
<td>6320</td>
<td>Global Health and Environmental Microbiology</td>
<td>3</td>
<td>Fundamentals and emerging issues of health significant microorganisms (bacteria, viruses, protozoa) from water, air, soil and food, and their sources, transmission routes, treatments, detection methods and study tools. Prereq: Not open to students with credit for 730. Cross-listed in FdScTe.</td>
</tr>
<tr>
<td>7193</td>
<td>Individual Studies in Environmental Health Sciences</td>
<td>1 - 3</td>
<td>Individual studies in Environmental Health Sciences focusing on applied topics. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7194</td>
<td>Group Studies in Environmental Health Sciences</td>
<td>1 - 3</td>
<td>Group studies in Environmental Health Sciences. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.</td>
</tr>
</tbody>
</table>
Public Health: Environmental Health Sciences 429

7325 Advanced Toxicology  G 3
Disruption of biological systems by chemical agents; discussion of categories of chemical
toxicants, modes of exposure, human health effects, experimental toxicology and
epidemiology. Prereq: 5315. Not open to students with credit for 733.

7330 Principles of Exposure Assessment  G 3
Introduction to concepts of routes of exposure, intake, uptake, dose, exposure modeling and
data collection. Focus is on exposure assessment in environmental and occupational
epidemiology. Prereq: Not open to students with credit for 832.

7340 Environmental Law and Policy for Public Health  G 3
Basic concepts of environmental law and policy relevant to public health practice.
Prereq: Not open to students with credit for 736.

7345 Principles of Environmental Health Management  G 3
Survey of major environmental factors affecting human health, including air, water, and
land pollution, occupational hazards, heavy metals, chemical carcinogens, radiation and noise.
Prereq: Not open to students with credit for 741.

7350 Special Topics in Environmental Health Sciences  G 1 - 3
Opportunity for students to pursue a particular environmental health interest that is not
available through existing topical offerings. Repeatable to a maximum of 12 or hrs or 4 completions.
This course is graded S/U.

7360 Water Contamination: Sources and Health Impact  G 3
Topics focus on understanding the sources, the transport mechanisms and the fate of
microbial and chemical contaminants in water, human exposure risks, tracking methods,
linking to other environmental matrices and the public health impacts. Prereq: Not open to students with credit for 729.

7365 Principles of Risk Assessment  G 3
Introductory course that includes discussion of a variety of topics in human exposure and
related risk assessment. Prereq: Not open to students with credit for 831.

7370 Human Health Risk Assessment of Microbial Agents  G 3
Epidemiology of water-related infectious diseases; determining linkages between water
characteristics and human health in the global context; disease burden attributable to water
supply, sanitation, and hygiene development; assessing human risks. Prereq: Not open to students with credit for 735.

7380 Exposure Science Monitoring Techniques  G 3
Environmental health science is a multidiscipline profession focusing mainly on public
(human) health issues related to food/water/beverage sanitation, and water, air and land
contamination and pollution. Emphasis on the principles and practices of human exposure
monitoring of contaminants in air, water, soil, and food including field sampling, analytical
instrumentation, and methods.

7390 Major Human Diseases in Global Public Health  G 3
Public health is focused on preventing illnesses and injuries or intervening to decrease the
impact to populations of people. Emphasize on basic physiology, pathophysiology, and
clinical evaluation of major human diseases that have significant global public health impact
epidemiologically, politically, and economically with a focus on disease causes and prevention.

7899 Seminar in Environmental Health Sciences  G 1 - 3
Seminar on topics that are relevant to students enrolled in programs in the division of
environmental health sciences. Repeatable to a maximum of 9 or hrs or 9 completions. This course is graded S/U.

8340 Molecular Techniques for Environmental Health Sciences  G 3
Practical introduction to molecular techniques, as applied to research in environmental health
sciences. Prereq: Not open to students with credit for 835.

8899 Doctoral Seminar in Environmental Health Sciences  G 1 - 3
Doctoral level seminar on topics that are relevant to students enrolled in the PhD program in
health environmental health sciences. Repeatable to a maximum of 9 or hrs or 9 completions. This course is graded S/U.

Public Health: Epidemiology

2410 Introduction to Epidemiology  U 3
Introduction to the study of public health; history, methods, applications, and issues in
epidemiology.

3410H Honors Case Studies in Public Health  U 3
This is an advanced undergraduate course in epidemiology that is designed for Honors
students in Public Health or a related field. Students will learn about how epidemiology is used
in the field of Public Health through a case study approach. Prereq: Honors standing, and 2410.

5411 Outbreak Investigations  U G 3
Principles and practice of field epidemiology, including outbreak investigation and disease
surveillance. Prereq: 2410, or permission of instructor. Not open to students with credit for 615.

5412 Infectious Diseases in the Developing World  U G 2
Introduction to the study of infectious diseases in the developing world. Recommended: 2410.
Prereq: Not open to students with credit for 718.

5420 Infectious Disease Modeling in Humans and Animals  U G 3
Provides an introduction to computer models of infectious diseases and their applications. It
includes lecture and laboratory and focuses on applications rather than mathematical theory.
Prereq: Jr or Sr standing, or Grad standing; or permission of instructor.

5421 Mathematics of Infectious Disease Dynamics  U G 3
Provides an introduction to mathematical modeling of infectious diseases, including
methods and their application to selected acute and chronic health problems. For
experienced health professionals. Prereq: Enrollment in MPH-PEP program, or permission of instructor. Not open to students with credit for 6410 and 6420.

5438 Cardiovascular Disease Epidemiology  U G 3
Introduction to the epidemiology of cardiovascular disease; risk factors, specific diseases,
diagnostic procedures; review of classic and current studies. Prereq: 2410, 6410, or 6430; or permission of instructor. Not open to students with credit for 817.

6400 Epidemiology for Experienced Health Professionals  G 3
Introduction to the nature and scope of epidemiology; survey of basic epidemiological
methods and their application to selected acute and chronic health problems. For
experienced health professionals. Prereq: Enrollment in MPH-PEP program, or permission of instructor. Not open to students with credit for 6410 and 6420.

6401 Health Data Sources and Uses  G 3
Study of compilation of health and health-related data and their utilization; local, state,
regional, and national surveys; and life tables and community health indices. Prereq: 8460, or permission of instructor. Not open to students with credit for 803.

6410 Principles of Epidemiology  G 3
Introduction to the nature and scope of epidemiology; survey of basic epidemiological
methods and their application to selected acute and chronic health problems. For non-majors.
Prereq: Not open to students with credit for 6430.

6411 Biological Basis of Public Health  G 3
Molecular and epidemiologic evidence of biological mechanisms in major diseases of concern
for public health. Prereq: Grad standing in Public Health, or permission of instructor. Not open to students with credit for 704.

6412 Basic Principles in Clinical and Translational Science  G 2
Identification of clinical and translational research issues, assessment of the literature,
ethically responsible research, cross-disciplinary training and mentoring. Prereq: Enrollment in MPH-CTS program, or permission of instructor. Repeatable to a maximum of 2 completions. This course is graded S/U.

6413 Conducting and Communicating Research in Clinical and
Translational Science
Design and writing of protocol, study methods and implementation, community engagement,
informatics, translational teamwork. Scientific communication skills and dissemination of
clinical and translational science. Prereq: Enrollment in MPH-CTS program, or permission of instructor. Repeatable to a maximum of 2 completions. This course is graded S/U.

6414 Scientific Writing for Biomedical and Clinical Scientists  G 1
Writing for the peer-reviewed literature in clinical and translational science. Prereq: Enrollment in CTS MPH program, or permission of instructor. Not open to students with credit for 855.

6415 Nutrition in Public Health  G 3
Relationships between dietary intake and diseases affecting the public health. Prereq: 6410 or 6430, or permission of instructor.

6430 Epidemiology I  G 4
Introduction to the nature and scope of epidemiology; survey of basic epidemiological
methods and their application to selected acute and chronic health problems. Lecture and
laboratory sessions. Prereq: Enrollment in MPH-Epidemiology, or any Public Health MS or PhD program, or permission of instructor. Not open to students with credit for 710.

6431 Design and Implementation of Health Surveys  G 3
Introduction to health survey methods, with public health applications. Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 705.

6432 Epidemiology II  G 4
Epidemiology II is a continuation of Epidemiology I. The course focuses on advanced
epidemiologic techniques, including case-control studies, cohort studies, and survival
analysis. Prereq: Enrollment in MPH-Epidemiology, or any Public Health MS or PhD program, or permission of instructor. Not open to students with credit for 710.

6433 Disease Surveillance  G 3
Introduction to the principles and practice of disease surveillance, including data collection,
monitoring of disease outbreaks, and analysis of surveillance data. Prereq: Enrollment in
MPH-Epidemiology, or any Public Health MS or PhD program, or permission of instructor. Not open to students with credit for 710.

6434 Preventive Medicine I  G 3
Introduction to the principles and practice of preventive medicine, including primary,
secondary, and tertiary prevention strategies. Prereq: Enrollment in MPH-Epidemiology, or
any Public Health MS or PhD program, or permission of instructor. Not open to students with credit for 710.

6435 Prevention and Control of Infectious Diseases  G 3
Introduction to the principles and practice of prevention and control of infectious
diseases, including disease outbreak investigation, public health response strategies,
and disease control measures. Prereq: Enrollment in MPH-Epidemiology, or any Public
Health MS or PhD program, or permission of instructor. Not open to students with credit for 710.

6436 Molecular Epidemiology  G 3
Introduction to the principles and practice of molecular epidemiology, including genetic
and molecular markers in disease etiology. Prereq: Enrollment in MPH-Epidemiology, or any Public
Health MS or PhD program, or permission of instructor. Not open to students with credit for 710.

6437 Introduction to Environmental Epidemiology  G 3
Introduction to the principles and practice of environmental epidemiology, including
environmental health sciences, exposure assessment, and disease evaluation. Prereq: Enrollment in
MPH-Epidemiology, or any Public Health MS or PhD program, or permission of instructor. Not open to students with credit for 710.

6438 Introduction to Global Health Epidemiology  G 3
Introduction to the principles and practice of global health epidemiology, including
international disease control, global health policies, and global health programs. Prereq: Enrollment in MPH-Epidemiology, or any Public Health MS or PhD program, or permission of instructor. Not open to students with credit for 710.

6439 Introduction to Human Population Health  G 3
Introduction to the principles and practice of human population health, including
population health indicators, population health trends, and population health disparities. Prereq: Enrollment in MPH-Epidemiology, or any Public Health MS or PhD program, or permission of instructor. Not open to students with credit for 710.

6440 Scientific Writing for Biomedical and Clinical Scientists  G 1
Writing for the peer-reviewed literature in clinical and translational science. Prereq: Enrollment in CTS MPH program, or permission of instructor. Not open to students with credit for 855.
430 Public Health: Epidemiology

6432 Injury Epidemiology G 2
Introduction to injury epidemiology; historical context, trends, research methods and issues; survey of areas of injury epidemiology and prevention. Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 714.

6433 Psychiatric Epidemiology G 2
Epidemiology of mental health disorders and the methods used in the field of psychiatric epidemiology. Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 716.

6434 Tuberculosis: A Public Health Issue G 1
Epidemiology of tuberculosis in the United States and internationally. Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 717.

6435 Chronic Disease Epidemiology G 3
Survey of the epidemiology of chronic diseases, including cancer, heart disease, stroke, diabetes mellitus, chronic obstructive pulmonary disease, and neurodegenerative diseases. Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 814.

6436 Infectious Disease Epidemiology G 3
Introduction to the epidemiology of infectious diseases, with focus on basic methods for investigation, control, and prevention of communicable disease. Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 815.

6437 Cancer Epidemiology G 3
Epidemiology of cancer, including etiology, risk factors, neoplastic processes, screening, control, application of statistical methods, molecular genetic basis of carcinogenesis. Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 816.

6439 Genetic Epidemiology G 3
Genetic factors, disease, and public health. Prereq: 6410 or 6430, or permission of instructor.

6440 Reproductive and Perinatal Epidemiology G 3
Epidemiology of reproductive and perinatal health and methodologic challenges unique to this area. Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 820.

6441 Women's Health Issues G 3
Overview of issues related to women's health from epidemiological and behavioral perspectives. Prereq: 6410 or 6430, or permission of instructor. Not open to students with credit for 818.

7193 Individual Studies in Epidemiology G 1 - 4
Individual Studies in Epidemiology. Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs. This course is graded S/U.

7194 Group Studies in Epidemiology G 1 - 3
Group Studies in Epidemiology. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

7410 Epidemiology II G 4
Design of epidemiologic studies including cross-sectional studies, case-control studies, cohort studies, clinical trials, and group-randomized trials. Prereq: 6430, or permission of instructor. Not open to students with credit for 711.

7411 Epidemiology in Environmental Health G 3
Principles and application of epidemiologic methods in the investigation and control of health problems stemming from environmental hazards. Prereq: 7410, or permission of instructor. Not open to students with credit for 713.

7412 Principles and Procedures for Human Clinical Trials G 3
Principles and procedures for clinical professionals in the design, conduct and analysis of human clinical trials. Prereq: 7410 and PubHBio 6211, or permission of instructor. Not open to students with credit for 715.

7413 Molecular Epidemiology of Cancer G 3
Introduction to the molecular biology underlying cancer and the molecular alterations that initiate or promote the progression of cancer. Prereq: 6437, or permission of instructor. Not open to students with credit for 822.

7430 Epidemiology III G 4
Analysis and interpretation of data from case-control and cohort studies and from clinical trials. Prereq: 7410 and 6211, or permission of instructor. Not open to students with credit for 712.

7431 Epidemiologic Methods G 3
Critique and justification for methods of designing, analyzing and interpreting epidemiological data; social, historical and philosophical foundations of epidemiologic methods. Prereq: 7430 and 6212, or permission of instructor. Not open to students with credit for 810.

7450 Topics in Epidemiology G 1 - 6
Regular class on topics that are relevant to students enrolled in programs in the Division of Epidemiology. Prereq: Enrollment in Public Health, Grad standing, and permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7830 Phytochemicals in Human Health: Crops to the Clinic G 3
Covers the function and control of phytochemicals in plants, the function of phytochemicals in human health, delivery of phytochemicals through foods in the diet, strategies when designing studies examining foods for health, and policy and sustainability considerations. Prereq: Biochem 4511 (511) or 5613 (813), or equiv; or permission of instructor. Not open to students with credit for FdScTe 7810. Cross-listed in FdScTe, HumnNtr, BSGP, and HCS.

7899 Seminar in Epidemiology G 1 - 3
Seminar on topics that are relevant to students enrolled in programs in the Division of Epidemiology. Prereq: Enrollment in Public Health, Grad standing, and permission of instructor. Not open to students with credit for 850. Repeatable to a maximum of 9 or hrs. This course is graded S/U.

7908 Culminating Project Seminar G 1
The goal of this course is to facilitate students through the process of developing their culminating project. By the end of the semester, it is expected that students will have submitted their culminating project proposals and literature reviews, culminating project approval form, and their application to the IRB and other review boards as needed. Prereq: Enrollment in MPH program in Epidemiology. This course is graded S/U.

8411 Epidemiology of Obesity G 3
Prevalence, trends, risk factors, measurement, outcomes and issues related to obesity; critical reading and discussion of research on epidemiology of obesity. Prereq: 7410 and PubHBio 6211, or permission of instructor. Not open to students with credit for 819.

8412 Design and Analysis of Group-Randomized Trials G 3
Methods for the design and analysis of group-randomized trials in public health research. Prereq: 7430 and PubHBio 6212, or equiv, or permission of instructor. Not open to students with credit for 821.

8413 Molecular Epidemiology of Infectious Diseases G 3
Provides students with the knowledge and skills to study disease outbreaks in humans and animals using molecular biology techniques. Recommended basic knowledge of infectious diseases and molecular biology.

Prereq: Permission of instructor. Not open to students with credit for VetPrev 700 or 724. Cross-listed in VetPrev 8700.

8430 Epidemiology IV G 1 - 4
Students will gain hands-on experience working with data from existing epidemiological studies. Through structured projects, students learn to develop appropriate research questions, and analyze, interpret, and present their results. Prereq: 7430 and PubHBio 6212, or permission of instructor.

8431 Grant Writing in Epidemiology G 2
Preparation of grant applications suitable for submission to the National Institutes of Health. Prereq: 7430, or permission of instructor.

8899.01 Doctoral Seminar in Epidemiology: Research Methods G 1 - 3
Seminar for doctoral students in epidemiology with a focus on critically reviewing research articles. Prereq: Enrollment in PhD program. Repeatable to a maximum of 9 or hrs or 9 completions. This course is graded S/U.

8899.02 Doctoral Seminar in Epidemiology: Teaching Methods G 2
Seminar for doctoral students in epidemiology with a focus on teaching methods. Prereq: Enrollment in PhD program. Not open to students with credit for 875. This course is graded S/U.

8899.03 Introductory Doctoral Seminar in Epidemiology G 1
Designed for PhD students in the Division of Epidemiology. During the course of two semesters, students will be introduced to the faculty in Epidemiology and learn about their research programs and read important papers in the field of Epidemiology. Through these activities, students will be introduced to the philosophy and practice of epidemiology.

Prereq: Enrollment in Public Health PhD program. Repeatable to a maximum of 2 or hrs. This course is graded S/U.

Public Health: Health Behavior & Health Promotion

3510 Role of Behavior in Public Health U 3
Introduction to concepts of health behavior and its role in public health; social determinants of health; applications to selected community health problems and issues.

6510 Preventing Disease and Promoting Health through Behavioral Science G 3
Examination of behavioral and social science concepts as the basis for public health practice; topics include transferring knowledge, motivating and aiding behavior change efforts, and working with the community.

Prereq: Grad standing, and enrollment in Public Health program. Not open to students with credit for 720.

7193 Individual studies in health behavior and health promotion G 1 - 4
Individually designed study of selected topics in health behavior and health promotion. Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 16 completions. This course is graded S/U.
Models of community health assessment; skills in identifying, analyzing and integrating information concerning community resources and needs.

Planning and implementation of programs to address public health issues in defined populations; development of a health promotion program for a specific community partner.

Planning of professional practice settings and expectations for health promotion; application of health promotion theories and perspectives to community problems.

Examination of evaluation models for public health programs; exploration of philosophical and scientific issues in evaluation; and skill building in both qualitative and quantitative evaluation methods.

Social science research methods emphasizing methods used to assess the dimensions of health-relevant behaviors and community-based prevention research.

Critical characteristics of principal settings in which health promotion interventions occur and populations to which they apply such as youth, elderly, racial and ethnic minorities.

Presents the ideas that population health is determined by factors outside of health care and individual behavior occurs within a social context.

Regular class on topics that are relevant to students enrolled in programs in the Division of Health Behavior and Health Promotion.

History of substance abuse prevention efforts; theoretical foundations and elements of successful programs.

Overview of behavioral issues associated with cancer at the individual and community levels.

Community health promotion strategies using policy, systems, and environmental change perspectives.

Directed service learning group project in partnership with a public health agency.

Major theories drawn from social and behavioral science literature, pertinent to understanding and addressing problems in health behavior.

Focuses on the health of adolescents in the United States. Emphasis is on examining health and risk behaviors from developmental & contextual perspectives with reference to policies and programs for preventing health problems and promoting the well-being of this population.

The purpose of the culminating project is to provide students with the opportunity to integrate and synthesize knowledge and experience obtained during their academic course of study. Most culminating projects focus on: (A) Community assessment; (B) Program planning and implementation; (C) Program evaluation or (D) Other projects as approved by your advisor.

In-depth examination of theories pertinent to health behavior including history and critique of theoretical approaches.

Seminar concerning academic and professional development topics not otherwise available in the curriculum.

Introduction to the history, organization and politics of the global health care system, critical review of selected issues using different analytic frameworks.

This participatory interdisciplinary seminar course will provide a broad perspective to those interested in various aspects of the delivery of primary care services. Specifically, the course will explore why access to high quality, consistent, and comprehensive primary care is central to achieving Health for All.

Analysis of arrangements for the organization, financing, and delivery of health care services.

Analysis of arrangements for the organization, financing, and delivery of health care services.

Study of individually designed topics not otherwise available in the curriculum. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

Continuation of PubHHMP 6611, with emphasis on financing of health care.

An in-depth examination of topics pertinent to health behavior including history and critique of theoretical approaches.

Seminar focusing on the history, organization and politics of the global health care system, critical review of selected issues using different analytic frameworks.

Introduction to public health professionals, the community, the relevant health care delivery system, and the role of the community in health care delivery.

An introduction to the history, organization and politics of the global health care system, critical review of selected issues using different analytic frameworks.

Analysis of arrangements for the organization, financing, and delivery of health care services.

Group studies of special topics within health services management and policy. Repeatable to a maximum of 9 cr hrs or 6 completions. This course is graded S/U.

Continuation of PubHHMP 6611, with emphasis on financing of health care.

Applications of microeconomic analysis to the health services industry, with emphasis on the market structure and managerial decisions.

Microeconomic principles of consumer demand with applications to health care use; role of uncertainty and health insurance.

Repeatable to a maximum of 2 cr hrs. This course is graded S/U.
7604 Economics of Health Care II G 3
Microeconomic principles of supply with applications to the provision of health care services; market place for nurses and physicians; assessment of the competitive model. Prereq: 7602, or permission of instructor. Not open to students with credit for 804.

7605 Introduction to Health Policy G 3
Introduction to public policy concepts and processes as they apply to the organization, financing, and delivery of health services. Prereq: 6611, or permission of instructor. Not open to students with credit for 805.

7606 Applied Health Policy G 3
Introduction to public policy concepts and processes as they apply to the organization, financing, and delivery of health services. Prereq: 6609, or permission of instructor. Not open to students with credit for 805.

7607 Financial Management of Public Health Programs G 3
Principles of accounting and finance applied to the management of public health agencies and programs. Prereq: An introductory accounting course, and enrollment in MPH Program; or permission of instructor. Not open to students with credit for 823.

7610 Public Health Law G 3
The course will focus on the use of legal tools to improve the public's health. The course will survey the legal framework in which the government may regulate the public's health, addressing issues including the origins and scope of public health authority, constitutional limits on public health powers, emergency legal preparedness, and public health tort litigation. Cross-listed in Law 9810.

7611 Law & Ethics in Health Care G 3
Law as it affects health care, including malpractice, licensure, professional and business relationships, and legal-ethical decisions. Prereq: Grad standing in PubHHMP, or permission of instructor. Not open to students with credit for 811.

7612 FDA Law and Policy G 3
This course explores legal, policy and public health issues related to products regulated by the U.S. Food and Drug Administration. We will critically examine the regulatory framework for food, drugs, biologics, vaccines, medical devices, and cosmetics. We will also consider the relationship between the regulatory framework and other laws, such as patent, antitrust, and products liability.

7615 Health Services Organizational Management G 3
Principles of organizational behavior and management applied to health services organizations; emphasis on professionalism, leadership, and unique problems of health care settings. Prereq: Grad standing in HSMP (MPH-HSMP, MHA) or MPH-PEP, or permission of instructor. Not open to students with credit for 815.

7617 Leadership in Health Care G 3
Overview of leadership in health care with an emphasis on theory, leadership development, and leadership styles. Prereq: Grad standing in PubHHMP, or permission of instructor. Not open to students with credit for 817.

7620 Health Services Finance I G 3
Principles of finance and accounting applied to health service organizations. Prereq: An introductory course in financial accounting, or permission of instructor. Not open to students with credit for 820.

7621 Health Services Finance II G 3
Continuation of 7620 emphasizing financial analysis, financial planning, and capital project analysis. Prereq: 7620, or permission of instructor. Not open to students with credit for 821.

7622 Health Services Financial Decision-Making G 3
Principles of financial decision-making in health service organizations, with emphasis on applications of decision support systems. Prereq: 7621, or permission of instructor. Not open to students with credit for 822.

7624 Health Economics for Experienced Professionals G 3
Designed for public health professionals who wish to enhance their knowledge of the economic principles that drive the health care system. The course will introduce you to the use of economic analysis and economic evaluation for healthcare decision making. Prereq: Not open to students with credit for 824.

7631 Strategic Management and Program Development G 3
Techniques and methods for strategic management and project planning in health care organizations and settings. Prereq: Enrollment in MHA program, or permission of instructor. Not open to students with credit for 831.

7640 Mental Health & Disability Policy G 3
Investigation of public policy in the area of mental health and disability and the politics that are the origin and result of these policies. Prereq: Not open to students with credit for 840.

7650 Advanced Topics in Health Services Management and Policy G 1 - 3
Seminar on issues and methods of inquiry in health services management and policy. Prereq: Enrollment in PhD program in Public Health, or permission of instructor. Not open to students with credit for 900. Repeatable to a maximum of 9 or hrs or 6 completions.

7670 Comparative Health Care Systems G 3
Examination of the process of health policy formulation and implementation from an international prospective. Prereq: Not open to students with credit for 870.01.

7672 Clinical Rotations G 1%
Individual assignments within health care organizations to observe operations. Prereq: Grad standing in PubHHMP, or permission of instructor. Not open to students with credit for 870.02.

7673 Understanding Health Care Organization Data G 1%
Application of data from various sources to inform decision making in health services settings and in health policy. Prereq: PubHHBio 6210, or permission of instructor. Not open to students with credit for 870.03.

7674 Ethical Cases in Health Care G 1%
Examination of ethical frameworks and their application to health services organizations and health policy. Prereq: Grad standing in PubHHMP, or permission of instructor. Not open to students with credit for 870.04.

7675 Human Resources Management in Health Care G 1%
Overview of human resources and its strategic importance to health care organizations. Prereq: Not open to students with credit for 870.05.

7676 Health Care Marketing G 1%
Overview of topics in marketing and communications and how they apply to health care delivery. Prereq: Not open to students with credit for 870.06.

7678 Approaches to Health Services Research G 3
Overview of the field of health services research and the role of health services research in improving health care delivery. Prereq: PubHHBio 6210 and PubHHBio 6410, or permission of instructor. Not open to students with credit for 871.

7679 Quality & Patient Safety G 1%
Examination of quality management and quality measurement in health care with emphasis on patient safety. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.

7680 Operations Management for Health Service Organizations G 3
Concepts and techniques for managing operations in health service organizations; emphasis on management perspective and decision-making. Prereq: Grad standing in PubHHMP, or permission of instructor. Not open to students with credit for 893.

7681 Advanced Health Services Operations Management G 3
Selected topics in health services operations management, such as operations strategy, quality management, process design, materials management, and facility location. Prereq: 7680, or permission of instructor. Not open to students with credit for 881.

7682 Information Systems for Health Services Organizations G 3
Information systems concepts, issues, and challenges for health services organizations; managerial analysis of information and information technology as organizational assets. Prereq: 7680, or permission of instructor. Not open to students with credit for 882.

7686 Seminar in Health Services Management and Policy G 1 - 3
Small group seminar with focus on integrative projects in health services management and policy. Prereq: Grad standing in PubHHMP, or permission of instructor. Repeatable to a maximum of 4 cr hrs or 2 completions.

8671 Health Care Outcomes Measurement G 2
Evaluation of specific techniques for measuring outcomes in clinical and health services research studies. Prereq: Grad standing in PubHHMP, or permission of instructor.

8672 Advanced Topics in Health Policy G 4
Designed for doctoral and advanced masters students in the College of Public Health and other OSU colleges. It will provide students with a solid background of high-level policy scholarship on topics fundamental to the health care system. Prereq: 7605 or 7640, or permission of instructor.

8899 Doctoral Seminar in Health Services Management and Policy G 1 - 2
Doctoral level seminar on topics that are relevant to students enrolled in the PhD program in health services management and policy. Prereq: Grad standing in Public Health, or permission of instructor. Repeatable to a maximum of 9 or hrs or 6 completions. This course is graded S/U.
Quechua 433

Quechua

5501.01 Beginning Quechua I: Classroom U G 4
Quechua 5501.01 (501) is a beginning language course for students with no previous study experience in Quechua. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru.
Prereq: Not open to students with credit for 5501.51 or 501 or to native speakers. This course is available for EM credit. GE for lang course. FL Admis Cond course.

5501.51 Beginning Quechua I: Individualized Instruction U G 1 - 4
Quechua 5501.51 (501) is a beginning language course for students with no previous study experience in Quechua. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru.
Prereq: Not open to students with credit for 5501.51 (501) or to native speakers. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

5502.01 Beginning Quechua II: Classroom U G 4
For students who have taken Quechua 5501.01 (501) or who have previous basic knowledge of Quechua at the beginning level. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru. Prereq: 5501.01 (501), or 4 cr hrs of 5501.51, or permission of instructor. Not open to students with credit for 5502.51 or 502 or to native speakers. This course is available for EM credit. GE for lang course. FL Admis Cond course.

5502.51 Beginning Quechua II: Individualized Instruction U G 1 - 4
For students who have taken Quechua 5501.01 or 5501.51 (501) or who have previous basic knowledge of Quechua at the beginning level. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru.
Prereq: 5501.01 (501) or 4 cr hrs of 5501.51, or permission of instructor. Not open to students with credit for 5502.51 (502) or to native speakers. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

5503.01 Intermediate Quechua I: Classroom U G 4
For students who have taken Quechua 5502 (502) or who have previous basic knowledge of Quechua at the beginning/intermediate level. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru. Prereq: 5502.01 (502), or 4 cr hrs of 5502.51, or permission of instructor. Not open to students with credit for 5503.51 or 503 or to native speakers. This course is available for EM credit. GE for lang course. FL Admis Cond course.

5503.51 Intermediate Quechua I: Individualized Instruction U G 1 - 4
For students who have taken Quechua 5502 (502) or who have previous basic knowledge of Quechua at the beginning/intermediate level. This course will be comprehensive, integrating culture and language from the southern Quechua family spoken in Peru. Prereq: 5502.01 (502), or 4 cr hrs of 5502.51, or permission of instructor. Not open to students with credit for 5503.51 (503) or to native speakers. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. GE for lang course. FL Admis Cond course.

5504.01 Intermediate Quechua II: Classroom U G 4
Quechua 5504.01 (504) is an intermediate language course intended for students with experience in Quechua. The variety taught will be from the southern Quechua family spoken in Bolivia and Peru. Closed to native speakers of this language.
Prereq: 5503.01 (503), or 4 cr hrs of 5503.51, or permission of instructor. Not open to students with credit for 5504.51. This course is available for EM credit. FL Admis Cond course.

5504.51 Intermediate Quechua II: Individualized Instruction U G 1 - 4
Quechua 5504.51 is an intermediate language course intended for students with experience in Quechua. The variety taught will be from the southern Quechua family spoken in Bolivia and Peru. Closed to native speakers of this language.
Prereq: 5503.01 (503), or 4 cr hrs of 5503.51, or permission of instructor. Not open to students with credit for 5504.51. Repeatable to a maximum of 4 cr hrs or 4 completions. This course is available for EM credit. FL Admis Cond course.

5505.01 Advanced Quechua I: Classroom U G 3
Quechua 5505.01 is an advanced language course intended for students with experience in Quechua. This course is comprehensive, integrating culture and language. It will be useful for students that want to travel to the Andean countries or who have an interest in studying Quechua language, culture and society. The variety taught is from the southern Quechua family spoken in Bolivia and Peru.
Prereq: 5505.01, or permission of instructor. FL Admis Cond course.

5506.01 Advanced Quechua II: Classroom U G 3
Quechua 5506.01 is an advanced language course intended for students with experience in Quechua. This course is comprehensive, integrating culture and language. It will be useful for students that want to travel to the Andean countries or who have an interest in studying Quechua language, culture and society. The variety taught is from the southern Quechua family spoken in Bolivia and Peru.
Prereq: 5505.01, or permission of instructor. FL Admis Cond course.

Radiologic Sciences and Therapy

3089 Radiography Practicum I U 1 - 10
Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology. A direct field experience will provide the student with 16-24 hours of clinical experience in imaging departments of a clinical affiliate.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 440.01, 440.02, 440.03, and RadTech 440. Repeatable to a maximum of 10 or hrs or 2 completions. This course is available for EM credit.

3189 Radiation Practicum II U 1 - 10
Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology. A direct field experience will provide the student with 16-24 hours of clinical experience in imaging departments of a clinical affiliate.
Prereq: 3089, and acceptance to the Radiography program.

3200 Evidence Based Practice in the Radiologic Sciences U 2
Scientific writing within the Radiologic Sciences and the review of practice guidelines that inform best clinical practices for imaging and treatment.
Prereq: English 1110.xx (110.xx), and credit for a second writing course. Not open to students with credit for 200. This course is available for EM credit.

3200E Evidence Based Practice in the Radiologic Sciences U 2
Scientific writing within the Radiologic Sciences and the review of practice guidelines that inform best clinical practices for imaging and treatment.
Prereq: Honors standing, and English 1110.xx (110.xx), and credit for a second writing course. Not open to students with credit for 200 or RadTech 200. This course is available for EM credit.

3289 Radiation Therapy Practicum I U 1 - 10
Clinical application of patient care, simulation and treatment procedures performed in Radiation Therapy. Emphasis is directed toward competently performing machine function and patient setup.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 310, 425, or RadTech 310. This course is available for EM credit.

3389 Radiation Therapy Practicum II U 1 - 10
Clinical application of patient care, simulation and treatment procedures performed in Radiation Therapy. Emphasis is directed toward competently performing machine function and patient setup.
Prereq: 3289, and enrollment in RadSci; or permission of instructor. Not open to students with credit for 441.02 or 441.03.

3411 Radiographic Procedures I U 3
Principles of radiography of the chest, bronchial tree, abdomen, alimentary tract, and appendicular skeleton, with application in the laboratory.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 411. This course is available for EM credit.

3411E Radiographic Procedures I U 3
Principles of radiography of the chest, bronchial tree, abdomen, alimentary tract, and appendicular skeleton, with application in the laboratory.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 411. This course is available for EM credit.

3412 Radiographic Procedures II U 3
Principles of radiography of the vertebral column, spinal canal, bony thorax, cerebral and visceral cranium, arthrography, urinary system, and reproductive systems.
Prereq: Enrollment in RadSci, and 411; or permission of instructor. This course is available for EM credit.

3412E Radiographic Procedures II U 3
Principles of radiography of the vertebral column, spinal canal, bony thorax, cerebral and visceral cranium, arthrography, urinary system, and reproductive systems.
Prereq: Enrollment in RadSci, and 411; or permission of instructor. Not open to students with credit for RadSci 411 or RadTech 411. This course is available for EM credit.

3414 Radiation Therapy Equipment and Instrumentation U 4
An introduction to the terminology, treatment charting, simulation, beam alignment, machine components, and the technical aspects of treatment in a clinical environment.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 414 and 415. This course is available for EM credit.

3425 Radiographic Imaging I U 3
Investigation of the principles of radiation production, radiation protection and radiologic image formation.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 425 or RadTech 425. This course is available for EM credit.
### Radiologic Sciences and Therapy

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credit Hours</th>
<th>Description and Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>3430</td>
<td>General Concentration in Sonography I</td>
<td>U 3</td>
<td>An introduction to the sonography profession with an emphasis on OB/GYN medical sonography. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 430. This course is available for EM credit.</td>
</tr>
<tr>
<td>3431</td>
<td>General Concentration in Sonography II</td>
<td>U 3</td>
<td>Provides content information about the use of sonography to image anatomy and pathology associated with the abdominal organs. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 431. This course is available for EM credit.</td>
</tr>
<tr>
<td>3471</td>
<td>Radiologic Physics</td>
<td>U 3</td>
<td>Investigation of the principles of radiographic, fluoroscopic, CT equipment; radioactivity; advanced radiation production, emission spectrum, and interaction with matter. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 471 or RadTech 471. This course is available for EM credit.</td>
</tr>
<tr>
<td>3483</td>
<td>Dosimetry Calculation</td>
<td>U 3</td>
<td>Principles of dosimetric calculations, terms and calculation variables are emphasized according to specific beam energies. Common dosimetry problems occurring during patient treatments are discussed. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 483. This course is available for EM credit.</td>
</tr>
<tr>
<td>3486</td>
<td>Diagnostic Medical Sonography Physics I</td>
<td>U 3</td>
<td>A practical application of the physics of ultrasound production. Emphasis is placed on instrumentation used in medical sonography. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 486. This course is available for EM credit.</td>
</tr>
<tr>
<td>3487</td>
<td>Diagnostic Medical Sonography Physics II</td>
<td>U 3</td>
<td>A continuation of Rad Sci 3486 with emphasis on the physics of ultrasound to better understand transducers and the interactions of sounds waves at every human interface. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 487. This course is available for EM credit.</td>
</tr>
<tr>
<td>3489</td>
<td>Diagnostic Medical Sonography Practicum I</td>
<td>U 1 - 8</td>
<td>Instruction and experience in the performance and interpretation of sonographic images. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 442.01 and 442.02. Repeatable to a maximum of 16 cr hrs or 2 completions. This course is available for EM credit.</td>
</tr>
<tr>
<td>3573</td>
<td>Applied Radiation Oncology I</td>
<td>U 3</td>
<td>Introduction to neoplastic disease including incidence, mortality, epidemiology, etiology, detection, prevention, risk, stage and grading. Emphasis on radiation treatment positioning, fields, and doses of disease sites. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 595 and 573. This course is available for EM credit.</td>
</tr>
<tr>
<td>3574</td>
<td>Applied Radiation Oncology II</td>
<td>U 3</td>
<td>A continuation of RadSci 3573 with an emphasis on radiation treatment positioning, fields, and doses of neoplastic disease sites. Prereq: 3573. Not open to students with credit for 416 or 574.</td>
</tr>
<tr>
<td>3589</td>
<td>Diagnostic Medical Sonography Practicum II</td>
<td>U 1 - 8</td>
<td>Instruction and experience in the performance and interpretation of sonographic images. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 442.02 and 442.03. Repeatable to a maximum of 16 cr hrs or 2 completions. This course is available for EM credit.</td>
</tr>
<tr>
<td>3672</td>
<td>Radiologic Sectional Anatomy</td>
<td>U 3</td>
<td>Identification of anatomic structures as seen in cadaver, CT, MR, and sonographic from multiple orientations, to include volumetric 3-D anatomical imaging. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 672 and RadTech 672. This course is available for EM credit.</td>
</tr>
<tr>
<td>3689</td>
<td>Sonography Practicum III</td>
<td>U 1 - 10</td>
<td>Instruction and experience in the performance and interpretation of sonographic images. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 442.02 and 442.03. Repeatable to a maximum of 16 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>3890</td>
<td>Seminar in the Radiologic Sciences I</td>
<td>U 1 - 5</td>
<td>Conferences, group discussions, and presentations of selected topics. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 595 and RadTech 595. Repeatable to a maximum of 15 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>4089</td>
<td>Radiography Practicum III</td>
<td>U 1 - 10</td>
<td>Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology. A direct field experience will provide the student with 32 hours of clinical experience per week in imaging departments of a clinical affiliate. Prereq: 3089, and permission of instructor. Not open to students with credit for 540.01, 540.02, 540.03, 540.04, 540.05, and RadTech 540. Repeatable to a maximum of 15 cr hrs or 2 completions. This course is available for EM credit.</td>
</tr>
<tr>
<td>4189</td>
<td>Radiography Practicum IV</td>
<td>U 1 - 10</td>
<td>Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology. A direct field experience will provide the student with 16-24 hours of clinical experience per week in imaging departments of a clinical affiliate. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 540.01, 540.02, 540.03, 540.04, 540.05 or RadTech 540. Repeatable to a maximum of 15 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>4193</td>
<td>Individual Studies in Radiation Sciences</td>
<td>U 1 - 4</td>
<td>Individual study courses and projects pertinent to the radiation sciences. Prereq: Enrollment in RadSci, or permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4289</td>
<td>Radiography Practicum V</td>
<td>U 1 - 10</td>
<td>Clinical application of diagnostic radiographic and fluoroscopic imaging performed in radiology. A direct field experience will provide the student with 16-24 hours of clinical experience per week in imaging departments of a clinical affiliate. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 540.01, 540.02, 540.03, 540.04, 540.05, or RadTech 540. Repeatable to a maximum of 15 cr hrs or 2 completions.</td>
</tr>
<tr>
<td>4389</td>
<td>Radiation Therapy Practicum III</td>
<td>U 1 - 10</td>
<td>Clinical application of patient care, simulation, treatment and brachytherapy procedures performed in Radiation Therapy. Emphasis is directed toward machine function, patient set up and variation in procedures. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 426 or RadTech 426. This course is available for EM credit.</td>
</tr>
<tr>
<td>4426</td>
<td>Radiographic Imaging II</td>
<td>U 3</td>
<td>Advanced radiologic image formation, image assessment, and radiographic quality management and testing. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 426 or RadTech 426. This course is available for EM credit.</td>
</tr>
<tr>
<td>4432</td>
<td>General Concentration in Sonography 3</td>
<td>U 3</td>
<td>Focuses on the use of medical sonography to image anatomy and pathology associated with the neck, breast, scrotum, extremities and neonatal cranial structures. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 432. This course is available for EM credit.</td>
</tr>
<tr>
<td>4478</td>
<td>Radiation Therapy Physics I</td>
<td>U 3</td>
<td>Analysis of atomic structure, production, modes of radioactive decay and calculation of source activity. Fundamental applications of brachytherapy implants as it relates to specific source handling, treatment techniques, and treatment planning. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 441.</td>
</tr>
<tr>
<td>4482</td>
<td>Radiation Therapy Physics II</td>
<td>U 3</td>
<td>An analysis of interaction and measurement of ionizing radiation in radiation therapy. Concepts include beam quality, measurement of absorbed dose, dose distribution, scatter analysis and electron beam radiation therapy. Prereq: 3471, and enrollment in RadSci; or permission of instructor. Not open to students with credit for 432. This course is available for EM credit.</td>
</tr>
<tr>
<td>4485</td>
<td>Treatment Planning</td>
<td>U 2</td>
<td>Analysis and implementation of new and established treatment methods as it relates to the treatment plans designed for optimal coverage of the tumor volumes, avoidance of critical structures and constraints of the treatment units. Prereq: Enrollment in RadSci and 3483, or permission of instructor. Not open to students with credit for 485. This course is available for EM credit.</td>
</tr>
<tr>
<td>4488</td>
<td>Diagnostic Medical Sonography Physics 3</td>
<td>U 3</td>
<td>A continuation of Rad Sci 3487 with emphasis on the physics of spectral Doppler, color Doppler, and total quality management with practical application to sonography. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 488. This course is available for EM credit.</td>
</tr>
<tr>
<td>4489</td>
<td>Radiation Therapy Practicum IV</td>
<td>U 1 - 10</td>
<td>Clinical application of patient care, simulation, treatment, brachytherapy and treatment planning procedures performed in Radiation Therapy. Emphasis is directed toward machine function, patient set up and variation in procedures. Prereq: Enrollment in RadSci, 3289, and 3389, or permission of instructor. Not open to students with credit for 481.</td>
</tr>
<tr>
<td>4520</td>
<td>Vascular Sonography</td>
<td>U 3</td>
<td>An introduction to venous imaging and noninvasive testing of the upper and lower extremities and the vascular integration of transplanted organs. Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 520. This course is available for EM credit.</td>
</tr>
</tbody>
</table>
4521 Vascular Sonography 2 
An introduction to arterial imaging and noninvasive testing of the upper and lower extremities and vascular integration of the cardioloic arteries, and bypass grafts.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 521 and 522. This course is available for EM credit.

4530 Quality Management in Radiologic Sciences
Investigation of QM principles and techniques specific to the imaging sciences including modality specific quality control testing and national/state requirements.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 530 or RadTech 530. This course is available for EM credit.

4589 Radiation Therapy Practicum V 
Clinical application of patient care, simulation, treatment, and treatment planning procedures performed in Radiation Therapy. Emphasis is directed toward competence in machine function, patient set up, plan changes and variations in procedures.
Prereq: 3289, 3389, 4389, and 4489, and admission to Radiologic Sciences and Therapy Division; or permission of instructor. Not open to students with credit for 541.04 or 541.05.

4615 Radiographic Clinical Correlations 
The fundamentals of radiologic diagnosis are explored with an emphasis on the correlations of the patient's medical history with radiographic findings.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 615 or RadTech 615. This course is available for EM credit.

4615E Radiographic Clinical Correlations 
The fundamentals of radiographic diagnosis are explored with an emphasis on the correlations of the patient's medical history with radiographic findings.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 615 or RadTech 615. This course is available for EM credit.

4618 Clinical Radiation Oncology 
Pathology of neoplastic diseases of the human body emphasizing epidemiology, clinical presentation, detection and diagnosis, staging and treatment of the neoplasm relevant to radiation oncology.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 618. This course is available for EM credit.

4630 Transitions to Clinical Practice 
Provides the practical skills necessary to apply radiation science theory in clinical practice and prepares students for the transition to professional in the imaging science workplace.
Prereq: Enrollment in RadSci, or permission of instructor.

4670 Radiobiology and Radiation Protection 
Principles of cellular biology and the reactions from types of ionizing radiation specific to radiation sciences. Emphasis is on effects from radiation exposure, radiation safety and the radiation protection standards utilized in radiation sciences.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 670, 671, or RadTech 670. This course is available for EM credit.

4689 Vascular Sonography Practicum I 
Instruction and experience in the performance and interpretation of vascular sonographic imaging.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 542.04 or 542.05. Repeatable to a maximum of 16 cr hrs or 2 completions. This course is available for EM credit.

4789 Vascular Sonography Practicum II 
Instruction and experience in the performance and interpretation of vascular sonographic imaging.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 542.03 and 542.04. Repeatable to a maximum of 16 cr hrs or 2 completions. This course is available for EM credit.

4889 Vascular Sonography Practicum III 
Instruction and experience in the performance and interpretation of vascular sonographic imaging.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 542.04 and 542.05. Repeatable to a maximum of 16 cr hrs or 2 completions. This course is available for EM credit.

4890 Seminar in Radiation Sciences II 
Conferences, group discussions, and presentations of selected topics.
Prereq: Admission to the Radiologic Sciences and Therapy Program, or permission of instructor. Not open to students with credit for 595 or RadTech 595. Repeatable to a maximum of 15 hr hrs or 3 completions.

5089 Computed Tomography Practicum 
Advanced operation, and application of CT technology, to include quality management, sectional anatomy, and supervised clinical practicum.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 550.42 or RadTech 550.42. Repeatable to a maximum of 16 cr hrs or 4 completions. This course is available for EM credit.

5189 Magnetic Resonance Practicum
Theory and clinical education in magnetic resonance imaging procedures.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 550.60 or RadTech 550.60. Repeatable to a maximum of 16 cr hrs or 4 completions.

5289 Mammography/Breast Imaging Practicum 
An introduction to scientific writing within the Radiologic Sciences and the review of practice guidelines that inform best clinical practices for imaging and treatment. Repeatable to a maximum of 16 cr hrs or 4 completions.

5389 Administration and Quality Management Practicum
A supervised practicum in radiologic sciences administration and quality management.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 550.80, 550.81, or 550.82. Repeatable to a maximum of 16 cr hrs or 4 completions.

5409 Rad Sci Education Practicum 
A supervised practicum in radiologic sciences education.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 550.98. Repeatable to a maximum of 16 cr hrs or 4 completions.

5489 Vascular Interventional Radiography Practicum 
Theory and clinical education in interventional procedures related to vascular structures and organ systems.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for 550.41, or RadTech 590 or 550.41. Repeatable to a maximum of 16 cr hrs or 4 completions.

8188 Radiologist Assistant Procedures and Instrumentation
Orientation to instrumentation and equipment required to conduct advanced practice of radiologic examinations and procedures.
Prereq: Enrollment in RadSci, or permission of instructor. Not open to students with credit for AIMed 795. This course is graded S/U.

8189 Radiologist Assistant Practicum
Students actively engage in the performance and analysis of various radiologic examinations and procedures.
Prereq: Enrollment in SAMP Grad program, and Radiologist Assistant program, and completion of comprehensive examination. Repeatable to a maximum of 28 cr hrs. This course is graded S/U.

5680 Radiation Biology
Effect of ionizing radiation in biological systems at the molecular, cellular, organ, organism, and community levels with specific emphasis on medical implications and radiation safety.
Prereq: Permission of instructor.

6813 Magnetic Resonance Spectroscopy and Imaging I
Presentation of the basic principles of MRI/MRS, including basic MR physics, pulse sequences, adiabatic excitation, coil design, MR hardware, image formation, localized spectroscopy.
Prereq: Grad standing, or permission of instructor. Cross-listed in BiomedE 6113 and Biophys 8813.

7193.01 Individual Studies
Research in a basic science (under faculty supervision).
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.

7193.02 Individual Studies
Research in a basic science (under faculty supervision).
Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions. This course is graded S/U.

7193.10 Individual Studies in Radiobiology
Research in a basic science (under faculty supervision).
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 18 completions. This course is graded S/U.

7814 Magnetic Resonance Spectroscopy and Imaging II
Presentation of the basic principles of MRI/MRS including basic MR physics, pulse sequences, adiabatic excitation, coil design, MR hardware, image formation, localized spectroscopy.

7850 Seminars in Radiobiology
Prereq: Permission of instructor. This course is graded S/U.

7891 Interdisciplinary Seminar on Biomedical Images
Graduate seminar for Graduate Interdisciplinary specialization in Comprehensive engineering and science of medical images.
Prereq: Grad standing. Repeatable to a maximum of 3 cr hrs. This course is graded S/U.
Radiology

8740 Clinical Radiology  G M 3
Analysis of various radiographic examinations and the opportunity to make presentations. Prereq: Permission of instructor. Repeatable to a maximum of 12 or hrs. This course is graded S/U.

8830 Molecular Basis of Mutagenesis and Carcinogenesis  G M 2
Nature and mechanism of carcinogen-DNA interaction; cellular processing of genomic alterations and role of genotoxic-induced premutagenic/precarcinogenic lesions in neoplasia. Prereq: BioChem 613, 614, 615 sequence, MBiochem 827, or Pharmacy 677; and Grad standing, or permission of instructor.

8850.09 Radiation Oncology Seminar  G 1
Selected topics of particular current interests in both research and applications of ionizing radiation in the treatment of cancer. Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs. This course is graded S/U.

8850.26 Physics of Radiation Therapy  G 1
Selected topics of interest in research and development of the methodology and technology of radiation treatment, planning, dosimetry and equipment. Prereq: Permission of instructor. Repeatable to a maximum of 10 or hrs. This course is graded S/U.

8999 Research in Radiology  G 1 - 12
Research for dissertation. Repeatable to a maximum of 12 or hrs or 15 completions. This course is graded S/U.

Religious Studies

2102.01 Literature and Religion  U 3
Study of relationships between religion and secular literature; analysis of religious and spiritual elements of literature and film of diverse cultures and historical periods. Prereq: English 1110 (110) or equiv. Not open to students with credit for 2102.01H, CompStd 2102.01 (202.01), or 2102.01H (202.01H). GE lit and diversity global studies course.

2102.01H Literature and Religion  U 3
Study of relationships between religion and secular literature; analysis of religious and spiritual elements of literature and film of diverse cultures and historical periods. Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 2102.01, CompStd 2102.01 (202.01), 2102.01H (202.01H). GE lit and diversity global studies course.

2102.02 Comparative Sacred Texts  U 3
Introduction to religious views of the universe, the supernatural, social organization, ethics, etc., through sacred texts (oral and written) of diverse cultures and historical periods. Prereq: English 1110 (110), or equiv. Not open to students with credit CompStd 2102.02 (202.02). GE lit and diversity global studies course.

2210 The Jewish Mystical Tradition  U 3
The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience. Prereq: English 1110 (110) or equiv. Not open to students with credit for 376, 2210H, CompStd 2210 (376), 2210H (376H), Hebrew 2210 (376), 2210H (376H), JewSt 2210, or 2210H. GE cultures and ideas and diversity global studies course. Cross-listed in Hebrew and JewSt.

2210H The Jewish Mystical Tradition  U 3
The history of Jewish mysticism from antiquity to the present, with emphasis on its implications for the comparative study of religious experience. Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 2210 (376), CompStd 2210 (376), 2210H (376H), Hebrew 2210 (376), 2210H (376H), JewSt 2210, or 2210H. GE cultures and ideas and diversity global studies course. Cross-listed in Hebrew and JewSt.

2370 Introduction to Comparative Religion  U 3
Introduction to the academic study of religion through comparison among major traditions (Judaism, Christianity, Islam, Hinduism, Buddhism, etc.) and smaller communities. Prereq: English 1110 (110) or equiv. Not open to students with credit for 2370H or CompStd 2370H (270H) or 2370H (270H). GE cultures and ideas and diversity global studies course.

2370H Introduction to Comparative Religion  U 3
Introduction to the academic study of religion through comparison among major traditions (Judaism, Christianity, Islam, Hinduism, Buddhism, etc.) and smaller communities. Prereq: Honors standing, and English 1110 (110) or equiv. Not open to students with credit for 2370, CompStd 2370 (270), or 2370H (270H). GE cultures and ideas and diversity global studies course.

3671 Religions of India  U 3
History and structure of South Asian religions with attention to myth, ritual, art, philosophy, and social stratification. 2370 (270) recommended. Prereq: English 1110 (110) or equiv. Not open to students with credit for CompStd 3671 (321) or RelStds 321.

3672 Native American Religions  U 3
Comparative survey of indigenous religions of North America; patterns and diversity in religious experience, cosmologies, myths, rituals, social organizations, and sacred roles. 2370 (270) recommended. Prereq: English 1110 (110) or equiv. Not open to students with credit for CompStd 3672 (322) or RelStds 322.

3673 The Buddhist Tradition  U 3
History and structure of Buddhism from founding to present in South, Southeast, and East Asia; emphasis on rituals, beliefs, and local and regional variations. 2370 (270) recommended. Prereq: Not open to students with credit for CompStd 3673 (323), EALL 3223 (323), or RelStds 323. Cross-listed in EALL 3223.

3674 African Religions  U 3
Survey of African traditional religions and their interaction with Islam and Christianity in Africa and the diaspora; emphasis on cosmologies, myth, ritual, ethics, and witchcraft. Comparative Studies 2370 (270) or 2370H (270H) recommended. Prereq: English 1110 (110) or equiv. Not open to students with credit for CompStd 3674 (324) or RelStds 324.

3675 Religions of Mesoamerica  U 3
Examines Mesoamerican (Mexico, Guatemala, Belize, Honduras) indigenous and ancient religions, including effects of European colonialism. 2370 (270) recommended. Prereq: English 1110 (110) or equiv. Not open to students with credit for CompStd 3675.

3677 South Asian American Religion and Culture  U 3
Historical overview and critical discussion of South Asian American identity; focus on religious identity, ethnicity, nationalism, globalization, gender. Prereq: English 1110 (110) or equiv. Not open to students with credit for CompStd 3677 (345). GE cultures and ideas course.

3678 Religion and American Culture  U 3
Examines contemporary relationships between religion and popular culture, particularly the media in the U.S., from historical, ethnographic, and cultural studies perspectives. 2370 (270) recommended. Prereq: English 1110 (110) or equiv. Not open to students with credit for CompStd 3678.

3680 Religion and Law in Comparative Perspective  U 3
Comparative, interdisciplinary approach to studying religion and law. Drawing on concrete cases, historical studies, and theoretical literature, the course explores how the relationship between religion and law has been configured differently in different liberal democracies, such as the U.S., France, and Israel, and what this might mean for contemporary debates. Team-taught w/ faculty in History.

3681 Religion and American Politics  U 3
Investigates relationships among conservative politics, culture, and religion in the U.S. from the mid-20th century to the present. Prereq: English 1110 (110), or equiv. Not open to students with credit for CompStd 4871.

4871 Religion and American Politics  U 3
Investigates relationships among conservative politics, culture, and religion in the U.S. from the mid-20th century to the present. Prereq: English 1110 (110), or equiv. Not open to students with credit for CompStd 4871.

4872H Varieties of Christianity  U 3
Explores various expressions of Christianity, historically and cross-culturally. Readings are from different disciplines, including anthropology, archeology, religious studies, sociology. Prereq: Honors standing. Not open to students with credit for 524H or CompStd 4872H.

4873 Contemporary Religious Movements in Global Context  U 3
Examination of contemporary religious movements within the context of larger political, cultural, and economic processes, including post-colonialism, modernization, and globalization. Prereq: One course in CompStd, RelStds, or IntStds; or Grad standing; or permission of instructor. Not open to students with credit for CompStd 4873 (525) or IntStds 4873 (525). Cross-listed in IntStds.

4874 New Age and New Religious Movements  U 3
Study of new age and new religious movements in contemporary American culture. Prereq: One course in CompStd, RelStds, or Grad standing; or permission of instructor. Not open to students with credit for CompStd 4874 (526).

4875 Gender, Sexuality, and Religion  U 3
Explores intersections of gender, sexuality and religion in comparative and cross-cultural contexts. Prereq: English 1110 (110) or equiv. Not open to students with credit for CompStd 4875 (515).

4876 Comparative Sacred Architecture  U 3
Examination of religious architecture in different cultural and historical contexts; emphasis on variety of ways in which buildings and monuments participate in religious ritual and ceremony. Prereq: One course in CompStd, RelStds, or Grad standing; or permission of instructor.

4877 Myth and Ritual  U 3
Ritual, myth, and literature: structural and thematic relationships. Prereq: One course in CompStd, RelStds, or Grad standing; or permission of instructor. Not open to students with credit for CompStd 4877 (541).
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<td>Rites, Ritual, and Ceremony</td>
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<td>4970</td>
<td>Religious Studies Capstone</td>
<td>U</td>
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<tr>
<td>4972</td>
<td>Theory and Method in the Study of Religion</td>
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<td>5871</td>
<td>The Japanese Religious Tradition</td>
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<tr>
<td>5970</td>
<td>Foundational Approaches to the Study of Religion</td>
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<td>5971</td>
<td>Contemporary Approaches to the Study of Religion</td>
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<td>1201T</td>
<td>Exploring Renewable Energy</td>
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<tr>
<td>2010T</td>
<td>Introduction to Renewable Energy</td>
<td>U</td>
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<tr>
<td>2020T</td>
<td>Bioconversion Systems</td>
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<td>2030T</td>
<td>Biomass Feedstock Evaluation and Analysis</td>
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<td>Wind Energy Systems</td>
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<td>2040T</td>
<td>Renewable Energy Project Planning, Development, and Operation</td>
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<td>2188T</td>
<td>Renewable Energy Practicum</td>
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<td>2191T</td>
<td>Renewable Energy Internship</td>
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**Renewable Energy**

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<td>Components of Respiratory Health and Disease</td>
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<td>4400</td>
<td>Basic Respiratory Care</td>
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<tr>
<td>4410</td>
<td>Introduction to Clinical Respiratory Care</td>
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<tr>
<td>4430</td>
<td>Evaluation of Respiratory Function</td>
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<td>4475</td>
<td>Mechanical Ventilation</td>
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<td>4489</td>
<td>Clinical Experience Phase I</td>
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<td>4500</td>
<td>Respiratory Therapy for Special Populations</td>
<td>U</td>
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<td>4515</td>
<td>Intensive Respiratory Care</td>
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<td>4589</td>
<td>Clinical Experience Phase II</td>
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<td>4689</td>
<td>Introduction to Advanced Clinical Practice Phase I</td>
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<td>4789</td>
<td>Introduction to Advanced Clinical Practice Phase II</td>
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**Religious Studies**

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<td>Individual Studies</td>
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<tr>
<td>2194T</td>
<td>Group Studies</td>
<td>U</td>
<td>1 - 3</td>
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**Prerequisites**

- GPA 2.00 or above and permission of technology coordinator.
- Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.
- Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions.
438  Respiratory Therapy

4895 Seminar U 1 - 5
Conferences, group discussion, and presentations of selected topics. Prereq: Admission to RespThr. Repeatable to a maximum of 10 cr hrs or 4 completions. This course is graded S/U.

5520 Issues in Respiratory Care U G 2
An analysis of current administrative, legal, regulatory, and professional issues which influence the administration of respiratory care services and therapists. Prereq: 5525, 4689, and 5600, or permission of instructor. Not open to students with credit for 520.

5525 Teaching & Learning Respiratory Therapy U G 2
Principles and practice of teaching and learning in respiratory therapy. Various education roles and strategies of respiratory therapists in academic, community and clinical settings. Prereq: 4589, or permission of instructor. Not open to students with credit for 525.

5600 Fundamentals of Respiratory Care Research U G 2
Survey of research problems, methods, and designs utilized in respiratory care, with emphasis on data collection, analysis, and presentation. Prereq: 4589, or permission of instructor. Not open to students with credit for 593, 600, and AllMed 680.

Romance Linguistics

5051 Latin and the Romance Languages U G 3
Examines the socio-historical factors and the linguistic processes that contributed to the formation of the Romance languages and to their divergences. Course taught in English. Prereq: Equivalent of 1103 in Italian, French, Spanish, Portuguese, Romanian, or Latin; or permission of instructor. Not open to students with credit for 692, French 692, Italian 5501 (692), or Class 5501. Cross-listed in Class and Italian.

8110 Romance Linguistics I G 3
A general survey of the development of the Romance languages and an introduction to the basic materials and techniques of investigation. Prereq: Permission of instructor.

8120 Romance Linguistics II G 3
Topics and problems, both synchronic and diachronic; special attention to the minor Romance languages. Prereq: 8110, or permission of instructor.

8193 Individual Studies G 1 - 3
Individual Studies. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is progress graded (S/U).

8194 Group Studies G 1 - 9
Investigation of minor problems in the various fields of Romance linguistics. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs.

8310 Seminar in Romance Linguistics G 1 - 3
Seminar in Romance linguistics. Prereq: Permission of instructor.

8999 Research in Romance Linguistics G 1 - 9
Research for thesis purposes only. Repeatable to a maximum of 99 cr hrs. This course is progress graded (S/U).

Romanian

1101 Elementary Romanian I U 4
Introduction to Romanian; development of speaking, listening, reading, and writing skills in cultural context. Closed to native speakers of this language. Prereq: Not open to students with credit for 101, or 2 or more years of study in this language in high school, except by permission of department. This course is available for EM credit. GE for lang course. FL Admins Cond course.

1102 Elementary Romanian II U 4
Continued development of speaking, listening, reading, and writing skills in cultural context. Closed to native speakers of this language. Prereq: 1101 (101). Not open to students with credit for 102. This course is available for EM credit. GE for lang course. FL Admin Cond course.

1103 Intermediate Romanian I U 4
Continued development of speaking, listening, reading, and writing skills in cultural context. Closed to native speakers of this language. Prereq: 1102 (102). Not open to students with credit for 104 or 111. This course is available for EM credit. GE for lang course.

1111 Intensive Intermediate Romanian U 8
Combination of the content of two semesters of Romanian to complete the presentation of the basic Romanian grammar and readings based on Romanian geography, history, and customs. Continued development of listening, speaking, reading, and writing with an emphasis on oral and written skills; focus on functional topics and thematic vocabulary. Not open to native speakers or with 2+ yrs in high school. Prereq: 1101. Not open to students with credit for 111 or with 4 credits of 1103. This course is available for EM credit. GE for lang course. FL Admins Cond course.

2104 Intermediate Romanian II U 4
Increasing functional ability in speaking, listening, reading, and writing practice; vocabulary-building; new grammar structures; start developing higher-level language skills in Romanian. Prereq: 1103 (111) or 104. Not open to students with credit for 407, or native speakers of this language through regular course enrollment or EM credit.

Rural Sociology

1500 Introduction to Rural Sociology U 3
Principles of society, major social institutions, and social change; emphasizes social changes in rural life, rural organizations, population, and family living. Au, Sp Sem. Prereq: Not open to students with credit for 105, Social 101, or 201. GE soc sci orgs and polities and diversity soc div in the US course. SS Admin Cond course.

3580 Social Groups in Developing Societies U 3
Contemporary struggles and experiences of rural social groups in the "Third World" in the context of development and globalization; emphasis on grassroots initiatives and resistance movements. Au Sem. Prereq: 3 cr hrs in RurlSoc, Sociol, or a related social science, or permission of instructor. Not open to students with credit for 378. GE soc sci indivs and groups and diversity global studies course.

4590 Leadership and Community Development U 3
The application of leadership principles and best practices to community development. Sp Sem. Prereq: 1500 (105) or Social 101, or 5 qtr cr hrs or 3 sem cr hrs or related social sciences, or permission of instructor. Not open to students with credit for 542.

5500 Diffusion of Innovations U G 3
Examine the sociological processes involved in disseminating new ideas and technologies in U.S. and developing nations. Assess the consequences of new technologies for communities, households, and individuals particularly in rural contexts. Au Sem. Prereq: Not open to students with credit for 562 or 662.

5520 Amish Society U G 3
Analysis of the historical, social, religious, economic and cultural dimensions of the Amish. Au Sem. Prereq: Not open to students with credit for 622.

5530 Sociology of Agriculture and Food Systems U G 3
Overview of sociological theory and research related to agricultural change and food system development, focusing on individual, family, farm, community and environmental impacts. Au Sem. Prereq: 6 units in RurlSoc, Sociol, or related Social Sciences, or Grad standing, or permission of instructor. Not open to students with credit for 733.

5540 Population, Place and Environment U G 3
Focuses on demographic issues in rural settings and related environmental issues, with an emphasis on population change and migration in the context of conflicts, disaster, and resource base development. Prereq: 8-9 cr hrs in RurlSoc, Sociol, or related social science, or Grad standing. Not open to students with credit for 744.

5570 Women in Rural Society U G 3
Women's role in rural society from a comparative perspective, focusing on agriculture, the environment, informal sector, and household production, both in developing and developed countries. Prereq: 6 sem cr hrs in RurlSoc, Sociol, or related Social Science, or Grad standing, or permission of instructor. Not available to students with credit for 675.

5580 Social Impact Assessment U G 3
Examine the social and cultural impacts of planned change on groups and communities. Prereq: Not open to students with credit for 688.

5797 Study at a Foreign Institution U G 1 - 15
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Au, Sp, Su Sem. Prereq: Permission of dept chairperson. Not open to students with credit for 697. Repeatable to a maximum of 30 cr hrs or 2 completions. This course is progress graded.

6500 Rural Poverty G 3
Evaluation of the factors which create and maintain poverty and inequality, with focus on the rural U.S., developing nations, and the comparative analysis of spatial inequalities.

* Sp Sem (odd years). Prereq: Admission to RurlSoc or related social sciences, or Grad standing. Not open to students with credit for 666.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>6550</td>
<td>The Change Agent</td>
<td>G 3</td>
<td>Definitions/concepts of the change agent, variety of situations in which individuals can assume the status of change agent, the variety of roles &amp; strategies played by change agents, &amp; definitions of effective change agents.</td>
</tr>
<tr>
<td>7550</td>
<td>Rural Community Development in Theory and Practice</td>
<td>G 3</td>
<td>Theoretical foundations of rural community development; contemporary community development issues; change processes, strategies, and practices.</td>
</tr>
<tr>
<td>7560</td>
<td>Environmental Sociology</td>
<td>G 3</td>
<td>Sociological approaches to the study of environmental policy. Analysis of major issues relating to the use and abuse of natural resources and pollution.</td>
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<tr>
<td>7600</td>
<td>Concepts and Theories in Rural Sociology</td>
<td>G 3</td>
<td>Examines the sociological significance of &quot;rurality&quot; and the conceptual perspectives applied to major substantive areas in rural sociology, such as community, environment, and agriculture.</td>
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<tr>
<td>8500</td>
<td>Development Sociology in Theory and Practice</td>
<td>G 3</td>
<td>Overview of sociological principles, theories and research in the evolution of international development and globalization practices, objectives, and policies. Contemporary issues in development and globalization.</td>
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<tr>
<td>1101.01</td>
<td>1st-Year Russian I (Classroom Track)</td>
<td>U 4</td>
<td>Introduction to Russian: development of skills in speaking, understanding, reading, and writing contemporary Russian in a cultural context. Not open to native speakers or to students with 2 or more years of high school.</td>
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<tr>
<td>1101.51</td>
<td>Elementary Russian I (Self-Paced)</td>
<td>U 1 - 4</td>
<td>Introduction to Russian: development of skills in speaking, understanding, reading, and writing in cultural context. Students register for 1-4 cr hrs. Progress is sequential from one cr to next. 80% is required to advance. Not open to native speakers or to students with 2 or more years of high school.</td>
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<tr>
<td>1102.01</td>
<td>Elementary Russian II (Classroom Track)</td>
<td>U 4</td>
<td>Continued development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of this language through regular course enrollment or EM credit.</td>
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<tr>
<td>1102.51</td>
<td>Elementary Russian II (Self-Paced)</td>
<td>U 1 - 4</td>
<td>Continued development of speaking, listening, reading, and writing skills in cultural context. Students register for 1-4 cr hrs. Progress is sequential from one cr to hr to next. 80% is required to advance. Not open to native speakers of this language through regular course enrollment or EM credit.</td>
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<tr>
<td>1103.01</td>
<td>Intermediate Russian I (Classroom Track)</td>
<td>U 4</td>
<td>Continued development of speaking, listening, reading, and writing skills in cultural context. Not open to native speakers of this language through regular course enrollment or EM credit.</td>
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<tr>
<td>1103.51</td>
<td>Intermediate Russian I (Self-Paced)</td>
<td>U 1 - 4</td>
<td>Continued development of speaking, listening, reading, and writing skills in cultural context. Students register for 1-4 cr hrs during sem. Progress is sequential from one cr to hr to next. 80% is required to advance. Not open to native speakers of this language through regular course enrollment or EM credit.</td>
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<tr>
<td>2104.01</td>
<td>Intermediate Russian II (Classroom Track)</td>
<td>U 4</td>
<td>Increasing functional ability in speaking, listening, reading, and writing practice, vocabulary-building, new grammar structures, start developing higher-level language skills in Russian. Not open to native speakers of this language through regular course enrollment or EM credit.</td>
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<tr>
<td>2104.51</td>
<td>Intermediate Russian II (Self-Paced)</td>
<td>U 1 - 4</td>
<td>Increasing ability in speaking, listening, reading, and writing; vocabulary-building; new grammar; developing higher skills. Students register for 1-4 or hrs during sem. Progress is sequential from one cr or hr to next. 80% is required to advance. Not open to native speakers of this language through regular course enrollment or EM credit.</td>
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<td>2250</td>
<td>Masterpieces of Russian Literature</td>
<td>U 3</td>
<td>Reading and analysis of great works of Russian literature from the 19th century to the present by authors such as Pushkin, Turgeniev, Dostoevsky, Tolstoy, Chekhov, Akhmatova, Bulgakov, Solzhenitsyn, and Ullitskaya. Taught in English.</td>
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<tr>
<td>2250H</td>
<td>Honors Masterpieces of Russian Literature</td>
<td>U 3</td>
<td>Reading great works of Russian literature (including Pushkin, Turgeniev, Dostoevsky, Tolstoy, Chekhov, Bunin, Akhmatova, Solzhenitsyn, Ullitskaya); developing analytical writing &amp; discussion skills. Taught in English.</td>
</tr>
<tr>
<td>2335</td>
<td>Russian Culture</td>
<td>U 3</td>
<td>Russian culture from its foundations to the 21st century through analysis of literature, film, music, visual arts, beliefs, and customs. Taught in English.</td>
</tr>
<tr>
<td>2345</td>
<td>Russian Fairy Tales and Folklore</td>
<td>U 3</td>
<td>Examines four categories of texts, both verbal and visual: (1) a survey of Russian demonology; (2) a large selection of the best-known Russian fairy tales; (3) scholarly articles analyzing the differences between folklore and literature; and (4) visual materials (film, paintings, graphics, and handicrafts) and music inspired by Russian fairy tales. Taught in English.</td>
</tr>
<tr>
<td>3101</td>
<td>Third-Year Russian I: Contemporary Russian in Cultural and Literary Contexts</td>
<td>U 4</td>
<td>Further develop speaking, listening, reading, and writing skills and grammar competence while discussing topics of contemporary Russian life and literature.</td>
</tr>
<tr>
<td>3121</td>
<td>Advanced Reading Russian I Self-Paced</td>
<td>U 1 - 3</td>
<td>Developing reading skills and strategies from a variety of authentic Russian sources, with special emphasis on contemporary materials.</td>
</tr>
<tr>
<td>3122</td>
<td>Advanced Reading Russian II Self-Paced</td>
<td>U 1 - 3</td>
<td>Further development of reading skills &amp; strategies from authentic Russian sources, with emphasis on contemporary materials.</td>
</tr>
<tr>
<td>3140</td>
<td>Russian Conversation</td>
<td>U 1</td>
<td>Maintaining and further developing conversational skills in Russian at the intermediate level. Taught in Russian as round-table discussion.</td>
</tr>
<tr>
<td>3350</td>
<td>Russian Culture and Politics</td>
<td>U 3</td>
<td>Interdisciplinary approach to reading and perceiving Russian political culture today. The class expands the meaning of culture to include political discourse, political practices, and current societal debates. Taught in English.</td>
</tr>
<tr>
<td>3460</td>
<td>Modern Russian Experience through Film</td>
<td>U 3</td>
<td>Exploration of some of the most revealing hopes and disappointments of Russian people presented in internationally acclaimed Russian films. Taught in English.</td>
</tr>
<tr>
<td>3550</td>
<td>Russian Cuisine in History, Literature and Culture</td>
<td>U 3</td>
<td>Explores Russian cuisine: its history and its role in Russian literature and culture. We will use a variety of cookbooks and cultural histories as our textbooks, and we will read selections from classical Russian literature to see how writers incorporate ideas of food and cuisine into their works. We will also read critical articles about the relationship between food and culture. GE cultures and ideas course.</td>
</tr>
</tbody>
</table>
440 Russian

3644 Russian Fairy Tales and Folklore U 3
Examination of Russian folklore, focusing primarily on fairy tales as the most popular folkloric
genre, and on its role in Russian culture today. Taught in English.
Prereq: Not open to students with credit for 644.

4101 Advanced Russian I U 3
Speaking, listening, reading and writing practice in Russian at the advanced level, with focus on
Russian films from the 1930s to the present.
Prereq: 3102 or 503, or permission of instructor. Not open to students with credit for 601.

4102 Advanced Russian II U 3
Continuation of Russian 4101: speaking, listening, reading, and writing practice in Russian at
the advanced level, with a focus on Russian culture and national identity.
Prereq: 4101 (801) or 609, or permission of instructor. Not open to students with credit for 610.

4135 Practical Russian Pronunciation U 3
Russian phonetics, including terminology, transcription, practical exercises designed to
improve pronunciation, and problems of teaching pronunciation. Taught in Russian. Not open
to native speakers of Russian.
Prereq: 2104, or 30 or 3 cr hrs in Russian, or permission of instructor. Not open to students with
credit for 635.

4136 Business Russian U 3
Introduce basic knowledge of business Russian as used in different aspects of contemporary
Russian life; business vocabulary; business correspondence; simulated business
negotiations; translation principles and practice. Taught in Russian.
Prereq: 3102, or 30 or 30 hrs of Russian, or permission of instructor. Not open to students with credit
for 617.

4140 Advanced Russian Conversation U 1
Maintaining and further developing conversational skills in Russian at the advanced level.
Taught in Russian; classes will be conducted as a round-table discussion.
Prereq: 3102, or 30 or 30 hrs of Russian, or permission of instructor. Repeatable to a maximum
of 2 cr hrs. This course is graded S/U.

4191 Internship for Russian Majors U 1 - 3
Intensive work experience or research assistance relating to Russia or Russian, conducted
under the supervision of a faculty member.
Prereq: Enrollment in major or minor in Russian, and permission of the Undergraduate
Studies Coordinator. Repeatable to a maximum of 6 cr hrs and 2 completions. This course is
graded S/U.

4220 Love and Death in Russian Literature and Film U 3
Analysis of major works in nineteenth-century Russian literature (from the Golden Age and
Realism), and major themes such as lost love in the Russian novel. Taught in English.
Prereq: Not open to students with credit for 520 and 521.

4221 Revolution and Restoration in Russian Literature U 3
Starting with Stalinism, this survey course presents lectures-discussions on socialist-realist,
dissent, GULAG, Thaw. *Stagnation,* post-Gorbachev, and restoration literature, as well as
emigre works. Taught in English.
Prereq: Not open to students with credit for 522 or 523.

4575 Capstone Course for Russian Majors U 3
Junior-senior seminar explores issues of Russian language and literature, focusing on reading
in Russian and on honing Russian and English oral and written skills. Required for Russian
major. Taught in Russian and English.
Prereq: English 2367 or equiv. Repeatable to a maximum of 9 cr hrs.

4600 Introduction to Russian Linguistics U 3
Foundational understanding of Russian phonetics, phonology, morphology, and historical
linguistics for Russian majors and graduate students not specializing in Slavic Linguistics.
Taught in English.
Prereq: 2104, and 30 or 30 cr hrs in Russian, or permission of instructor. Not open to students with
credit for 631.

4798 Study Trip U 3 - 6
Short-term study abroad directed by a faculty member as a supplement to a course in
Russian literature or culture. Students pay OSU fees, any fees in excess of tuition, travel &
subistence costs.
Prereq: Permission of dept chairperson and Office of International Affairs. Repeatable to a
maximum of 12 cr hrs or 2 completions. This course is graded S/U.

5010 Adv Russian III U 3 - 6
Continuation of Russian 4102. Development of speaking, listening, reading, & writing skills at
the advanced level, with a focus on a specific theme of interest for area specialists (e.g.,
history, literature, culture, linguistics, health issues).
Prereq: 4102, or permission of instructor. Not open to students with credit for 711. Repeatable to
maximum of 6 cr hrs.

5012 Advanced Russian IV U 3 - 6
Continuation of Russian 5101. Development of speaking, listening, reading, & writing skills at
the advanced level, with a focus on a specific theme of interest for area specialists (e.g.,
history, literature, culture, linguistics, health issues).
Prereq: 5101, or permission of instructor. Repeatable to a maximum of 6 cr hrs.

5193 Individual Studies U 1 - 9
Individual study on topic relating to Russian culture, literature, or language under the
supervision of a faculty member.
Prereq: Permission of department chairperson. Repeatable to a maximum of 18 cr hrs or 6
completions. This course is graded S/U.

5194 Group Studies U 1 - 3
Group Studies in Slavic and East European languages and cultures.
Repeatable to a maximum of 6 cr hrs or 2 completions.

5252 Russian Emigre Literature U 3
Analysis of the three "waves" of Russian emigration -- post-Revolutionary, post-WWII, and the so-called "third wave" in the 1970s and 80s through the poetry, fiction, and memoirs by such writers as: Ivan Bunin, Vladimir Khodasevich, Vladimir Nabokov, Nina
Berberova, Sergei Dovlatov, Vasily Aksyonov, and Joseph Brodsky.
Prereq: English 1110 or equiv, or any 4000-level Russian literature, culture or linguistics
course.

5250 The Russian Writer U 3
Close analysis of the major works of an individual Russian writer such as Fyodor Dostoevsky,
Leo Tolstoy, Mikhail Bulgakov, or Vladimir Nabokov. Taught in English.
Prereq: Repeatable to a maximum of 9 cr hrs.

5350.01 Madness and Power in Russia U 3
Discussions of politics and power as related to madness; manifestations of insanity in Russian
literature and film texts will accompany examination of the cultural, philosophical, legal, and
historical context. Taught in Russian.
Prereq: 4102 or equiv, or permission of instructor. Not open to students with credit for 5350.02.

5350.02 Madness and Power in Russia U 3
This English-language version of Russian 5350.01 facilitates study and research of the
important trope of madness in Russian culture for advanced undergraduates and graduate
students. Primary readings, discussion and coursework will be offered in English, although
parallel and additional readings in Russian will be available for students with advanced
language skills.
Prereq: Not open to students with credit for 5350.01.

5601 Structure of Russian I U 3
Systematic synchronic description of the structure of Contemporary Standard Russian,
 focusing on phonetics, phonology, and morphology, and associated theoretical issues. Taught
in English.
Prereq: 3102, or Grad standing in Slavic, or permission of instructor. Not open to students with
credit for 6621 (940).

5674 Russian Opera: Meanings and Identities U 3
Study of Russian opera from 1836-1938 in relation to concurrent literary, cultural, and social
developments.
Prereq: Not open to students with credit for 674 or Music 5674 (674). Cross-listed in Music.

5701 History of Russian I U 3
Survey of the most important developments in the Russian writing system, phonology,
morphology, and syntax from Old East Slavic to modern times; Russian among the Slavic
languages; main methodologies in historical linguistics.
Prereq: 3102 or 503, or Grad standing, or permission of instructor. Not open to students with
credit for 720 or 6701.

5787 Study at a Foreign Institution U 1 - 9
Opportunity to study at Russian educational institution and receive OSU credit. Students pay
OSU fees, any fees in excess of tuition, travel & subsistence costs.
Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 9 completions.

6171 Basic Reading Russian for Graduate Students G 3
Russian alphabet, basic vocabulary, and basic elements of grammar for graduate students
who need to develop reading skills for professional research. Taught in self-paced format.
Continued by Russian 6172.
Prereq: Grad standing. Not open to students with credit for 571.

6172 Reading Russian for Research G 3
Continuation of Russian 6171: further development of reading skills, vocabulary, and
grammar for graduate students who need to read Russian for professional research. Taught in
self-paced format.
Prereq: 6171 (571), and Grad standing. Not open to students with credit for 572 or 573.

6252 Issues in 19th-Century Russian Literature G 3
Literature of the Golden Age and Realist periods in cultural and political context. Good
reading ability in Russian recommended.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 752 or
754. Repeatable to a maximum of 6 cr hrs.

6253 Issues in 20th- and 21st-Century Russian Literature G 3
Silver Age, Soviet, emigre, or post-Soviet literature in cultural and political context. Good
reading ability in Russian recommended.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 752 or
754. Repeatable to a maximum of 6 cr hrs.
Russian Literary Genres

Genres of Russian literature: e.g., poetry, drama, novel, short story, literary essay. Time periods, authors, and themes are variable. Good ability to read Russian recommended.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 653, 723, or 851. Repeatable to a maximum of 6 cr hrs.

Structure of Russian II

Reading and discussion of scholarly works on issues in the linguistic structure of Contemporary Standard Russian from various theoretical viewpoints.

Prereq: 6601 (640), or permission of instructor. Not open to students with credit for 626.

History of Russian II

Reading and discussion of scholarly works on issues in the linguistic history of Russian from various theoretical viewpoints.

Prereq: 6701 (720), or permission of instructor. Not open to students with credit for 827.

Gender, Feminism, and Russian Women's Culture

Exploration of current concepts of gender and Russian women's literature and film through the prism of feminist theory. Taught in English.

Prereq: Grad standing, or permission of instructor. Not open to students with credit for 656.

Individual Studies

Individual studies under faculty supervision in Russian literature, film, culture, or linguistics.

Prereq: Grad standing, and permission of the dept chairperson. Repeatable to a maximum of 24 cr hrs or 8 completions. This course is graded S/U.

Seminar in Russian Literature, Film, or Cultural Studies

Variable-topic seminar on issues in Russian literature, film, or culture. Repeatable for credit with change of topic.

Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 24 cr hrs.

Sanskrit

Introduction to Indo-European, Indic, and Sanskrit; reading of introductory texts.

Prereq: Not open to students with credit for Sanskrit 621.

Reading of classical Sanskrit texts.

Prereq: Sanskrit 5902 (Sanskrit 621).

Vedic Sanskrit

This course involves a survey of Vedic Sanskrit grammar, especially in comparison with Classical Sanskrit grammar, and consideration of Vedi poetic metrics, in conjunction with reading of actual hymns of the Rigveda.

Prereq: 5903 (Sanskrit 622) or equiv. Repeatable to a maximum of 12 cr hrs or 4 completions.

Sanskrit Reading Group

Presents opportunities for further reading of Classical or Vedic Sanskrit texts to allow students to maintain and enhance their command of Sanskrit.

Prereq: 5902, or permission of instructor; Repeatable to a maximum of 18 cr hrs or 6 completions.

Scandinavian

The myths of the Old Norse gods and the worldview and beliefs of pagan Scandinavia.

Prereq: Not open to students with credit for Scandinavian 222. GE lit and diversity global studies course.

Fundamentals of grammar of the Scandinavian languages for research purposes in the humanities, sciences, and social and behavioral sciences.

Prereq: Not open to students with credit for 571.

Selected masterpieces of Scandinavian literature from contemporary theoretical perspectives.

Prereq: Not open to students with credit for Scandinavian 500. GE lit course.

The Films of Ingmar Bergman

Major works of one of Europe's greatest art cinema directors; emphasis on his development of a post-modernist aesthetic.

Prereq: Not open to students with credit for Scandinavian 520. GE VPA and diversity global studies course.

Introduction to the grammar of Old Norse-Icelandic literature. Brief overview of Old Norse Literature and the context of its production.

Prereq: Not open to students with credit for Scandinavian 710.

Investigation of various given topics in Scandinavian studies.

Prereq: Permission of instructor (for undergraduates). Repeatable to a maximum of 12 cr hrs.
2230 Vampires, Monstrosity, and Evil: From Slavic Myth to Twilight

Changing approaches to evil as embodied in vampires in East European folklore and European & American pop culture; function of vampires & monster tales in cultural context, including peasant world & West from Enlightenment to now. Taught in English. Prereq: Not open to students with credit for 245 except by permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.

2345 Introduction to Slavic and East European Literature and Culture

Literature of a selected Slavic or East European country or countries in cultural and historical context; may include film, drama, art, music, and other media. Taught in English. May be repeated with topic change. Prereq: Not open to students with credit for 245. GE cultures course, GE diversity global studies course.

2367 East European Immigrant Experience in America

Experiences of East European immigrants; assimilation vs. multiculturalism, American Dream, stereotypes, identity formation; development of written & oral communication skills. Taught in English. Prereq: Level 1 writing course (1110), or English 110 or 111 with permission of instructor; Soph standing. Not open to students with credit for 367. GE writing and comm course: level 2, and diversity soc div in the US course.

2797.02 Central European Study Abroad

Course for Gateway Hungary Program (May Session). Introduction to history, geography, and politics of Hungary and other Cen. Eur. countries, including Poland, Czech Republic, and Slovakia. On-site study of urban culture and development in Budapest and Warsaw; multimedia project in collaboration with Hungarian and Polish university students. No prior knowledge of Hungarian or Cen. Europe required. GE diversity global studies and education abroad course.

3310 Science Fiction: East vs. West

Slavic, American, and British sci-fi on page and screen as reflection of major cultural concerns: progress, utopia, human perfectibility, limits of science and knowledge, gender, identity. Taught in English. Prereq: Not open to students with credit for 3320 or WGSSt 3310. GE VPA and diversity global studies course. Cross-listed in WGSSt.

3360 Screening Minorities: Representations of the Other in Slavic Film

Film representations of ethnic and religious others in Eastern European cinema. Taught in English. Prereq: Not open to students with credit for 360. GE VPA course.

4191 Internship in Slavic and East European Languages and Cultures

Intensive work experience or research assistance relating to Slavic and Eastern European languages or cultures, conducted under the supervision of a faculty member. Prereq: Declared Slavic and East European Languages Minor and permission of the Undergraduate Studies Coordinator. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

4260H Dead Man Writing: Literary Representations of Capital Punishment

Study of capital punishment as a theme in Slavic and Western literature, philosophy, and criticism. Taught in English. Prereq: Honors standing or permission of instructor. Not open to students with credit for 584H.

4520H Slavic and East European Cities

Literary and cultural analysis of a city in East Central, Southeastern, or Eastern Europe (e.g., Sarajevo, Budapest, Prague, Krakow) as an urban space, using sources from many periods and cultures. Repeatable with change of topic. Taught in English. Prereq: Honors standing, and English 1110 or equiv, or permission of the instructor. Not open to students with credit for 520.01H, except by permission of instructor. Repeatable to a maximum of 6 cr hrs.

4560H Cinderella's Fantasy: Gender and Women in Western and Eastern Europe

Discussion of the complementary nature of feminists' notions in Western and Eastern European societies and cultures via literature and film. Taught in English; films have English subtitles. Prereq: Honors standing, or permission of instructor. Not open to students with credit for 583H.

4697 Politics of Language in Southeast Europe

Social/political import of language in Balkans and neighboring countries; role of language in ethnic identities; manipulation of language to shape political and social structures. Taught in English. Prereq: Jr or Sr standing. GE diversity global studies and cross-disciplinary seminar course.

4760 Survey of the Slavic Languages

Introduction to the Slavic language family for non-specialists: main shared features, relationship to other Indo-European languages, development of writing systems, history of standardization, and language and national identity. Prereq: Not open to students with credit for 760. Taught in English.

4798 Study Trip

Short-term study abroad directed by a faculty member as a supplement to a course in Slavic and Eastern European literature or culture. Students pay OSU fees, any fees in excess of tuition, travel & subsistence costs. Prereq: Permission of dept chairperson and Office of International Affairs. Repeatable to a maximum of 12 cr hrs or 2 completions. This course is graded S/U.

4800 Bilingualism: Life in Two Worlds

Exploration of multifaceted aspects of bilingual individuals: reasons to become bilingual, cognitive & social advantages of bilingualism, attitudes to people with accents, personality & bilingualism. No prior knowledge of linguistics is required. Prereq: Jr or Sr standing; or permission of instructor. GE soc sci indivs and groups course.

4998 Undergraduate Supervised Project

Opportunity for undergraduate majors and minors to do non-thesis research or creative work (e.g., translations) under faculty supervision for credit. Prereq: Major or minor status in one of dept's programs and permission of faculty member supervising the project and Undergraduate Studies Coordinator. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

4999 Undergraduate Thesis Research

Faculty-supervised undergraduate research on Russian, Slavic, East Central European, Southeast European, or East European language(s), literature(s), or culture(s), culminating in a thesis. Prereq: Sr standing; permission of instructor under whose supervision the work is to be completed and department Undergraduate Studies Coordinator. Not open to students with credit for 783H. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.

4999H Honors Undergraduate Research Thesis

Faculty-supervised honors research on Russian, Slavic, East Central European, Southeast European, or East European language(s), literature(s), or culture(s), culminating in a thesis. Prereq: Permission of dept chairperson. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

5193 Individual Studies

Individual study on topic relating to Russian culture, literature, or language under the supervision of a faculty member. Prereq: Permission of dept chairperson. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.

5194 Group Studies

Group Studies. Repeatable to a maximum of 6 cr hrs or 2 completions.

5280 Slavic & East European Literature

Masterpieces of Slavic and East European literatures, either in a comparative perspective or focusing on the literature of one country in its cultural context. Taught in English. Repeatable for credit with change of topic. Prereq: Completion of GE in Literature or permission of instructor. Not open to students with credit for 519. Repeatable to a maximum of 6 cr hrs.

5570 The Austro-Hungarian Grotesque

Explosion of Grotesque in art & literature in East Central Europe & rise of psychoanalysis; cultural relations & tensions between Vienna & Prague, Krakow, Budapest, Zagreb, Sarajevo, & periphery of empire; influence on Surrealism. Taught in English.

5621 Reading Course in a South Slavic Language

Fundamentals of grammar and vocabulary needed for reading Bosnian/Croatian/Serbian, Bulgarian, Macedonian, or Slovenian. Prereq: Grad standing, or permission of instructor. Repeatable with change of language, and permission of instructor. Repeatable to a maximum of 6 cr hrs.

5623 Reading Course in a West Slavic Language

Fundamentals of grammar and vocabulary needed for reading a West Slavic language (Czech, Polish, Slovak, Upper and Lower Sorbian). Taught in English. Repeatable with change of language and permission of instructor. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 6 cr hrs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
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<td>5797</td>
<td>Study at a Foreign Institution</td>
<td>1 - 9</td>
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<tr>
<td>6000</td>
<td>Slavic Literature, Film, and Cultural Studies Professionalization Forum</td>
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<td>6457</td>
<td>Film Theory, Gender, and National Identity in Slavic Cinema</td>
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<tr>
<td>6501</td>
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<td>Masters Research in Slavic</td>
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<td>7370</td>
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<td>Film Adaptations of Slavic Literature</td>
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<td>7480</td>
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<td>7622</td>
<td>South Slavic Linguistics</td>
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<td>8641</td>
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<td>8660</td>
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<td>8804</td>
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<tr>
<td>8860</td>
<td>Seminar in Slavic Second Language Acquisition</td>
<td>G 3</td>
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</table>
Interdepartmental Seminar G 3
Two or more departments present seminars on subjects of mutual interest; topics to be announced.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs.

Dissertation Research in Slavic G 3 - 12
Research in Slavic for dissertation purposes.
Prereq: Permission of dept chairperson. Repeatable to a maximum of 36 cr hrs or 12 completions. This course is graded S/U.

Introduction to Ohio State and the College of Social Work U 1
Introduction to the university community and strategies for a successful transition; University policies and College procedures; academic requirements and resources; exploration of social work profession.
Prereq: Undergraduate standing in the College of Social Work. Not open to students with credit for 100.

Introduction to Social Welfare U 3
An introduction to the history, structure, and function of the social welfare institution.
Prereq: Not open to students with credit for 220 or 520. GE soc sci human, nat, and econ resources course.

Introduction to Social Work in Contemporary Society U 3
An introduction to the core values, fundamental goals, unique functions and methods of the social work profession.
Prereq: Not open to students with credit for 230. GE soc sci indivs and groups course.

Introduction to Social Work in a Contemporary Society U 3
An introduction to the core values, fundamental goals, unique functions and methods of the social work profession.
Prereq: Honors standing. Not open to students with credit for 1130 (230). GE soc sci indivs and groups course.

Minority Perspectives: Race, Ethnicity, and Gender U 3
Examination of the structure of human societies, cultures, and institutions from the perspective of oppressed minority populations.
Prereq: Not open to students with credit for 300. GE diversity soc div in the US course.

Prevention & Youth Development through Sport, Recreation, and Play U 3
Focuses on how characteristics of environmental contexts contribute to the development of social/academic/health-related problems among youth. Knowledge and skills of generalist social work practice are applied to guide the design and delivery of prevention and youth development programs in sport/recreation/play settings. There will be sports and recreational activities, so dress accordingly.
Prereq: Not open to students with credit for 310.

Professional Values and Ethics U 3
Introduction to the NASW Code of Ethics, ethical theory, and ethical issues and dilemmas that confront professional social workers.
Prereq: Enrollment in SocWork major. Not open to students with credit for 690.

Introduces students to social and economic justice and injustice and presents multiple strategies to pursue social justice, with a particular emphasis on the role of advocacy.
Prereq: Enrollment in SocWork major. Not open to students with credit for 521.

Lifespan Development in Social Work U 3
Students examine human development processes across the lifespan to understand human behavior.
Prereq: Enrollment in SocWork major. Not open to students with credit for 533 or 534.

Discovering Evidence U 3
Focuses on the role of research in social work practice and how evidence is used to guide practice at all intervention levels.
Prereq: Jr or Sr standing, and enrollment in Social Work major. Not open to students with credit for 3401E, 570, 570E, 571, or 571H.

Discovering Evidence U 3
Focuses on the role of research in social work practice and how evidence is used to guide practice at all intervention levels (honors embedded experience).
Prereq: Honors standing, and Jr or Sr standing, and enrollment in Social Work major. Not open to students with credit for 3401, 570, 570E, 571, or 571H.

Discovering Evidence U 3
Through this course honors students learn about evidence-informed practice at all intervention levels and critically examine existing bodies of evidence answering questions about problems, populations, and needs. Students will examine the interplay between theory, evidence, and the questions asked of evidence, as well as how to present evidence to constituents.
Prereq: Admitted to Social Work Honors program, and Jr or Sr standing.

Applying Evidence U 3
Focuses on basic methods of research design and implementation. Students also learn how to critically examine existing research to inform practice.
Prereq: 3401. Not open to students with credit for 570 and 576.

Applying Evidence U 3
Focuses on basic methods of research design and implementation. Students also learn how to critically examine existing research to inform practice (honors embedded experience).
Prereq: Honors standing, and 3401E. Not open to students with credit for 570E and 576E.

Applying Evidence U 3
Through this course honors students develop the requisite skills and knowledge for beginning to apply evidence to the processes of identifying and selecting social work practices at all levels of intervention. In addition to examining the interplay between theory, evidence, and practice, students will examine principles that apply to evaluating practice, programs, and policy.
Prereq: 3401E or 3401H.

Engagement and Interviewing Skills U 3
Addresses interviewing skills critical to social work. Didactic and experiential methods will provide a foundation for practice and facilitate entry into the field.
Prereq: Jr or Sr standing, and enrollment in SocWork major.

Foundations of Generalist Practice U 3
Introduces students to the theories, knowledge and skills of generalist social work practice, with an emphasis on work with individuals.
Prereq: 3501. Not open to students with credit for 645.

Social Work Practice with Diverse Populations U 3
Foundation knowledge and a social work perspective for working with diverse populations, especially those who are oppressed and marginalized.
Prereq: 3501.

Adolescent Parenthood and Sexuality: An International Perspective
Examination of the biological, psychosocial and cultural forces that influence adolescent sexual behaviors. International comparisons will be emphasized with respect to teenage sexual trends and national policies and programs.
Prereq: Jr or Sr standing. Not open to students with credit for 597. Not open to MSW students. GE cross-disciplinary seminar course.

Theories and Biological Basis of Addiction U 3
Comparative analysis of theories and models of addiction, including biological, psychological, socio-cultural, and pharmacological aspects, as well as related legal and ethical concerns.
Prereq: Soph, Jr, or Sr standing.

Substance Abuse Screening, Assessment, Diagnosis, and Treatment Planning U 3
Principles and practices in screening for, assessing, and diagnosing substance use disorders, as well as models and methods for substance abuse treatment planning.
Prereq: 3805, or permission of instructor.

Intervention and Prevention Strategies in Substance Abuse U 3
Evidence base and techniques for contemporary and historical models of substance abuse intervention and prevention, including vulnerability, risk, resilience and protective factors.
Prereq: 3805, or permission of instructor.

Group and Relationship Approaches in Substance Abuse Treatment U 3
Approaches to substance abuse treatment that engage individuals in therapeutic groups, treatment with family members, and supportive significant others in the treatment process.
Prereq: 3805, or permission of instructor.

Undergraduate Field Seminar U 1
Integration of knowledge and practice; companion to field practicum.
Prereq: 3502 (645). Concur: 4189. Repeatable to a maximum of 2 cr hrs.

Field Practicum U 5
Internship in a social work agency. Students integrate classroom knowledge and skills with practice experiences.
Prereq: 3502 (645). Concur: 4188. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

Individual Studies U 1 - 3
Individual study projects in selected areas of social work and social welfare.
Prereq: 6 cr hrs in SocWork or related courses, and approval of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

Group Studies U 1 - 3
Group study projects in selected areas of social work and social welfare.
Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs or 3 completions.

Generalist Practice with Families U 3
Application of professional values, knowledge, and skills essential for effective generalist social work practice with families.
Prereq: 3502 (645). Not open to students with credit for 646.
<table>
<thead>
<tr>
<th>Course</th>
<th>Title</th>
<th>Credits</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>4502</td>
<td>Generalist Practice with Groups</td>
<td>U 3</td>
<td>Application of professional values, knowledge, and skills essential for effective generalist social work practice with small groups. Prereq: 3502 (645). Not open to students with credit for 646.</td>
</tr>
<tr>
<td>4503</td>
<td>Generalist Practice with Larger Systems</td>
<td>U 3</td>
<td>Application of professional values, knowledge, and skills essential for effective generalist social work practice with organizations and communities. Prereq: 4502. Not open to students with credit for 647.</td>
</tr>
<tr>
<td>4996H</td>
<td>Honors Thesis Seminar</td>
<td>U 3</td>
<td>Through guided study, students develop knowledge and skills to develop independent research studies, culminating in preparation of proposals for knowledge building thesis projects. Prereq: Honors standing, and 3401E.</td>
</tr>
<tr>
<td>4999</td>
<td>Thesis Research</td>
<td>U 3</td>
<td>Non-honors thesis research. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>4999H</td>
<td>Engaging in Knowledge Building Research - Honors</td>
<td>U 5</td>
<td>Through guided group and independent study, students further develop and implement their independent social work research studies. Prereq: Honors standing, and 4996H. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>5001</td>
<td>Writing for Agency Practice</td>
<td>U G 2</td>
<td>Introduction to documentation skills utilized in the delivery of social work services. Prereq: Jr, Sr, or Grad standing in SocWork, or permission of department.</td>
</tr>
<tr>
<td>5002</td>
<td>AIDS Survey: Facts and Issues</td>
<td>U G 3</td>
<td>This course will provide a review of the physiological, global, cultural and educational issues inherent in understanding HIV disease and implications for social work practice. It will also explore the historical context of HIV and how response to the disease has evolved over the past 30 years in the United States. Prereq: Not open to students with credit for 695.17, 695.18, or 695.19.</td>
</tr>
<tr>
<td>5004</td>
<td>International Social Work</td>
<td>U G 3</td>
<td>Examines a variety of social issues through a global perspective in order to fully appreciate the role of culturally diverse and country-specific responses to social problems. Prereq: Soph, Jr, Sr, or Grad standing in SocWork, or permission of department. Not open to students with credit for 695.08.</td>
</tr>
<tr>
<td>5005</td>
<td>Human Trafficking: Domestic and Global Perspectives</td>
<td>U G 2</td>
<td>Examines domestic and global human trafficking from a social work perspective. Prereq: Jr, Sr, or Grad standing.</td>
</tr>
<tr>
<td>5006</td>
<td>Sexualities, Diversity &amp; Social Work</td>
<td>U G 3</td>
<td>Diversity of sexual identities, beliefs, behavior, and lifestyles are explored in the context of social work's mission, values, and ethics for professional practice. Prereq: Jr, Sr, or Grad standing. Not open to students with credit for 695.20.</td>
</tr>
<tr>
<td>5007</td>
<td>Child Welfare I</td>
<td>U G 3</td>
<td>Designed to provide the knowledge, concepts, and tools for beginning level practice in public child welfare. Prereq: Jr, Sr, or Grad standing in SocWork, or permission of department. Not open to students with credit for 695.21.</td>
</tr>
<tr>
<td>5008</td>
<td>Child Welfare II</td>
<td>U G 3</td>
<td>Designed to provide the knowledge, concepts, and tools for beginning level practice in public and private child welfare settings. Prereq: 5007. Not open to students with credit for 695.22.</td>
</tr>
<tr>
<td>5009</td>
<td>Family Caregiving: Contemporary Issues, Programs, &amp; Policies</td>
<td>U G 3</td>
<td>Focuses on the development of knowledge and skills to address the needs of individuals providing care for an individual with a disability. Prereq: Jr, Sr, or Grad standing in SocWork, or permission of department. Not open to students with credit for 695.24.</td>
</tr>
<tr>
<td>5011</td>
<td>Loss &amp; Grief: A Social Work Practice Perspective</td>
<td>U G 2</td>
<td>Examines the theoretical, cultural, social and personal aspects of loss and grief and introduce students to approaches and interventions with diverse populations. Prereq: Sr or Grad Standing in SocWork, or permission of department. Not open to students with credit for 714.</td>
</tr>
<tr>
<td>5012</td>
<td>Social Work Approaches to Conflict Resolution</td>
<td>U G 2</td>
<td>Introduces negotiation and mediation skills from a social work perspective to resolve conflict in work with individuals, families, groups, organizations, and communities. Prereq: Jr, Sr, or Grad standing in SocWork.</td>
</tr>
<tr>
<td>5013</td>
<td>Integrative Body-Mind-Spirit</td>
<td>U G 2</td>
<td>Introduces knowledge and skills regarding assessment and treatment techniques pertaining to a holistic approach of mind, body, and spirit treatment. Prereq: Jr, Sr, or Grad standing in SocWork, or permission of department.</td>
</tr>
<tr>
<td>5014</td>
<td>Juvenile Delinquency and Correctional Practice in Social Work</td>
<td>U G 3</td>
<td>Provides students with knowledge about social work with juvenile and adult offenders. Theories about criminal offending and interventions with both juveniles and adults is covered. Prereq: Not open to students with credit for 503 or 695.13.</td>
</tr>
<tr>
<td>5015</td>
<td>Social Work and the Law</td>
<td>U G 3</td>
<td>The purpose of this course is to teach students the legal concepts and principles that shape social welfare policy and social work practice. In addition, the course will teach students how social research is used by the legal system to decide cases and how social activism sometimes influences the legal system. Prereq: Jr, Sr, or Grad standing. Not open to students with credit for 695.23.</td>
</tr>
<tr>
<td>5016</td>
<td>Affirmative Social Work Practice with LGBTQ Individuals, Couples, and Families</td>
<td>U G 3</td>
<td>With focus on practice application, this course provides a comprehensive overview of the salient psych-social issues and life-course phenomena distinctive to the LGBTQ experience and affirmative interventions. Prereq: Sr or Grad standing in Social Work, or permission of instructor. Not open to students with credit for 715.</td>
</tr>
<tr>
<td>5017</td>
<td>Social Work Practice in the Field of Intellectual/Developmental Disabilities</td>
<td>U G 2</td>
<td>Social work principles related to social, cultural, physical and educational/vocational issues of IDD using a lifespan perspective. Prereq: Not open to students with credit for 695.15.</td>
</tr>
<tr>
<td>5018</td>
<td>Interdisciplinary Case Management for Working with Underserved Populations</td>
<td>U G 2</td>
<td>Provides students the opportunity to collaborate with students from other health care professions including pharmacy, health and rehabilitation sciences, nursing, medicine and social work. The students will use a problem-based learning approach to patient care in community health, focusing on populations living in poverty, with complex healthcare needs. Prereq: Sr or Grad standing. This course is graded S/U. Cross-listed in HHR/BSc 5000 and Nursing 5000.</td>
</tr>
<tr>
<td>5019</td>
<td>Cross-National Community Development</td>
<td>U G 2</td>
<td>Addresses different variations of community-based interventions in Central America and the US; examines the main challenges of community based intervention for social development; challenges traditional conceptions of development employing a value-based framework; stimulates critical thinking about key issues and challenges in international development using the UN perspective. Prereq: Spanish 1103 or equiv, and Jr, Sr, or Grad standing, and permission of instructor.</td>
</tr>
<tr>
<td>5020</td>
<td>Social Welfare and the Jewish Community</td>
<td>U G 1½</td>
<td>Examines the organization, structure of Jewish communal service in the USA; Jewish culture, history, values, religious practices in relation to social service delivery and evolution; Jewish identity, minority status, and ethnicity. Other minority groups? experiences are discussed with implications for the future role of ethnic minorities in US culture and direction of social services. Prereq: Not open to students with credit for 712.</td>
</tr>
<tr>
<td>5021</td>
<td>Summer Institute of Addiction Studies</td>
<td>U G 1</td>
<td>The Addiction Studies Institute provides students with state of the art information in working within the field of substance dependency/prevention. The goal is to provide the latest information in treatment planning, prevention, intervention, family work, wellness and recovery and current trends impacting service delivery systems.</td>
</tr>
<tr>
<td>5022</td>
<td>Social Work Interventions with Latinos</td>
<td>U G 3</td>
<td>Provides a comprehensive understanding of social work interventions (clinical and macro practices) with the diverse Latino population. Prereq: Jr, Sr, or Grad standing. Not open to students with credit for 301.</td>
</tr>
<tr>
<td>5023</td>
<td>Family Violence: Social Work Perspectives and Interventions</td>
<td>U G 3</td>
<td>Introduces the fundamental knowledge and concepts for working with victims of all types of family violence. Factors that contribute to family violence and the long term consequences are emphasized. The importance of multidisciplinary teams in responding to family violence is addressed. Prereq: 3501, 6501, or 7500.</td>
</tr>
<tr>
<td>5024</td>
<td>Social Work Licensure Exam Strategies and Skills</td>
<td>U G 2</td>
<td>Provides instruction on test taking strategies, learning content and developing a study plan to pass the Bachelor and Clinical licensure exam. Provides students with a five volume study guide and a guarantee backed by AABTS to pass the exam. All content revised to reflect the changes in the Ohio Social Worker rules and access to multiple online practice tests in study and exam modes. Prereq: Sr or Grad standing in Social Work. This course is graded S/U.</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies</td>
<td>U G 1 - 3</td>
<td>Group study projects in selected areas of social work and social welfare. Prereq: Permission of instructor. Repeatable to a maximum of 3 cr hrs.</td>
</tr>
<tr>
<td>5798.01</td>
<td>India Study Abroad Program</td>
<td>U G 3</td>
<td>The course introduces undergraduate and graduate students to history, tradition, and cultural paradigms impact on the social welfare policies and practices in India, with special emphasis on socio-economic, health and mental health programs and services delivery systems.</td>
</tr>
</tbody>
</table>
446 Social Work

5790.02 Social Issues and Human Rights in Nicaragua U G 3
The short term study abroad program in Nicaragua will expose undergraduate and graduate students to the historical and cultural context for social issues and human rights in Nicaragua, the largest and poorest country in Central America. Students will learn about the Sandanista revolution that took place in the 1970s and the current political and development environment. GE education abroad course.

5798.03 An Exploration of Australia's Systems of Care U G 3
Course is taught in Melbourne, Australia and focuses on two systems of care in Australia: child welfare and children's mental health. Students will learn about the country's policy, research, and practices, especially in relation to Aboriginal peoples, and about Australia's use of technology. Students will reflect on differences and similarities between the US and Australian systems.

6188 Preparing for Field Education G 1
Prepares students to be active learners and leaders in field by providing an orientation to field education, policies and procedures and training on Ohio Benefits Bank; safety, mental wellness and self-care, and the importance of field education. Students will learn expectations of professional and ethical behavior and communication and how to screen and access public benefits for clients.
Prereq: MSW I standing. Repeatable to a maximum of 3 cr hrs.

6189 Field Practicum G 1 - 3
Provides the student with an internship in a social work agency where they will integrate foundation classroom knowledge and skills with practice experiences.
Prereq or concur: 6501 (744). Repeatable to a maximum of 5 cr hrs or 3 completions. This course is graded S/U.

6201 Social and Economic Justice G 3
Foundation knowledge related to social justice in the context of social welfare in advancing human rights of all people.
Prereq: Not open to students with credit for 720 and 721.

6202 Diversity and Cultural Competence G 3
Conceptual framework for effective and culturally sensitive social work practice with oppressed and vulnerable populations.
Prereq: MSW I standing, or permission of instructor. Not open to students with credit for 709, 710, or 711.

6301 Social Work Perspectives on Development and Behavior Across the Lifespan G 3
Examine individual and contextual developmental processes across the lifespan in order to understand how human behavior is impacted by risk and protective developmental factors.
Prereq: Not open to students with credit for 733.

6302 Organizational & Community Systems G 3
Critical examines explanatory theory regarding the functioning of human service organizations, residential institutions, and communities with applications to social work assessment and intervention.
Prereq: Not open to students with credit for 730.01 or 733 or 734.

6401 Engaging with Evidence G 3
Students develop knowledge, values and skills about evidence to inform practice and prepare to analyze evidence at all levels of practice.
Prereq: Not open to students with credit for 730.01 or 734.

6501 Engaging and Entering the Profession G 4
Introduces students to the knowledge, skills and values needed to prepare for and engage in social work with vulnerable and oppressed populations.
Prereq: Not open to students with credit for 770 or 771.

7189 Advanced Field Practicum G 1 - 4
An internship in a social work agency where students will integrate advanced classroom knowledge and skills with practice experiences.
Prereq: 6189 (789.01 or 789.02 or 789.03 or 789.04 or 789.05 or 789.06) or 7400 (or 747). Repeatable to a maximum of 8 or 4 cr hrs or 4 completions. This course is graded S/U.

7193 Individual Studies G 1 - 3
Individual study projects in selected areas of social work and social welfare.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

7194 Group Studies G 1 - 3
Specialized topic courses in areas of social work and social welfare.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.

7199 Thesis Research G 1 - 3
Individual research projects in selected areas of social work and social welfare.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

7400 Evidence in Social Work Practice G 2
Students develop knowledge, values and skills about evidence to inform practice and prepare to analyze evidence at all levels of practice.
Prereq: ASAP status.

7401 Evaluating Social Work Practice G 3
Teaches the use of single-system evaluation methods in the systematic collection and analysis of data to assess social work practice effectiveness and guide practice decisions.
Prereq: 6401 (770 and 771) or 7400 (770 and 771). Not open to students with credit for 772.

7402 Applied Practice Evaluation G 3
MSW capstone course where students apply the knowledge and skills they have previously acquired to complete a social work practice evaluation project.
Prereq: 7401. Not open to students with credit for 772.

7403 Evaluating Programs and Policies G 3
Teaches methods for conducting social service program and policy needs assessment, process evaluation, and outcome evaluations.
Prereq: 6401 (770 and 771) or 7400 (770 and 771). Not open to students with credit for 772.

7404 Applied Program and Policy Evaluation G 3
MSW capstone course where students apply the knowledge and skills they have previously acquired to complete a program or policy evaluation project.
Prereq: 7403.

7500 Professional Development G 2
Introduces ASAP student to the knowledge, skills, and values needed to prepare for and engage in the second year field practice experience.
Prereq: ASAP standing. Not open to students with credit for 747.

7510 Strengths-based Clinical Social Work with Individual Adults G 3
Focuses on using several specific clinical approaches for working with client strengths to effect change.
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744 or 745 or 746); or 7400 and 7500. Not open to students with credit for 741.02.

7511 Clinical Social Work with Children and Adolescents G 3
The elements of advanced clinical social work with children and adolescents: theoretical frameworks, interviewing, diagnosis and assessment, treatment planning, practice methods, and evidenced-based interventions.
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, and 746); or 7400 and 7500. Not open to students with credit for 741.09.

7512 Clinical Social Work with Couples and Families G 3
Course provides comprehensive introduction to several theoretical approaches to brief strengths-based couple and family therapy with focus on practice application.
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, 746); or 7400 and 7500. Not open to students with credit for 741.03.

7513 Clinical Social Work with Groups G 3
Process and methods of advanced clinical social work with groups using various theoretical approaches with different types of groups and member diversity in various settings.
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744 or 745 or 746); or 7400 and 7500. Not open to students with credit for 741.06.

7514 Behavioral Methods in Social Work G 3
Fundamental principles and practice of cognitive behavioral treatment (CBT) methods in social work across a variety of settings, practice problems, and client populations.
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, 746); or 7400 and 7500.

7515 Crisis Intervention and Trauma Treatment G 3
Steps for intervening with clients in crisis and effective approaches for treating clients experiencing the effects of trauma or posttraumatic stress syndrome (PTSD).
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744 or 745 or 746); or 7400 and 7500. Not open to students with credit for 741.03.

7516 Assessment and Diagnosis in Clinical Social Work Practice G 3
Diagnose and assess client symptoms and behavior using a formal diagnostic system such as the Diagnostic and Statistical Manual (DSM) in clinical social work practice.
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744 or 745 or 746); or 7400 and 7500. Not open to students with credit for 741.03.

7517 Social Work Practice in Schools G 3
Prepares students to work effectively in the education setting as a licensed school social worker.
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 741.03.

7518 Advanced Case Management G 1½
Development of competencies in the provision of case management services to address various complex client problems.
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.

7519 Advanced Practice in Motivational Interviewing G 1½
Provides social work students with advanced practice skills in adopting a motivational interviewing style to help promote adolescents' and adults' intentional behavior change.
Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.
7520 Pharmacotherapy in Social Work Mental Health and Substance Abuse  G 1½
A survey of key principles, issues, and social work practice implications related to common interventions involving medications for addressing mental health and substance abuse problems. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.

7521 Evidence-based Substance Abuse Treatment  G 3
Examines specific evidence-informed social work practices in assessment, diagnosis, treatment, prevention, and relapse prevention with substance misuse, abuse, and dependence. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.

7523 Clinical SW Practice with Older Adults  G 3
Advanced clinical practice with a focus on evidenced-based treatment modalities for older persons and their families. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 751.02.

7530 Needs Assessment and Program Design  G 3
Introduces program development and design, the skills for program implementation and management, needs assessment and program design for collective-decision-making in organizations, systems and communities. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 742.04.

7531 Resource Acquisition for Human Service Organizations  G 3
Offers methods of acquiring financial and material resources for human service programs through grant writing, fund raising, lobbying, and campaigns. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 742.07.

7532 Supervision and Human Resource Management  G 3
Prepares students for leadership and management in human service agencies. Students master skills is selecting and leading personnel in the context of the organizational culture. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 742.02.

7533 Financial Management  G 3
Basic knowledge and skills of financial management in nonprofit human service organizations. Financing, budgeting and accounting are covered. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 742.05.

7534 Prevention Strategies in Social Work Practice  G 1½
Examines prevention models, the evidence surrounding specific preventive interventions, and practice issues related to implementing prevention approaches. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.

7550 Community Practice and Development  G 3
Prepares students for social work practice in community settings including engagement, assessment, intervention, evaluation in community practice. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 730.03.

7551 Strategic Planning for Organization and Community Change  G 3
Use strategic planning methods for engaging others; assessing strengths, needs, and environment; setting goals; developing plans; fostering support and partnerships; and evaluating and monitoring results. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.

7570 Policy Analysis and Social Legislation Process  G 3
Covers the legislative process of social welfare policy making and provides analytical skills of policy analysis to help legislators with policy choices at both state and federal government levels. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500. Not open to students with credit for 752.

7610 Integrative Seminar I on Aging and Health  G 3
Introduces students to health, illness and geriatric social work. Theories and psychosocial implications are presented, as are experiences and outcomes for diverse populations.

7611 Integrative Seminar II on Aging and Health  G 3
Introduces students to the critical issues, theories, and knowledge need to understand and work with older persons from an interdisciplinary perspective and at multiple levels. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.

7620 Integrative Seminar I on Mental Health and Substance Abuse  G 3
Surveys: 1) social work practice; 2) policy, program, and organizational issues; and 3) outcome evidence related to the delivery of mental health services. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.

7621 Integrative Seminar II on Mental Health and Substance Abuse  G 3
Surveys social work practice, program, and policy issues, theories, and evidence related to substance use, misuse, abuse, and dependency across the lifespan. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.

7630 Integrated Seminar I on Child and Youth Services  G 3
The first of two in a series, prepares students with competencies essential for working with children, youth, and families in various service settings. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.

7631 Integrated Seminar II on Child and Youth Services  G 3
The second of two in a series, prepares students with competencies essential for working with children, youth, and families in various service settings. Prereq: 7630.

7640 Integrative Seminar I on Community and Social Justice  G 3
Focuses on multiple social systems associated with social and economic inequality. Social intervention and social work practice are critically reviewed for advancing community and social justice. Prereq: 6201 (720 and 721), 6301 (733), 6401 (770 and 771), and 6501 (744, 745, or 746); or 7400 and 7500.

7641 Integrative Seminar II on Community and Social Justice  G 3
Focuses on social issues and intervention strategies at the organizational, community, and policy levels using a social structural perspective to assess social interventions and discusses alternative interventions. Prereq: 7640.

7702 Research Issues in Gerontology  1 - 5
Examines research in gerontology and geriatrics by exploring diverse methods, including survey research, longitudinal studies, secondary analysis, intervention research and qualitative methods.

7704 Community Youth Development  G 3
Equips students with the skills and competencies necessary to work in community youth development organizations.

7717 Interdisciplinary Perspective on Developmental Disabilities  G 3
Provides an introduction to the psychosocial, medical, and educational implications of developmental disabilities. Prereq: Permission of instructor. Not open to students with credit for 717.01 and 717.03. Cross-listed in HthRhSc, EducSt, Nursing, Psych, and SphHrng.

7718 Interdisciplinary Perspective on Autism Spectrum Disorders  G 3
Teaches the analytical skills necessary to comprehend and formulate an interdisciplinary framework relating to major scientific and theoretical perspectives in autism spectrum disorders. Prereq: Permission of instructor. Not open to students with credit for 717.01 and 717.02. Cross-listed in HthRhSc, EducSt, Nursing, Psych, and SphHrng.

7719 Advanced Social Work Practice in Integrated Healthcare  G 3
Focuses on practice skills and knowledge for integrated services and care to support persons with health, mental health, and substance use problems.

8101 Research and Professional Development Seminar  G 1
Provides a foundation for doctoral study in social work, emphasizing issues in translational research, standards for research and scholarship, transition from practitioner to academic. Prereq: Doctoral standing in Social Work or permission of instructor. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

8193 Individual Studies  G 1 - 5
Independent study under the supervision of a faculty member. Prereq: Doct standing in SocWork. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

8194 Group Studies  G 1 - 3
Specialized topic courses in areas of social work and social welfare. Prereq: Doctoral student in SocWork. Repeatable to a maximum of 9 cr hrs or 9 completions.

8201 Knowledge Building  G 3
Examines the role of theory and elements of knowledge development for social work, social policy, and social change. Prereq: Doct standing. Not open to students with credit for 900.01.
448 Social Work

8202 Theories of Change for Social Problem Interventions G 3
Develops students' knowledge of theory and research concerning processes of change with individuals and larger systems, occurring with or outside of planned interventions. Not open to MSW students, but could be open to thesis master's students in other disciplines with permission of instructor.
Prereq: Doct standing, or permission of instructor. Not open to students with credit for 900.02 or 900.03.

8401 Foundations of Translational/Intervention Research in Social Work G 3
Prepares students with basic competencies in research methods for translational and intervention research using quantitative, qualitative, and mixed methods.
Prereq: Doct student in SocWork, or Grad standing in another field. Not open to students with credit for 901.01.

8402 Methods for Research in Context I (Qualitative) G 3
Qualitative research strategies and methods will be studied in the context of epistemological, ontological, theoretical, political, historical, and ethical issues germane to the research paradigm.
Prereq: Doct standing, or permission of instructor. Not open to students with credit for 901.02.

8403 Methods for Translational/Intervention Research in Social Work G 3
Prepares students to apply quantitative research methods for translational and intervention research.
Prereq: 8401 or 901.01.

8404 Methods for Research in Context II G 3
Students will develop competence in mixed qualitative and quantitative methods to study intervention adaptation and processes in social service organizations.
Prereq: 8402 (901.02) or permission of instructor. Not open to students with credit for 902.02.

8405 Quantitative Analysis: Special Issues and Considerations G 2
Addresses quantitative analysis issues that arise in data collected in applied settings such as residential programs, schools and social work agencies.
Prereq: Doct standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs.

8406 Analysis and Interpretation of Qualitative Data G 3
Introduces students to a selected group of qualitative methodologies and analysis strategies with applied focus on data analysis, interpretation, and writing up findings.
Prereq: 8402 (901.02) or equiv.

8501 International Issues in Social Work Practice and Social Development
Focuses on the multidimensional and dynamic local, national, regional and international contexts and issues that help shape human welfare and social development in various parts of the globe.
Prereq: Doct standing in SocWork, or permission of instructor. Not open to students with credit for 902.04.

8502 Social Work Pedagogy: Competence, Opportunities, and Challenges G 2
Prepares students to be effective social work educators with a particular focus on educational orientations and effective teaching strategies in the pedagogical process.
Prereq: Completion of 1st yr Doct program. Not open to students with credit for 902.03.

8988 Research G 1 - 12
Research for independent project or preparation of the written candidacy examination.
Prereq: Doct standing in SocWork. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded SU.

8999 Research for Dissertation G 1 - 3
Dissertation research and writing under the direction of advisor and dissertation committee.
Prereq: Doct standing in SocWork. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is progress graded (SU).

Sociology

1101 Introductory Sociology U 3
Fundamental concepts of sociology and an introduction to the analysis of social problems and interactions (e.g., wealth, gender, race, inequality, family, crime) using sociological theories.
Au, Sp, Su Sem. Prereq: Not open to students with credit for 1101H (101H), 1101E, 101, RurlSoc 1500 (105), or equiv. GE soc sci orgs and polities and diversity soc div in the US course.

1101E Introduction to Sociology (Honors Embedded) U 3
Fundamentals of sociology and introduction to the analysis of social problems and social interactions, (e.g., wealth, gender, race inequality, family, crime) using sociological theories.
2387.02 Urban Social Problems

The place of the city in social organization; the emergence, nature, and problems of modern urbanism; projects based in census and field data.
Pre: English 1110 (110) or 1111 (111) or equiv. Not open to students with credit for 367.02. GE writing and comm course: level 2 and soc sci orgs and polities course.

2367.03H Work and Family in the United States (Honors)

Sociological examination of linkages between occupational and economic arrangements and marital and parental experiences in the United States.
Pre: Honors standing, and English 1110 (110), or 1111 (111), or equiv; or permission of instructor. Not open to students with credit for 367.03H. GE writing and comm course: level 2 and soc sci orgs and polities course.

2370 Social Psychology in Sociological Perspective

Analysis of relationships between society and the individual. Learning of motives and social roles, socialization, group organization and disorganization. Development of self and personality.
Pre: Not open to students with credit for 370. GE soc sci indivs and groups course.

2382 Sociology of Asian American Life

Introduction to Asian American life with attention to this group’s social history, present status, and racial-ethnic relations.
Pre: Not open to students with credit for 382. GE diversity soc div in the US course.

2389.01 Career Exploration in Sociology

Designed for sociology majors to explore career paths of interest, facilitate vocational development, and acquire career search skills. Credit does not apply to hours in the sociology/criminology major.
Pre: Not open to students with credit for 389. This course is graded S/U.

2389.02 Career Exploration in Criminology

Designed for criminology majors to explore career paths of interest, facilitate vocational development, and acquire career search skills. Credit does not apply to hours in the criminology major.
Pre: Not open to students with credit for 389. This course is graded S/U.

2391 Social Organization of Communities

Development of the modern community; approaches to the study of communities; significance of processes and value systems for community organization and disorganization.
Pre: Not open to students with credit for 391.

2640 Sociology of Everyday Life

A basic course in ethnomet hodology; a survey of the basic literature; study of the taken-for-granted, verbal and non-verbal features of social interaction; involves making observations and descriptions.
Pre: Not open to students with credit for 640.

2797 Study at a Foreign Institution

An opportunity for students to study at a foreign institution and receive Ohio State credit for their work. Students will pay Ohio State fees in excess of Ohio State tuition as well as all travel and subsistence costs.
Pre: Permission of department chairperson. Repeatable to a maximum of 27 or hrs or 3 completions. This course is graded S/U.

2798.01 Study Tour: Domestic

Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.
Pre: Permission of instructor. Not open to students with credit for 2798.01.

2798.02 Study Tour: Foreign

Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details.
Pre: Permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions.

3191 Internship Program in Sociology and Criminology

An opportunity for work experience and on-the-job learning in sociology and criminology related employment. Employment or experience through the Internship Program conducted under the supervision of the internship coordinator. Requires completion of internship learning agreement.
Pre: Permission of instructor. Repeatable to a maximum of 9 or hrs or 3 completions. This course is graded S/U.

3200 Sociology of Immigration

Provides a sociological understanding of contemporary migration both globally and with a particular focus on the U.S. The course will examine why migration occurs; how it is sustained over time; and how immigrants are incorporated into the host society. Social relations as central to understanding immigration will be a focus of the course.

3302 Technology and Global Society

Social aspects of technology, social change, and technological development; underdevelopment and the global economy.
Pre: Not open to students with credit for Sociol 302.

3306 Sociology of Poverty

A study of low-income peoples, especially concerning the effect of poverty on them, and their consequent social participation.
Pre: Not open to students with credit for 306. GE diversity soc div in the US course.

3315 Sociology of Terrorism

Provides a broad review of the definitions, histories, types, and theories of terrorism from a sociological perspective.
Pre: Not open to students with credit for 315.

3380 Racial and Ethnic Relations in America

Historical and contemporary study of race and ethnicity in the U.S. with a focus on relations within and between groups.
Pre: Not open to students with credit for 380 or 380. GE soc sci indivs and groups course.

3407 Social Change

Examines dynamic forces and key actors engaged in cultural, economic, and political change around the world in sociological perspective; processes of globalization, democratization, and development.
Pre: Not open to students with credit for 407.

3410 Criminology

Theories of delinquency, crime, and criminal careers; scientific aspects of crime measurement.
Pre: Not open to students with credit for 410.

3410H Criminology (Honors)

Theories of delinquency, crime, and criminal careers; scientific aspects of crime measurement.
Pre: Honors standing, or permission of department or instructor. Not open to students with credit for 410H.

3430 Sociology of the Family

Analysis of relationships between the family and the larger society including mate selection, status of women, and patterns of husband-wife and parent-child relationships.
Pre: Not open to students with credit for 430.

3434 The Child and Society

A study of the ways in which society socializes children; current breakdown in the socializing processes and implications for the school and other educational agencies.
Pre: Not open to students with credit for 434.

3435 Sociology of Gender

Analyzes multilevel processes that differentiate women and men in education, employment, and relationships. Examines variations in gendered experiences across race-ethnicity, social class, and sexuality.
Pre: Not open to students with credit for 435. GE diversity soc div in the US course.

3460 Environmental Justice

Examines environmental issues from a sociological perspective, especially human causes of environmental change such as technology, population, and consumption, and social reactions.
Pre: Not open to students with credit for 460. GE soc sci human, nat, and econ resources course.

3463 Social Stratification: Race, Class, and Gender

The study of social inequality with a focus on inequalities by class and status, race and ethnicity, and gender.
Pre: Not open to students with credit for 463. GE soc sci human, nat, and econ resources course.

3463H Social Stratification: Race, Class, and Gender (Honors)

The study of social inequality with a focus on inequalities by class and status, race and ethnicity, and gender.
Pre: Honors standing, or permission of department or instructor. Not open to students with credit for 463H. GE soc sci human, nat, and econ resources course.

3464 Work, Employment, and Society

Analysis of work organization; control and authority relationships in the workplace; comparative studies of work and labor movements; industrial decline; automation.
Pre: Not open to students with credit for 464.

3467 Sociology of Religion

The social role of religious institutions and beliefs, with particular reference to the United States; the relation between religion and other aspects of society.
Pre: Not open to students with credit for 467. GE diversity soc div in the US course.

3487 Research Methods in Sociology

Introduction to sociological research techniques, methodological approaches, and relevant quantitative procedures.
Pre: Not open to students with credit for 487.

3487H Research Methods in Sociology (Honors)

Introduction to sociological research techniques, methodological approaches, and relevant quantitative procedures.
Pre: Honors standing, or permission of department or instructor. Not open to students with credit for 487H.
450 Sociology

3488 Introduction to Sociological Theory U 3
Introductory statement of the nature of sociological theory, its basic problems, assumptions, major types and orientations, and principal contributions to the discipline. Prereq: 3 cr hrs taken at 2000-3000 level. Not open to students with credit for 488.

3549 Statistics in Sociology U 3
An introduction to the application and interpretation of quantitative analysis in sociological research; emphasis on the description of social variables and hypothesis testing. Au, Sp, Su Semi. Prereq: Not open to students with credit for 549. GE data anly course.

3549H Statistics in Sociology (Honors) U 3
An introduction to the application and interpretation of quantitative analysis in sociological research; emphasis on the description of social variables and hypothesis testing. Prereq: Honors standing, and 3487 (487), Math 1116 (116), or equiv; or permission of instructor. Not open to students with credit for 549H. GE data anly course.

3597.01 World Problems in Global Context U 3
Sociological analysis of contemporary world societies - non-industrialized, industrializing, and industrialized - with special attention to major social institutions and patterns of social change. Prereq: Not open to students with credit for 597.01. GE cross-disciplinary seminar course.

3597.02 World Population Problems U 3
General introduction to population studies, emphasizing how population growth and structure have caused or aggravated social problems in various countries. Prereq: A general education quantitative reasoning course. Not open to students with credit for 597.02. GE cross-disciplinary seminar course.

3630 Medical Sociology U 3
Sociological analysis of the distribution of disease, and the nature of health care institutions, health professions, and the delivery of health care services. Prereq: Not open to students with credit for 630.

3798.01 Study Tour: Domestic U 1 - 9
Specific content, location, semester(s) of offering and prerequisites vary; contact department office for details. Repeatable for differently titled study tours only. Prereq: Permission of instructor. Not open to students with credit for 498.01.

3798.02 Study Tour: Foreign U 1 - 9
Specific content, location, semester(s) of offering and prerequisites vary; contact department office for details. Repeatable for differently titled study tours only. Prereq: Permission of instructor. Not open to students with credit for 498.02.

4000E Social Science Business Collaborative: A Service Learning Approach U 3
Sociology 4000E is an Honors Embedded course in which students learn to develop research projects through collaboration with a local business on a service project. Uses University resources to address community issues, facilitate data collection, learn project management and present research findings in academic and applied settings and learn through improving the community. Prereq: Honors standing, and 1101; or permission of instructor. Repeatable to a maximum of 6 cr hrs. GE service learning course.

4000H Social Science Business Collaborative: A Service Learning Approach U 3
Sociology 4000H is an Honors course designed to help students develop research projects through collaboration with a local business to work on a service project; link university resources to bear on community issues, facilitate data collection, learn project management, present research findings in both academic and applied settings, and learn through improving the community. Prereq: Honors standing and 1101; or permission of instructor. Repeatable to a maximum of 6 cr hrs. GE service learning course.

4000S Social Science Business Collaborative: A Service Learning Approach U 3
Sociology 4000S is a course that helps students develop research projects through collaboration with a local business to work on a service project: link university resources to bear on community issues, facilitate data collection, learn project management, present research findings in both academic and applied settings, and learn through improving the community. Prereq: 1101, or permission of instructor. Repeatable to a maximum of 6 cr hrs. GE service learning course.

4189.01 Fieldwork in Sociology U 3
Practicum in sociology. Credit does not apply to hours in the sociology/criminology major. Prereq: Enrollment in Sociology or Criminology major, or permission of instructor. Not open to students with credit for 589.01. This course is graded S/U.

4189.02 Fieldwork in Criminology and Criminal Justice U 3
Practicum in criminology and/or the criminal justice system. Credit does not apply to hours in the sociology/criminology major. Prereq: Enrollment in Sociology or Criminology major, or permission of instructor. Not open to students with credit for 589.02. This course is graded S/U.

4189.03 Criminal Investigation U 3
Theory and practice of criminal investigation and prosecution in the U.S. Criminal Justice System with attention to: (1) the roles of the law enforcement officer, prosecutor, and court personnel; (2) familiarization with various investigative techniques; (3) the collection and preservation of physical evidence; and (4) constitutional limitations and ethical considerations. Prereq: Enrollment in Sociology or Criminology major, or permission of instructor. This course is graded S/U.

4193 Individual Studies U 1 - 6
Individual studies. Prereq: 12 cr hrs in Sociol, and permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

4505 Capital Punishment in the United States U 3
Examines the role of capital punishment in the contemporary United States. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 505.

4507 The Criminal Justice System U 3
Advanced study of the role and operation of the criminal justice system: police, courts, and corrections. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 507.

4608 Violence U 3
Examines societal definitions of violence, theories that are most commonly invoked to explain violence, and research designed to critically evaluate theories of violence. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 4670.02, 508, or 673.

4509 Sociology of Law U 3
The relationship between law and social order emphasizing the structure of law, social origins of law, and law as a source of social change. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 509.

4510 Gender, Crime, and the Criminal Justice System U 3
Analysis of females as participants in and victims of crime, the treatment of women in the criminal justice system, women as workers in criminal justice fields. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 510.

4511 Juvenile Delinquency U 3
A sociological perspective in youth and crime; special attention to the magnitude of youth crime, theories, juvenile justice systems, and prevention and control efforts. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 511.

4515 Building Community Capacity: A Service Learning Approach U 3
This service learning course will explore the basic concepts, methods, and approaches used when sociology is put into practice in urban, organizational settings. Au semester. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400).

4606 Social Movements and Collective Behavior U 3
An examination of theories and research on non-traditional group efforts to change social systems and institutions; emphasis on contemporary societies and movements. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 606.

4607 Sociological Perspectives on New Media U 3
Examines how new media color our experiences of communication, culture, politics, and contemporary social life. Acknowledging that all media were at one point new media, this course begins by using "newness" as a frame through which to examine the practices, uses and meanings surrounding current media technologies.

4608 Gender, Race, and Class in Mass Communications U 3
Sociological aspects of mass communications; emphasis on relationships among media, audience, and social structure; examination of media culture and depictions of race, class, and gender. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 608.

4609 Neighborhoods and Crime U 3
Exploration of the social distribution of crime, with attention to the patterns and sources of neighborhood crime, and the impact of crime on fear of crime and on neighborhood decline. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 609.

4610 Sociology of Deviant Behavior U 3
An examination of the nature, types, and societal reactions to deviant behavior; special emphasis on the process of stigmatization and the emergence of deviant subcultures. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 610.

1488.02 Research Methods in Criminology and Criminal Justice U 3
An introduction to the scientific method in the study of crime and deviant behavior. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 589.02. This course is graded S/U.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4611</td>
<td>Prisons, Jails, and Community Corrections</td>
<td>U 3</td>
<td>Overview of prisons, jails, and community corrections from institutional and prisoner perspectives. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 611.</td>
</tr>
<tr>
<td>4615</td>
<td>Control and Prevention of Crime and Delinquency</td>
<td>U 3</td>
<td>Analysis of the operational effectiveness of special measures and programs pointed toward the control and prevention of crime and delinquency. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 615.</td>
</tr>
<tr>
<td>4623</td>
<td>Advanced Sociology of Education</td>
<td>U 3</td>
<td>Comparisons of the structures and functions of educational systems, elementary through university; recruitment and allocation of personnel and resources, power, conflict, and boundary maintenance. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 623.</td>
</tr>
<tr>
<td>4635</td>
<td>Men and Women in Society</td>
<td>U 3</td>
<td>Advanced seminar on the social and personal meanings of masculinity and femininity and variations across race-ethnicity, sexuality, and social class. Examines gender as a social phenomenon and system of social practices. Prereq: 3 cr hrs in Socio 2000-3000 (200-400). Not open to students with credit for 635.</td>
</tr>
<tr>
<td>4650</td>
<td>Undergraduate Seminar in Social Networks</td>
<td>U 3</td>
<td>In this seminar, we will study both the theoretical and substantive development of the field of social networks as well as methodological tools necessary for conducting research. We will explore how our relationships significantly shape many aspects of our lives including cognition, motivations, identity, social mobility, group organization and resource distribution. Prereq: Any GE Basic Computation, or GE Mathematical or Logical Analysis course; or permission of instructor.</td>
</tr>
<tr>
<td>4655</td>
<td>Sociology of Sport</td>
<td>U 3</td>
<td>Sport from a sociological perspective; relationship of sport to social institutions; socialization into sport; stratification within sports; sport and small group analysis. Prereq: Not open to students with credit for 655.</td>
</tr>
<tr>
<td>4666</td>
<td>Power and Society</td>
<td>U 3</td>
<td>Examination of structures, continuities, and processes of change; of models and building blocks; and of social contexts of power and dynamic forces entering political systems. Prereq: 3 cr hrs of Sociology 2000 - 3000 (200 - 400). Not open to students with credit for 666.</td>
</tr>
<tr>
<td>4670.01</td>
<td>Topics in Sociology</td>
<td>U 3</td>
<td>Examination of selected current topics of interest to sociologists; topics vary by section and instructor. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 3 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>4670.02</td>
<td>Topics in Criminology</td>
<td>U 3</td>
<td>Examination of selected current topics of interest to sociologists; topics vary by section and instructor. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>4671</td>
<td>Theory, Substance, and Techniques of Demography I</td>
<td>U 3</td>
<td>Survey of population studies covering sources of demographic data, mortality, and fertility. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 671.</td>
</tr>
<tr>
<td>4672</td>
<td>Theory, Substance, and Techniques of Demography II</td>
<td>U 3</td>
<td>Continuation of survey of population studies covering models of population growth, population theories, migration, population estimates and projections, population problems, and policy decisions. Prereq: 4671 (671) and Math 1151 or 1152 (152), or equiv. Not open to students with credit for 672.</td>
</tr>
<tr>
<td>4988</td>
<td>Undergraduate Research in Sociology</td>
<td>U 1 - 9</td>
<td>Undergraduate research or creative activities in variable topics. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4998H</td>
<td>Undergraduate Research in Sociology (Honors)</td>
<td>U 1 - 9</td>
<td>Undergraduate research or creative activities in variable topics. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 9 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999.01</td>
<td>Thesis Research: Sociology (Non-Honors)</td>
<td>U 1 - 3</td>
<td>A conference-thesis course for students not enrolled in the Honors program; subject matter will vary depending upon student's topic. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
</tbody>
</table>

4999.01H  | Honors Thesis Research: Sociology (Honors)       | U 1 - 3 | A conference-thesis course; subject matter will vary depending upon student's topic. At least 2 semesters are required for the degree BA with social distinction. Failure to receive a mark of S in this course is a disqualification for special honors. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U. |

4999.02    | Thesis Research: Criminology and Criminal Justice| U 1 - 3 | A conference-thesis course for students not enrolled in the Honors program; subject matter will vary depending on student's topic. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U. |

4999.02H   | Honors Thesis Research: Criminology and Criminal Justice (Honors) | U 1 - 3 | A conference-thesis course; subject matter will vary depending upon student's topic. At least 2 semesters are required for the degree BA with crimino distinction. Failure to receive a mark of S in this course is a disqualification for special honors. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U. |

5194.01    | Group Studies: Sociological Theory               | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |

5194.02    | Group Studies: Social Organization               | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |

5194.03    | Group Studies: Medical Sociology                | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |

5194.04    | Group Studies: Criminology and Criminal Justice | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |

5194.05    | Group Studies: Sociology of Education           | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |

5194.06    | Group Studies: Race/Ethnicity/Minority Relations | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |

5194.07    | Group Studies: Social Psychology                | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |

5194.08    | Group Studies: The Family                       | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |

5194.09    | Group Studies: Research Methodology             | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |

5194.10    | Group Studies: Urban/Community/Ecology          | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs at 2000-3000 (200-400) or higher level. Repeatable to a maximum of 9 cr hrs. |

5194.11    | Group Studies: Labor Markets/Economy and Society| U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |

5194.12    | Group Studies: Political Sociology              | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |

5194.13    | Group Studies: Population/Demography            | U G 3   | Topics vary each semester offered. Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 cr hrs. |
5194.14  Group Studies: Gender  U G  3
Topics vary each semester offered.
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 or hrs.

5194.15  Group Studies: Unclassified  U G  3
Topics vary each semester offered.
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Repeatable to a maximum of 9 or hrs.

5450  Sociology of Global Health and Illness  U G  3
Sociological study of health and illness from a global perspective. Topics include health, illness, and related behaviors; disease processes, correlates of diseases, global efforts to improve health, and comparative health care systems.
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 450.

5503  Social Change in Central and Eastern Europe  U G  3
Examines and discusses various approaches to social change, focusing on Central and Eastern Europe and its transition to the post communist era. It deals with political, economic, and cultural aspects of life in the region.
Prereq: 3 cr hrs at 2000-3000 (200-400) level or higher level. Not open to students with credit for 503.

5525  Global Criminology  U G  3
Provides students an introduction to global crime from a criminal justice perspective.
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 525.

5563  Global Inequality and Poverty  U G  3
Focus on globalization, world-wide inequalities, and poverty in sociological perspective with particular attention to the causes, correlates, and consequences of global poverty and inequality.
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 601.

5601  Comparative Family Organization  U G  3
Analysis of family organizations in various societies, emphasizing the impact of changing world conditions on family and kinship structures.
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 601.

5605  Sociology of Sexuality  U G  3
A social and institutional approach to the study of sexuality with a focus in sexual identities, practices, institutions, communities, and sexuality movements.
Prereq: 3 cr hrs at 2000-3000 (200-400) level or higher level. Not open to students with credit for 605.

5616  Challenges to Childhood: An International Perspective  U G  3
Course will explore children's forced participation in war and its consequences and child labor, health, abuse, and victimization in international perspective.
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 616 or IntStds 5616 (616). Cross-listed in IntStds.

5618  Sociology of Police and Policing  U G  3
Sociological understanding of the origins of routine police conduct and misconduct; representative topics include police-citizen encounters and police abuse of discretion.
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 618.

5629  Health Disparities in Social Context  U G  3
Analysis of the social determinants of health and health disparities with a focus on stratification/inequality. Includes variations in health disparities over the life course.
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 629.

5680  Marriage and Its Alternatives  U G  3
An in-depth look at some emerging life style patterns, such as dual-career marriages, childless marriages, single-parent families, blended families, singlehood, cohabitation, etc.
Prereq: 3 cr hrs in Sociology at 2000-3000 (200-400) level or above. Not open to students with credit for 680.

5797  Study at a Foreign Institution  U G  1 - 9
An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Students will pay Ohio State fees in excess of Ohio State tuition, as well as all travel and subsistence costs.
Prereq: Permission of department chairperson. Repeatable to a maximum of 27 or hrs or 3 completions. This course is progress graded (SU).

5798.01  Study Tour: Domestic  U G  1 - 9
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Repeatable for differently titled study tours only.
Prereq: Permission of instructor. Repeatable to a maximum of 27 or hrs or 3 completions.

5798.02  Study Tour: Foreign  U G  1 - 9
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Repeatable for differently titled study tours only.
Prereq: Permission of instructor. Repeatable to a maximum of 27 or hrs or 3 completions.

6193  Individual Studies  U G  1 - 9
Individual Studies. Repeatable. This course is graded S/U.
Prereq: 18 cr hrs in Soc, or Grad standing and permission of instructor. Not open to students with credit for 693. Repeatable to a maximum of 99 or hrs or 99 completions. This course is graded S/U.

6582  Sociological Theory  U G  3
Analysis of classical systems and their representatives, e.g., positivistic social evolutionism (Compte, Spencer, Durkheim), historical materialism (Marx-Engels), and humanistic idealistic reactions (Tonnies, Simmel, M. Weber).
Prereq: Grad standing. Not open to students with credit for 782.

6608  Qualitative Methods in Sociology  U G  3
A survey of qualitative approaches to social research, including participant observation, intensive interviewing, and archival/documentary analysis.
Prereq: Grad standing. Not open to students with credit for 704.

6649  Intro to Quantitative Research/Multiple Regression  U G  3
Assumptions, principles, and applications of the multiple regression model in sociological practice; basic model, dummy variables, and special functional forms.
Prereq: Honors standing, and Grad standing; or permission of instructor. Not open to students with credit for 648 or 649.

6650  Categorical Data Analysis  U G  3
Techniques of analysis for examining nominally measured dependent variables, and treatment of error structures that are heteroskedastic or correlated across cases.
Prereq: 6649 (649) and Grad standing, or permission of instructor. Not open to students with credit for 703.

6655  Sociological Research Methods  U G  3
Theory and practice in essentials of the research process; comparison of alternative approaches and design models; questionnaire construction, interview techniques, and related problems.
Prereq: 6649 (649) or equiv, or permission of instructor. Not open to students with credit for 651.

6708  Design and Analysis of Qualitative Sociological Research  U G  3
Problems and techniques of non-quantitative data analysis including case studies, participant observation, field diary, autobiography, and historical records.
Prereq: 6849. Not open to students with credit for 708. Repeatable to a maximum of 10 or hrs.

6710  Design and Analysis of Quantitative Sociological Research  U G  3
Problem formulation, hypothesis testing, argumentation from data, and writing for professional audiences; research practicum leading to a research project.
Prereq: Not open to students with credit for 710.

6800  Proseminar in Sociology  U G  1
Each week an area of specialization within sociology will be discussed by a professor whose major interest is in that area; provides an overview of special topics and current issues. Open only to 1st year graduate students.
Prereq: Not open to students with credit for 800. This course is progress graded (SU).

6802  Teaching Sociology  U G  2
Designed to prepare sociology graduate students to teach independent sections of basic sociology classes.
Prereq: Grad standing in Soc, or permission of instructor. Not open to students with credit for 602. This course is progress graded (SU).

6999  Research for Thesis  U G  1 - 12
Research for thesis purposes only. Au and Sp Semesters Repeatable. This course is graded SU.
Prereq: Not open to students with credit for 998. This course is graded SU.

7652  Sociological Survey Research Methods I  U G  3
Design of sociological survey research: question format, questionnaire design, alternative modes of administration; hands-on practice in Computer Assisted Telephone Interviewing (CATI).
Prereq: 10 cr hrs in Soc, or grad standing. Not open to students with credit for 652.

7653  Sociological Survey Research II  U G  3
Administration and analysis of sociological surveys; emphasis on development, administration, and analysis of survey data.
Prereq: 7652 or permission of instructor. Not open to students with credit for 653.

7700  Writing and Publishing in Sociology  U G  3
Designed to review the mechanics of writing and publishing in sociology and related specialty journals.
Prereq: 6655 (651). Not open to students with credit for 700.
<table>
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<tr>
<th>Course Code</th>
<th>Course Title</th>
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<td>7710</td>
<td>Introduction to Social Networks</td>
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<td>7711</td>
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<td>7721</td>
<td>Macrosociological Perspectives and Research on Crime</td>
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<td>Principles and Techniques of Scale Construction</td>
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<td>7758</td>
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<td>7884.03</td>
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<td>Seminar: Criminology and Criminal Justice</td>
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<tr>
<td>7884.06</td>
<td>Seminar: Race/Ethnic/Minority Relations</td>
<td>3</td>
<td>Topics in race/ethnic/minority relations selected to give the advanced student opportunity to pursue special studies not otherwise offered. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
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<tr>
<td>7884.08</td>
<td>Seminar: The Family</td>
<td>3</td>
<td>Topics in family studies selected to give the advanced student opportunity to pursue special studies not otherwise offered. Repeatable to a maximum of 12 cr hrs.</td>
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<td>7884.09</td>
<td>Seminar: Research Methodology</td>
<td>1-3</td>
<td>Topics in research methodology selected to give the advanced student opportunity to pursue special studies not otherwise offered. Repeatable to a maximum of 12 cr hrs or 4 completions.</td>
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<tr>
<td>7884.10</td>
<td>Seminar: Urban/Community</td>
<td>3</td>
<td>Seminar on current topics in the sociological study of social and structural aspects of community and urban life. Preq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>7884.11</td>
<td>Seminar: Labor Markets/Economy and Society</td>
<td>3</td>
<td>Topics in labor market and economy selected to give the advanced student opportunity to pursue special studies not otherwise offered. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>7884.12</td>
<td>Seminar: Political Sociology</td>
<td>3</td>
<td>Topics in political sociology selected to give the advanced student opportunity to pursue special studies not otherwise offered. Repeatable to a maximum of 12 cr hrs.</td>
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<td>7884.13</td>
<td>Seminar: Population/Demography</td>
<td>3</td>
<td>Topics in population/demography selected to give the advanced student opportunity to pursue special studies not otherwise offered. Repeatable to a maximum of 12 cr hrs.</td>
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<td>7884.14</td>
<td>Seminar: Gender</td>
<td>3</td>
<td>Topics in the sociology of gender selected to give the advanced student opportunities to pursue special studies not otherwise offered. Preq: Not open to students with credit for 884.14. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>7884.15</td>
<td>Seminar: Unclassified</td>
<td>3</td>
<td>Unclassified seminar. Preq: Not open to students with credit for 884.15. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>8505</td>
<td>Construction and Verification of Theory</td>
<td>3</td>
<td>The actual practice of theory construction and its underlying logic. Preq: 4487 or equiv, or Grad standing, or permission of instructor. Not open to students with credit for 705.</td>
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<tr>
<td>8509</td>
<td>Historical Sociology</td>
<td>3</td>
<td>Assessment of major studies in historical sociology by focusing on their internal logic, the supporting evidence, and the subsequent research. Preq: 6668 or 6649 (649). Not open to students with credit for 709.</td>
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<tr>
<td>8547</td>
<td>Theories of Social Change</td>
<td>3</td>
<td>Analysis of theoretical traditions in the study of social change, and methods of constructing synthetic theories of change. Preq: 6502 (782) or equiv. Not open to students with credit for 747.</td>
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<tr>
<td>8570</td>
<td>Individual in Society</td>
<td>3</td>
<td>Analysis and synthesis of the major theories and findings of social psychology. Preq: Not open to students with credit for 770.</td>
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<tr>
<td>8580</td>
<td>Issues in Contemporary Theory</td>
<td>3</td>
<td>A critical examination of contemporary theory in sociology with an emphasis on individual action in the social context. Preq: 6582 (782), or 6584 (784), or permission of instructor.</td>
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<tr>
<td>8592</td>
<td>Structural Sociology</td>
<td>3</td>
<td>Key concepts, issues, recent trends in the study of social structure with special emphasis on formal social organizations, social stratification, comparative social systems, groups, and research methods. Preq: Grad standing in Sociol. Not open to students with credit for 792.</td>
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<tr>
<td>8607</td>
<td>Causal Modeling</td>
<td>3</td>
<td>A survey of advanced problems in the multivariate analysis of sociological data. Preq: 6649 (649). Not open to students with credit for 707.</td>
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<tr>
<td>8632</td>
<td>Analysis of Longitudinal Data</td>
<td>3</td>
<td>Provides an introduction to event history analysis and other types of longitudinal data analysis. Preq: Grad standing, or permission of instructor. Not open to students with credit for 852.</td>
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<tr>
<td>8651</td>
<td>Hierarchical Linear Models</td>
<td>3</td>
<td>Introduction to hierarchical and nonlinear models; review of three level, latent growth curve, cross-classified, and latent variable models for hierarchical data. Preq: Grad standing, or permission of instructor. Not open to students with credit for 851.</td>
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<tr>
<td>1102.30</td>
<td>Spanish II: Bridge course</td>
<td>U 3</td>
<td>Development of listening, reading, speaking, and writing skills in cultural contexts. 102.01 or 102.66 students will need this course before continuing on to 1103.01 (103.01 &amp; 104) to cover material not presented in 1101.01. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 102.01 or 102.66. Not open to students with credit for 1101.01, 1101.51, 1102.01, 1103.01, or 1103.66. This course is available for EM credit. GE for lang course. FL Adms Cond course.</td>
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<tr>
<td>1103.01</td>
<td>Spanish III</td>
<td>U 4</td>
<td>Continuing development of listening, reading, speaking, and writing skills in cultural contexts. A grade of C- or above is required to continue to 2201.01 or 51 and/or 2202.01. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1102.01 (103.01) or 1150 (103.66). Not open to students with credit for 104, 104H, 2200H, 1103.51, 2201.01, 2201.51, or 2202.01. This course is available for EM credit. GE for lang course. FL Adms Cond course.</td>
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<tr>
<td>1103.51</td>
<td>Spanish III: Individualized Instruction</td>
<td>U 1 - 4</td>
<td>Continuing development of listening, reading, speaking, and writing skills in cultural contexts. Taught in Spanish. This course is designed for Individual Instruction (I.I.). &quot;B&quot; average in Spanish coursework strongly recommended. Progress sequential or cr to cr hr. 80% proficiency req for advancement. 4 cr hrs needed to move on to Spanish 2000-level. Not open to native speakers. Prereq: 1102.01 (103.01), 1102.30, or 1150 (103.66), or equiv. Not open to students with credit for 1103.51 (104) or 2200H (104H). Repeatable to a maximum of 4 cr hrs or 4 completions. GE for lang course. FL Adms Cond course.</td>
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<tr>
<td>1155</td>
<td>Intensive Spanish for Review</td>
<td>U 4</td>
<td>Intensive beginning Spanish; emphasis on development of proficiency in listening, speaking, reading and writing in cultural contexts. Not open to native speakers of this language through regular course enrollment or EM credit, or to students with less than 3 years of high school Spanish. Prereq: By placement exam only. Not open to students with credit for 1101.01, 1102.01, 1103.01, 1103.51, 101.01, 102.66, 102.01, 103.66, 103.01, or 111. This course is available for EM credit. GE for lang course. FL Adms Cond course.</td>
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<tr>
<td>2150</td>
<td>Culture and Literature of Spain</td>
<td>U 3</td>
<td>Introduction to the principal developments of the culture of Spain through literature, art, music, film, and folklore. Prereq: Not open to students with credit for 150. GE cultures and ideas course. GE diversity global studies course.</td>
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<tr>
<td>2151</td>
<td>Latin American Culture and Literature</td>
<td>U 3</td>
<td>Introduction to the culture of Spanish America and Brazil through literature, art, music, film, and folklore. Prereq: Not open to students with credit for 151. GE cultures and ideas and diversity global studies course.</td>
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<tr>
<td>2193</td>
<td>Individual Studies</td>
<td>U 1 - 9</td>
<td>Individual Studies. Prereq: Written permission of department and additional paperwork required. Repeatable to a maximum of 60 credits or 60 completions. This course is graded S/U.</td>
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<td>2194</td>
<td>Group Studies</td>
<td>U 1 - 9</td>
<td>Group Studies. Prereq: Written permission of department is required. Repeatable. This course is graded S/U.</td>
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<tr>
<td>2200H</td>
<td>Honors Intermediate Spanish Language</td>
<td>U 4</td>
<td>Intensive, intermediate Spanish for potential Spanish majors, minors, &amp; highly-motivated students in other areas of study; emphasis on development of proficiency in listening, speaking, reading &amp; writing &amp; knowledge of Hispanic cultures. Upon successful completion of 2200H (104H) &amp; the SLRPE, students &amp; eligible to enroll in 3401 (401), 3403 (403), &amp; 3404 (404). Not open to native speakers. Prereq: Honors standing, and 1102.01 (103.01), 1102.30, 1150 (103.66), or equiv, and GPA 3.4 or higher; or permission of instructor. Not open to students who have credit for 1103.01 or 1103.51 (104). GE for lang course. FL Adms Cond course.</td>
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<tr>
<td>2201.01</td>
<td>Listening Comprehension: Classroom</td>
<td>U 3</td>
<td>Listening strategies and practice for development of literal, evaluative, and critical listening in Spanish; a variety of comprehension strategies &amp; their application to authentic audio &amp; video texts. Prereq: 1103.01 (103.01 &amp; 104. or 111) or equiv. Not open to students with credit for 240.01 or to native speakers of this language through regular course enrollment. FL Adms Cond course.</td>
<td></td>
</tr>
<tr>
<td>2201.51</td>
<td>Listening Comprehension: Individualized</td>
<td>U 1 - 3</td>
<td>Listening strategies &amp; practice for development of literal, evaluative, &amp; critical listening skills; a variety of comprehension strategies &amp; their application to authentic audio &amp; video texts. Designed for individualized instruction. &quot;B&quot; average in Spanish coursework strongly recommended. Progress sequential from cr to cr hr. 80% proficiency req for advancement. Not open to native speakers. Prereq: 1103.01 (104 or 111) or 1103.51, or equiv. Not open to students with credit for 2201.01 (240.01). Repeatable to a maximum of 3 or hrs or 3 completions.</td>
<td></td>
</tr>
<tr>
<td>2202.01</td>
<td>Reading Comprehension: Classroom</td>
<td>U 3</td>
<td>Reading strategies and practice based on authentic Spanish texts, both journalistic and literary. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: 1103.01 (103.01 and 104, or 111), or equiv. Not open to students with credit for 2202.51 (250.51). FL Adms Cond course.</td>
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</tr>
<tr>
<td>2202.51</td>
<td>Reading Comprehension: Individualized</td>
<td>U 1 - 3</td>
<td>Reading strategies and practice based on authentic Spanish texts, both journalistic and literary. Taught in Spanish. Designed for individualized instruction. A minimum &quot;B&quot; average in previous Spanish coursework strongly recommended. Progress sequential from credit hour to credit hour, with 80% proficiency required for advancement. Not open to native speakers of this language. Prereq: 1103.01 (104 or 111), or equiv. Not open to students with credit for 2202.01 (250.01) or 2200H (104H). Repeatable to a maximum of 3 cr hrs or 3 completions. FL Adms Cond course.</td>
<td></td>
</tr>
<tr>
<td>2232</td>
<td>Introduction to Latino Studies</td>
<td>U 3</td>
<td>Introduction to the cultures, experiences, histories and definitions of Latino peoples in the United States; taught in English. Prereq: English 1110 (110) or equiv. Not open to students with credit for 242 or Comp Std 2322 (242). GE cultures and ideas and diversity soc div in the US course. Cross-listed in Comp Std 2322.</td>
<td></td>
</tr>
<tr>
<td>2302</td>
<td>Spanish Conversation</td>
<td>U 3</td>
<td>Intensive practice in conversation on selected topics. Only available through transfer credit or study abroad. Prereq: 1103.01 (103.01 &amp; 104, or 111), or 1155 (103.66), or 2200H (104H), or equivalent with a grade of C- or higher. Repeatable to a maximum of 9 cr hrs. FL Adms Cond course.</td>
<td></td>
</tr>
<tr>
<td>2320</td>
<td>Don Quijote in Translation</td>
<td>U 3</td>
<td>Introductory critical reading of Don Quijote in English. Prereq: Not open to students with credit for 320. GE lit and diversity global studies course.</td>
<td></td>
</tr>
<tr>
<td>2321</td>
<td>The Spanish Don Juan Theme in the Theatre</td>
<td>U 3</td>
<td>Introduction to the Don Juan theme from its origins in Renaissance Spain, through different versions, to the 20th century. Prereq: Not open to students with credit for 321. GE lit and diversity global studies course.</td>
<td></td>
</tr>
<tr>
<td>2322</td>
<td>Spanish Society and the Arts</td>
<td>U 3</td>
<td>Introduction to Spanish art and its relationship to society, from Goya to Toral: a visual approach to culture. Prereq: Not open to students with credit for 322. GE VPA and diversity global studies course.</td>
<td></td>
</tr>
<tr>
<td>2330</td>
<td>Reinventing America</td>
<td>U 3</td>
<td>Introduction to visual and verbal representation of Latin American multi-ethnic cultures through literature and visual arts; emphasis on construction of American identities and nations. Prereq: Not open to students with credit for 330. GE VPA and diversity global studies course.</td>
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<tr>
<td>2331</td>
<td>Caribbean Cultures</td>
<td>U 3</td>
<td>The analysis of Caribbean societies and cultures; analysis of texts to unravel the cultural processes of creole, negritude, carnivalism. Prereq: Not open to students with credit for 331. GE cultures and ideas and diversity global studies course.</td>
<td></td>
</tr>
<tr>
<td>2332</td>
<td>Introduction to Andean and Amazonian Cultures</td>
<td>U 3</td>
<td>Historical formation of contemporary societies in the Andean and Amazonian regions, including their ethnic, social, and cultural features; taught in English. Prereq: Not open to students with credit for 332. GE cultures and ideas and diversity global studies course.</td>
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</tr>
<tr>
<td>2367S</td>
<td>The US Experience: Hispanics, Language, and Literacy</td>
<td>U 3</td>
<td>A GE 2nd writing/social diversity writing course, with a thematic context of literacy &amp; related issues among Latinos born in the United States &amp; Spanish-speaking immigrants. This course will be in English and Spanish, requiring 15 service-learning hours. Students will be working with the Columbus Literacy Council, where they will partner as tutors with adult learners of English as a 2nd Language. Prereq: 2202.01 (250.01) or 2202.51 (250.51); and English 1110.01 (110.01); and Soph standing. Not open to students with credit for 367. GE writing &amp; comm: level 2 and diversity soc div in the US course.</td>
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<tr>
<td>2368</td>
<td>Introduction to Latin American Film</td>
<td>U 3</td>
<td>Introduction to Latin American film traditions; analysis of genres, filmmakers, and alternate aesthetics; focus on relation of film to social, political, and economic processes. Prereq: Not open to students with credit for 380. GE VPA and diversity global studies course.</td>
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</tr>
<tr>
<td>2389</td>
<td>Spanish in the US: Language as Social Action</td>
<td>U 3</td>
<td>Spanish in the US teaches students to understand and analyze discourses surrounding language and ethnicity in the media today. We focus on connecting theoretical tools to social patterns, with a strong emphasis on current media and culture. GE soci sci indivs and groups and diversity soc div in the US course.</td>
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</tr>
</tbody>
</table>
456 Spanish

2504 Language, Culture & Communication in Latino Health U 3
Examines how language, culture and communication shape the healthcare experiences of Latinos in the US. Considers the individual and social factors contributing to health inequities and key theories and techniques for developing health communication interventions. Team-taught with a faculty member in the School of Communication. Prereq: Not open to students with credit for Comm 2704. GE diversity soc div in the US course. Cross-listed in Comm 2704.

2506 Latin American Culture in a Business Context U 3
Examination of cultural differences and similarities between the U.S. and Latin America and repercussions of conducting business with competent understanding. Taught in English. Credit for course does not apply to the traditional Spanish major or minor. Prereq: Not open to students with credit for 506.

2510 Mexican Studies U 2
Interdisciplinary study of different issues and processes in Mexican culture, history, and society. Prereq: Not open to students with credit for 510. Priority given to Scholars program students.

2520 Latin American Literature (in Translation): Fictions and Realities U 3
Critical examination of modern Latin American literature, in (English translation), paying close attention to its own literary and cultural traditions. Taught in English. Credit does not apply toward a major or minor in Spanish. Prereq: Not open to students with credit for 520. GE lit and diversity global studies course.

2797 Topics in Foreign Study U 1 - 9
Credit from study abroad for courses not offered by department. Not applicable to Spanish Major or Minor. Prereq: Permission of departmental study abroad advisor. Repeatable.

2798.11 Bolivia: Cultures and Identities U 3
This interdisciplinary course introduces students to the History, Politics, Cultures, and Identities of Bolivia. It explores its main geographical regions; the heritage and traditions of its peoples; and the different political and cultural currents within the country and its different regions. Students will be encouraged to think critically about Bolivia, the U.S. and different global forces. Prereq: 4516 or permission of instructor. GE education abroad course.

The Yucatan offers a unique scenario in the Americas in which relevant issues of socio-economic development; preservation of archeological or historical sites; protection of the environment; reinvention of Indigenous culture, & emergence of alternative models of tourism can be studied altogether. The program will offer a comparative framework for a diversity of academic projects or interests. GE education abroad course.

2798.30 Madrid in the World, the World in Madrid: The Spanish U 3
Capital as a Global City, Past and Present
This interdisciplinary Global May course offered with the Office of International Affairs (OIA) introduces students to the multicultural and global history of the city of Madrid, Spain through readings and films, site visits, and lectures by local scholars and residents. Enrollment in course contingent on acceptance to the program through OIA.

GE education abroad course.

2798.80 Latin America Study Tour U 1
This short study tour offers students the opportunity to apply and expand on what they have learned in co-requisite coursework about the language, history & culture of Latin American through guided tours and outdoor activities. Faculty-led study abroad program offered through Newark campus only. Concur: 2151 or 2503.01; or permission of instructor. Repeatable to a maximum of 2 cr hrs.

3401 Advanced Grammar U 3
In-depth examination of difficult points of Spanish grammar, emphasis on comprehension of key grammatical concepts in the language. Prereq: 2200 (104H), or 2202 (250), with a grade of C- or higher. Not open to students with credit for 4532 (401), 401, or 3401H (401H). FL Admis Cond course.

3401H Advanced Grammar U 3
In-depth examination of difficult points of Spanish grammar, emphasis on comprehension of key grammatical concepts in the language. Prereq: Honors standing. 2200 (104H), or 2202 (250), with a grade of C- or higher and 3.4 GPA. Not open to students with credit for 4532 (401), 401 and 401H. FL Admis Cond course.

3403 Intermediate Spanish Composition U 3
Spanish prose forms and practice in writing descriptive, narrative, and expository compositions. Prereq: 2200 (104H), or 2202 (250), or 3401 (401) with a grade of C- or higher. May be taken concurrently with 3401 (401). Not open to students with credit for Spanish 4603 (603), 4613 (613), 403 or 403H or to native speakers of Spanish through regular course enrollment or EM credit. FL Admis Cond course.

3403H Intermediate Spanish Composition U 3
Spanish prose forms and practice in writing descriptive, narrative, and expository compositions. Prereq: Honors standing. 2200 (104H), or 2202 (250), or 3401 (401). May be taken concurrently with 3401 (401). All pre-requisites must be completed with a grade of C- or higher and 3.4 GPA. Not open to students with credit for Spanish 4603 (603), 4613 (613), 403 or 403H or to native speakers of Spanish through regular course enrollment or EM credit. FL Admis Cond course.

3404 Spanish Pronunciation U 3
Practice with corrective exercises; some attention to problems of teaching pronunciation. Prereq: 2200 (104H), or 2202 (250), or 3401 (401), or 3401H (401H). All pre-requisites must be completed with a grade of C- or higher. Not open to students with credit for Spanish 4534 (604), 4534H (604H), 404. FL Admis Cond course.

3406 Intermediate Business Spanish U 3
An introduction to business Spanish with emphasis on business terminology, commercial transactions, and international procedures. Prereq: 3483 (403), or 3403H (403H) with a grade of C- or higher. Not open to students with credit for 406. FL Admis Cond course.

3413 Spanish for Heritage Speakers U 3
Covers, reviews and practices grammatical structure through language, literature, and culture of the Hispanic world, as well as incorporate the experiences of heritage speakers in the United States. Students will produce writing in various forms & genres, including literary responses, expository essays, & short stories (narrative). Prereq: 2200H (104H) or 2202 (250), with a grade of C- or higher. Prereq or concord, 3401 (401); or permission of instructor. Not open to students with credit for 3403 (403), 4603 (603), or 4613 (613).

3450 Introduction to the Study of Literature and Culture in Spanish: Reading Texts U 3
Strategies for reading literary and cultural texts from Spain and Spanish America. Prereq: A grade of C- or above in 3401 (401) and 3403 (403), or 4613 (613), or 4603 (603). Not open to students with credit for 450. FL Admis Cond course.

3450H Introduction to the Study of Literature and Culture in Spanish: Reading Texts U 3
Strategies for reading literary and cultural texts from Spain and Spanish America. 3450H (450H) required of all Honors Spanish majors and minors. Prereq: Honors standing; and a grade of C- or above in 3401 (401) and 3403 (403), or 4613 (613), or 4603 (603). Not open to students with credit for 450. FL Admis Cond course.

3570 CLLC Radio U 3
Student partners prepare 3 target language broadcasts, each 1 hour in length. Broadcasts stream live over the Internet, then become podcast for public use. Student "DJ"s conduct target language research on radio broadcast history and at least 15 thematic topics and related music that interests them. Students choose their music and content with approval and guidelines, then produce scripts. Prereq: Permission of instructor.

4193 Individual Studies U 1 - 9
Individual studies.
Prereq: A grade of C- or above in 3450 (450). Repeatable. This course is graded SU.

4194 Group Studies U 1 - 9
Group studies.
Prereq: A grade of C- or above in 3450 (450), and permission of instructor. Repeatable. This course is graded SU/FL Admis Cond course.

4430 Introduction to Spanish Linguistics U 3
Introduction to the analysis of Spanish from the perspective of modern linguistic theory. Prereq: A grade of C- or above in 3401 (401), or 3401H (401H) and 3404 (404). Not open to students with credit for 4534 (604), 4534H (604H), 4430H (530H), or 430. FL Admis Cond course.

4430H Honors Introduction to Spanish Linguistics U 3
Introduction to the analysis of Spanish from the perspective of modern linguistic theory. Prereq: Honors standing, and a grade of C- or above in 3401 (401), or 3401H (401H) and 3404 (404), and GPA 3.4 or above. Not open to students with credit for 4534, 430, or 530H. FL Admis Cond course.

4501.51 Advanced Spanish for the Professions: STEM U 3
Provides students in STEM disciplines with background about their majors in Spanish-Speaking countries; teaches culturally and linguistically appropriate presentational skills. Special project required. Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs.

4520.51 Advanced Spanish for the Professions: Arts and Humanities U 3
Provides students in the Arts and Humanities disciplines with background about their majors in Spanish-Speaking countries; teaches culturally and linguistically appropriate presentational skills. Special project required. Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spanish 457</td>
<td>Advanced Spanish for the Professions: Business</td>
<td>U 3</td>
<td>Provides students in Business with background about their majors in Spanish-speaking countries; develops professional vocabulary in discipline; teaches culturally and linguistically appropriate presentational skills. Special project required. Prereq: Permission of department. Repeatable to a maximum of 9 cr hrs. FL Admis Cond course.</td>
</tr>
<tr>
<td>4515</td>
<td>Andean Art, Culture, and Society</td>
<td>U 3</td>
<td>Representations of cultural, social, and literary identities in the Andean regions in early and modern societies’ daily life as embodied in maps, narratives, art, photography, autobiographical and literary texts. Taught in English.</td>
</tr>
<tr>
<td>4516</td>
<td>The Formation of Bolivian National Cultures</td>
<td>U 3</td>
<td>Overview of Bolivian literatures and cultures, and how they reflect the country's identities as well as its changing social, political, and cultural realities in the process of national formation. Taught in English.</td>
</tr>
<tr>
<td>4532</td>
<td>Modern Spanish Syntax</td>
<td>U 3</td>
<td>Study of modern Spanish grammar; modern tendencies in syntactic analysis. Prereq: A grade of C- or above in 4430 (430) or 4430H (530H). Not open to students with credit for 601. FL Admis Cond course.</td>
</tr>
<tr>
<td>4534</td>
<td>Spanish Phonology</td>
<td>U 3</td>
<td>Analysis of the phonological structure of Spanish and a comparison with English; practical problems of teaching pronunciation. Prereq: A grade of C- or above in 4430 (430) or 4430H (530H). Not open to students with credit for 604 or 604H. FL Admis Cond course.</td>
</tr>
<tr>
<td>4534H</td>
<td>Spanish Phonology</td>
<td>U 3</td>
<td>Analysis of the phonological structure of Spanish and a comparison with English; practical problems of teaching pronunciation. Prereq: Honors standing, and a grade of C- or above in 4430H (530H), and GPA 3.4 or above. Not open to students with credit for 604 or 604H. FL Admis Cond course.</td>
</tr>
<tr>
<td>4536</td>
<td>Language Change in Spanish</td>
<td>U 3</td>
<td>Historical development of the Spanish language, including details of phonological, morphosyntactic, and semantic changes; external history; and changes currently in progress. Prereq: A grade of C- or above in 4430 (430) or 4430H (530H). Not open to students with credit for 536. FL Admis Cond course.</td>
</tr>
<tr>
<td>4537</td>
<td>Spanish Psycholinguistics</td>
<td>U 3</td>
<td>Overview of child language acquisition, second language acquisition and child and adult language disorders in Spanish-speaking populations. Prereq: A grade of C- or above in 4430 (430) or 4430H (530H). Not open to students with credit for 537. FL Admis Cond course.</td>
</tr>
<tr>
<td>4538</td>
<td>Language Variation in Spanish</td>
<td>U 3</td>
<td>Survey of linguistic variation across the Spanish-speaking world, including geographical and social factors. Prereq: A grade of C- or above in 4430 (430) or 4430H (530H). Not open to students with credit for 538. FL Admis Cond course.</td>
</tr>
<tr>
<td>4551</td>
<td>Spanish Golden Age Literature</td>
<td>U 3</td>
<td>Introductory critical study of major literary works from the 16th and 17th centuries in Spain. Prereq: A grade of C- or above in 3450 (450). Not open to students with credit for 551, 551H, or 551E. FL Admis Cond course.</td>
</tr>
<tr>
<td>4551E</td>
<td>Spanish Golden Age Literature</td>
<td>U 3</td>
<td>Introductory critical study of major literary works from the 16th and 17th centuries in Spain. Prereq: Honors standing; and a grade of C- or above in 3450H (450H); and GPA 3.4 or above. Not open to students with credit for 551, 551H, or 551E. FL Admis Cond course.</td>
</tr>
<tr>
<td>4552</td>
<td>Modern Spanish Literature</td>
<td>U 3</td>
<td>Introductory critical study of major literary works from the 18th century to the present in Spain. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 552 or 552H. FL Admis Cond course.</td>
</tr>
<tr>
<td>4552H</td>
<td>Modern Spanish Literature</td>
<td>U 3</td>
<td>Introductory critical study of major literary works from the 18th century to the present in Spain. Prereq: Honors standing; and a grade of C- or above in 3450H (450H); and GPA 3.4 or above. Not open to students with credit for 552 or 552H. FL Admis Cond course.</td>
</tr>
<tr>
<td>4555</td>
<td>Indigenous, Colonial, &amp; National Literatures and Cultures of Spain America</td>
<td>U 3</td>
<td>Introductory critical study of issues and processes in the formation of indigenous, colonial, and national expression through 18th century regional conferences. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 555. FL Admis Cond course.</td>
</tr>
<tr>
<td>4555E</td>
<td>Indigenous, Colonial &amp; National Literatures &amp; Cultures of Spanish America</td>
<td>U 3</td>
<td>Introductory critical study of issues and processes in the formation of indigenous, colonial, and national expression through 19th century regional conferences. Prereq: Honors standing; and a grade of C- or above in 3450H; and GPA 3.4 or above. Not open to students with credit for 555E. FL Admis Cond course.</td>
</tr>
<tr>
<td>4556</td>
<td>Modern Spanish American Literature</td>
<td>U 3</td>
<td>Introductory critical study of issues and processes in Spanish American writing from Modernism through the present. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 556. FL Admis Cond course.</td>
</tr>
<tr>
<td>4557.10</td>
<td>Introduction to Latino Literature in the U.S.</td>
<td>U 3</td>
<td>Introductory critical study of authors, topics, and movements in Latin literature from the late 19th century to the present. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 557. FL Admis Cond course.</td>
</tr>
<tr>
<td>4557.20</td>
<td>Introduction to Other Latino Literature in the U.S.</td>
<td>U 3</td>
<td>Study of works by “other Latino” writers, that is, authors from less represented groups within the larger Latino population in the U.S. The “other Latino” writers are part of the new migratory flows between the U.S. and Latin America. Their literary production complements the Latino experience represented by Chicano, Puerto-Rican, and Cuban-American authors. Prereq: 3450 (450) or 3450H (450H).</td>
</tr>
<tr>
<td>4560</td>
<td>Introduction to Spanish American Culture</td>
<td>U 3</td>
<td>Major elements in the culture of the peoples of Spanish America. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 560 or 560H. FL Admis Cond course.</td>
</tr>
<tr>
<td>4560H</td>
<td>Introduction to Spanish American Culture</td>
<td>U 3</td>
<td>Major elements in the culture of Spanish America. Prereq: Honors standing; and a grade of C- or above in 3450H; and GPA 3.4 or above. Not open to students with credit for 560 or 560H. FL Admis Cond course.</td>
</tr>
<tr>
<td>4561</td>
<td>Introduction to the Culture of Spain</td>
<td>U 3</td>
<td>Major developments in the culture of Spain. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 561 or 561H. FL Admis Cond course.</td>
</tr>
<tr>
<td>4561H</td>
<td>Introduction to the Culture of Spain</td>
<td>U 3</td>
<td>Major developments in the culture of Spain. Prereq: Honors standing; and a grade of C- or above in 3450H; and GPA 3.4 or above. Not open to students with credit for 561 or 561H. FL Admis Cond course.</td>
</tr>
<tr>
<td>4564</td>
<td>Spanish Culture During Francoism</td>
<td>U 3</td>
<td>Panoramic view of the culture of Spain during the dictatorship of Franco. Use of literary and filmic productions of that period as representations of the historical, social, political &amp; economic experiences Spain lived during those years. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). FL Admis Cond course.</td>
</tr>
<tr>
<td>4565H</td>
<td>Latin American Indigenous Literatures and Cultures</td>
<td>U 3</td>
<td>Introduction to continuities and transformations that link Latin American colonial indigenous texts with contemporary cultural expression. Prereq: Honors standing; and a grade of C- or above in 3450H; and GPA 3.4 or above. Not open to students with credit for 565H. FL Admis Cond course.</td>
</tr>
<tr>
<td>4567</td>
<td>Spanish Mosaic: Catalonia, Basque Country, Galicia and Andalusia</td>
<td>U 3</td>
<td>Explores the fragmentation and renegotiation of Spanish cultural and political identity in tension with its peripheral &quot;nations&quot;: Catalonia, Basque Country, Galicia, Andalusia. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 567 or 567H. FL Admis Cond course.</td>
</tr>
<tr>
<td>4567H</td>
<td>Spanish Mosaic: Catalonia, Basque Country, Galicia and Andalusia</td>
<td>U 3</td>
<td>Explores the fragmentation and renegotiation of Spanish cultural and political identity in tension with its peripheral &quot;nations&quot;: Catalonia, Basque Country, Galicia, Andalusia. Prereq: Honors standing; and a grade of C- or above in 3450H; and GPA 3.4 or above. Not open to students with credit for 567 or 567H. FL Admis Cond course.</td>
</tr>
<tr>
<td>4568</td>
<td>Catalan Culture</td>
<td>U 3</td>
<td>Critical analysis of the Catalan political history as it relates to its social and cultural history. We will address the ideological, linguistic, and political difficulties of defining Catalan cultures as separate from other cultures of other autonomous communities in the Iberian Peninsula. The course includes discussions on the current political debate surrounding Catalonia's independence. Prereq: 3450 (450) or 3450H (450H).</td>
</tr>
<tr>
<td>4570</td>
<td>Latin Soundscapes: Musical Cultures of Latin America</td>
<td>U 3</td>
<td>Since colonial times, the Latin American region has produced a wealth of musical genres, styles, hybrids, &amp; fusions that allows for exploration of relevant social, cultural, economic, and political issues. This course surveys the richness, diversity, &amp; representation of Latin American music through selection of musical, literary, filmic, &amp; historical texts. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H).</td>
</tr>
<tr>
<td>4580</td>
<td>Latin American Film</td>
<td>U 3</td>
<td>Study of Latin American film; special attention is paid to the relationship between film and the society in which it is produced. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 580. FL Admis Cond course.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Notes</td>
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<tr>
<td>458</td>
<td>Spanish Film</td>
<td>U 3</td>
<td>Study of Spanish film; special attention is paid to the relationship between film and the society in which it is produced.</td>
</tr>
<tr>
<td>4590H</td>
<td>Interdisciplinary Protocols: Identity and National Formation in Latin America: Perspectives from Lit</td>
<td>U 3</td>
<td>Examines the intersections between history and literature, and exposes students to core discussions in contemporary historical and cultural scholarship. Prereq: Honors standing, and a grade of C- or above in 3450H, and GPA 3.4 or above. Not open to students with credit for 5811 FL Admis Cond course.</td>
</tr>
<tr>
<td>4595.01</td>
<td>Special Topics in Foreign Study</td>
<td>U 1 - 9</td>
<td>Credit from study abroad for major level courses in Hispanic Linguistics concentration not offered by department but eligible for Spanish major core. Used only to convert 5797 (697) credit to more appropriate content level. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H), and permission of departmental study abroad advisor. Repeatable. FL Admis Cond course.</td>
</tr>
<tr>
<td>4595.02</td>
<td>Special Topics in Foreign Study</td>
<td>U 1 - 9</td>
<td>Credit from study abroad for major level courses in Latin American Literatures &amp; Cultures concentration not offered by department but eligible for Spanish major core. Arranged only with permission of departmental study abroad advisor. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Used only to convert 5797 (697) credit to more appropriate content level. Repeatable to a maximum of 60 cr hrs. FL Admis Cond course.</td>
</tr>
<tr>
<td>4595.03</td>
<td>Special Topics in Foreign Study</td>
<td>U 1 - 9</td>
<td>Credit from study abroad for major level courses in Latin American Literatures &amp; Cultures concentration not offered by department but eligible for Spanish major core. Arranged only with permission of departmental study abroad advisor. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Used only to convert 5797 (697) credit to more appropriate content level. Repeatable to a maximum of 60 cr hrs. FL Admis Cond course.</td>
</tr>
<tr>
<td>4603</td>
<td>Advanced Spanish Composition</td>
<td>U 3</td>
<td>Analysis of different prose styles and practice in writing fluent Spanish compositions. Prereq: A grade of C- or above in 3450 (450) or 3450H (450H). Not open to students with credit for 4613 (613). FL Admis Cond course.</td>
</tr>
<tr>
<td>4606</td>
<td>Advanced Business Spanish</td>
<td>U 3</td>
<td>An in-depth study of the Hispanic economic, social, and cultural environment as it relates to business. Prereq: 3403 (403) or 4303H (403H), or permission of instructor. Not open to students with credit for 606. FL Admis Cond course.</td>
</tr>
<tr>
<td>4610</td>
<td>Contrastive Structures of Spanish and English</td>
<td>U 3</td>
<td>Phonetics, phonemics, morphology, and syntax of Spanish contrasted with English. Prereq: A grade of C- or above in 4430 (430) or 4430H (530H). Not open to students with credit for 610. FL Admis Cond course.</td>
</tr>
<tr>
<td>4613</td>
<td>Advanced Spanish Composition for Native Speakers</td>
<td>U 3</td>
<td>Development of the ability to organize and express ideas in written Spanish; cultural component. Not open to students studying Spanish as a second (foreign) language. Prereq: A grade of C- or above in 3450 (450). Not open to students with credit for 613. FL Admis Cond course.</td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research in Spanish</td>
<td>U 1 - 9</td>
<td>Undergraduate research or directed experience; non-thesis. Prereq: A grade of C- or above in 3450 (450). Not open to students with credit for 613. FL Admis Cond course.</td>
</tr>
<tr>
<td>4998H</td>
<td>Honors Research</td>
<td>U 1 - 9</td>
<td>Honors research. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 59 cr hrs or 16 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999</td>
<td>Research for Thesis</td>
<td>U 1 - 9</td>
<td>Undergraduate research for Thesis. Prereq: Permission of instructor. Repeatable to a maximum of 59 cr hrs or 16 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>4999H</td>
<td>Honors Research</td>
<td>U 1 - 9</td>
<td>An individual program of research culminating in an Honors thesis and oral defense. Prereq: Honors standing; and a grade of C- or above in 3450H (450H); and GPA 3.4 or above. Repeatable. This course is graded S/U. FL Admis Cond course.</td>
</tr>
<tr>
<td>5301</td>
<td>Technology Tools for Teachers of Spanish and Portuguese</td>
<td>U 3</td>
<td>Theoretical and practical applications of technology and social media tools. Exploring effects of technology on student learning; applications of technology for classroom use; creation of classroom materials and evaluation of technology tools. Not open for credit toward the Spanish Major/Minor programs. Prereq: Permission of instructor. Not open to students with credit for French 5301. Cross-listed in French.</td>
</tr>
<tr>
<td>Course Title</td>
<td>Credit</td>
<td>Description</td>
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<td>------------------------------------------------------------------------------</td>
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</tr>
<tr>
<td>Latino Ohio: A Culture Course in English for Educators and Other Professionals</td>
<td>3</td>
<td>A close-up look at Hispanic life in Ohio with attention to cultural, linguistic, and professional issues especially important to those working with Spanish-speaking populations. Not available for credit in the Spanish major or minor. Prereq: Not open to students with credit for 5689 (689). FL Admis Cond course.</td>
<td></td>
</tr>
<tr>
<td>6700 Introduction to Literary and Cultural Analysis</td>
<td>3</td>
<td>Introduction to literary and cultural theory and methods of analysis; emphasis on the study and articulation of critical concepts. Intended for beginning graduate students; may be taken by advanced undergraduates with permission of instructor. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 702.</td>
<td></td>
</tr>
<tr>
<td>6705 Introduction to Latino Studies</td>
<td>4</td>
<td>Introduces graduate students to the broad themes, concepts, and questions raised in the interdisciplinary field of Latino/Latina studies. Prereq: Grad standing, or permission of instructor and approved petition to the Graduate School. Not open to students with credit for 705, ArtsSci 705, or CompStd 6425 (705). Cross-listed in CompStd 6425.</td>
<td></td>
</tr>
<tr>
<td>7193 MA Exam Preparation</td>
<td>1 - 9</td>
<td>Independent study to prepare for an upcoming MA examination. Prereq: Permission of instructor. Repeatable. This course is progress graded (S/U).</td>
<td></td>
</tr>
<tr>
<td>7320 Spanish Syntax and Semantics</td>
<td>3</td>
<td>Introduction to structural and semantic characteristics of Spanish in light of recent theoretical frameworks in linguistics. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 732.</td>
<td></td>
</tr>
<tr>
<td>7340 Spanish Phonology and Morphology</td>
<td>3</td>
<td>Introduction to phonological and morphological characteristics of Spanish in light of recent theoretical frameworks in linguistics. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 734.</td>
<td></td>
</tr>
<tr>
<td>7360 History of the Spanish Language</td>
<td>3</td>
<td>Basic concepts of historical linguistics: the major factors of change in the history of the Spanish language from Latin to the present. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 736.</td>
<td></td>
</tr>
<tr>
<td>7380 Spanish Sociolinguistics</td>
<td>3</td>
<td>Introduction to the analysis of linguistic and social factors which contribute to variation in modern Spanish. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 738.</td>
<td></td>
</tr>
<tr>
<td>7410 Mapping Medieval and Renaissance Iberian Literatures and Cultures</td>
<td>3</td>
<td>Study of significant socio-cultural moments, issues, problematic, and concepts in Iberian literatures and cultures from the medieval period to the 18th century. Prereq: Grad standing, or permission of instructor.</td>
<td></td>
</tr>
<tr>
<td>7430 Mapping Modern and Contemporary Iberian Literatures and Cultures</td>
<td>3</td>
<td>Study of significant socio-cultural moments, issues, problematic, and concepts in Iberian literatures and cultures from the 18th century to the contemporary period. Prereq: Grad standing, or permission of instructor.</td>
<td></td>
</tr>
<tr>
<td>7450 Mapping Indigenous, Colonial, and 19th-Century Latin American Literatures and Cultures</td>
<td>3</td>
<td>Study of significant socio-cultural moments, issues, problematic, and concepts in Latin American literatures and cultures from the pre-colonial to the national period. Prereq: Grad standing, or permission of instructor.</td>
<td></td>
</tr>
<tr>
<td>7470 Mapping Modern and Contemporary Latin American Literatures and Cultures</td>
<td>3</td>
<td>Study of significant socio-cultural moments, issues, problematic, and concepts in Latin American literatures and cultures from the late 19th century to the contemporary period. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 780.</td>
<td></td>
</tr>
<tr>
<td>7510 Studies in Medieval Iberia</td>
<td>3</td>
<td>In-depth study of a major topic or problem in Medieval Iberia. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
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</tr>
<tr>
<td>7520 Studies in Renaissance and Baroque Iberia</td>
<td>3</td>
<td>In-depth study of a major topic or problem in 16th- and 17th-century Iberian literatures and cultures. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
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</tr>
<tr>
<td>7530 Studies in Modern Iberian Literatures and Cultures</td>
<td>3</td>
<td>In-depth study of a major topic or problem in 18th- to 20th-century Iberian literatures and cultures. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7540 Studies in Contemporary Iberian Literatures and Cultures</td>
<td>3</td>
<td>In-depth study of a major topic or problem in 20th- and 21st-century Iberian literatures and cultures. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
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</tr>
<tr>
<td>7550 Studies in Indigenous and Colonial Latin American Literatures and Cultures</td>
<td>3</td>
<td>In-depth study of a major topic or problem in indigenous and colonial Latin American literatures and cultures. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
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</tr>
<tr>
<td>7560 Studies in Independence and 19th-Century Latin American Literatures and Cultures</td>
<td>3</td>
<td>In-depth study of a major topic or problem in Latin American literatures and cultures of the independence period and the 19th century. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7570 Studies in Modern Latin American Literatures and Cultures</td>
<td>3</td>
<td>In-depth study of a major topic or problem in Latin American literatures and cultures of the modern period from approximately 1880 to 1950. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7580 Studies in Contemporary Latin American Literatures and Cultures</td>
<td>3</td>
<td>In-depth study of a major topic or problem in contemporary Latin American literatures and cultures. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7590 Comparative Topics in Spanish and Spanish American Literature and Culture</td>
<td>3</td>
<td>In-depth study of a major topic comparing Spanish and Spanish American literatures. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7595 Comparative Topics in Luso-Hispanic Literature and Culture</td>
<td>3</td>
<td>In-depth study of a major topic comparing the literatures and cultures of the Portuguese- and Spanish-speaking worlds. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7650 Topics in Latin American Cultures</td>
<td>3</td>
<td>Analysis of Latin American culture through the study of selected topics in literature, film, and the arts; topics vary. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7660 Topics in Iberian Cultures</td>
<td>3</td>
<td>Analysis of Iberian cultures through the study of selected topics in literature, film, and the arts; topics vary. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7800 Latin American Film</td>
<td>3</td>
<td>Study of Latin American film focusing on historical periods, dominant genres, distinguished directors, and relation of film to larger social, cultural and political dynamics. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 780.</td>
<td></td>
</tr>
<tr>
<td>7801 College Teaching of Spanish and Portuguese</td>
<td>3</td>
<td>Methods and techniques for teaching Spanish and Portuguese language at the college level. Three-week intensive workshop prior to beginning of semester followed by a 2-hr seminar during semester. Course does not count towards degree. Prereq: Teaching associate in Spanish and Portuguese, or permission of instructor. Not open to students with credit for 801 or 6801.</td>
<td></td>
</tr>
<tr>
<td>7810 Spanish Film</td>
<td>3</td>
<td>Study of Spanish film focusing on historical periods, dominant genres, distinguished directors, and relation of film to larger social, cultural, and political dynamics. Prereq: Grad standing, or permission of instructor.</td>
<td></td>
</tr>
<tr>
<td>7880 Interdepartmental Studies</td>
<td>1 - 3</td>
<td>Two or more departments present colloquia on subjects of mutual interest; topics to be announced. Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 9 or 9 hrs or 9 completions.</td>
<td></td>
</tr>
<tr>
<td>7900 Foundations of Contemporary Critical Theory</td>
<td>3</td>
<td>Interdisciplinary study of the theoretical bases of the major contemporary approaches to the study of literature and culture. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 790.</td>
<td></td>
</tr>
<tr>
<td>8193.01 Individual Studies</td>
<td>1 - 9</td>
<td>Independent Study of a focused problem or topic in the various fields of Iberian and Latin American literatures and cultures and Hispanic Linguistics. Prereq: Permission of instructor. Repeatable. This course is progress graded (S/U).</td>
<td></td>
</tr>
<tr>
<td>8193.02 PhD Exam Preparation</td>
<td>1 - 9</td>
<td>Independent study to prepare for an upcoming PhD examination. Prereq: Permission of instructor. Repeatable. This course is progress graded (S/U).</td>
<td></td>
</tr>
<tr>
<td>8194 Group Studies</td>
<td>1 - 9</td>
<td>Group study of a focused problem and topic in the various fields of Iberian and Latin American literatures and cultures and Hispanic Linguistics. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 18 completions. This course is graded S/U.</td>
<td></td>
</tr>
</tbody>
</table>
Spanish

8320 Studies in Synchronic Spanish Syntax, Semantics and Pragmatics
Investigation of theoretical concepts in syntax, semantics, and pragmatics and how they have been applied to the analysis of the Spanish language.
Prereq: 7320 (732), or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8330 Studies in Spanish Synchronic Linguistics
Investigation of selected topics in synchronic Spanish linguistics (formal problems in Spanish phonology, morphology, syntax, semantics, and lexology). Individual topics not repeatable.
Prereq: 7320 (732) or 7340 (734) (depending on topic), or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8340 Studies in Synchronic Spanish Phonetics, Phonology and Morphology
Investigation of theoretical concepts in phonetics, phonology, and morphology and how they have been applied to the analysis of the Spanish language.
Prereq: 7340 (734), or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8360 Studies in Spanish Historical Linguistics
Study of selected problems of Old Spanish linguistic description and diachronic evolution of Spanish.
Prereq: 7380 (738), or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8370 Studies in Spanish Psycholinguistics
Studies in child language acquisition, second language acquisition and child and adult language disorders in Spanish-speaking populations.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8380 Studies in Spanish Sociolinguistics
Study of selected topics in Spanish sociolinguistics, for example: syntactic variation, discourse analysis.
Prereq: 7380 (738), or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8390 Seminar in Spanish Linguistics
Collaborative investigation of specific problems in Spanish linguistics (synchronic and historical, formal, and applied topics). Individual topics not repeatable.
Prereq: 8330 (833) or 8360 (836), or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8510 Seminar in Medieval Iberia
Detailed exploration of advanced issues in Medieval Iberia.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

8520 Seminar in Renaissance and Baroque Iberia
Detailed exploration of advanced issues in 16th- and 17th-century Iberian literatures and cultures.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

8530 Seminar in Modern Iberian Literatures and Cultures
Detailed exploration of advanced issues in Iberian literatures and cultures of the 18th to 20th centuries.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

8540 Seminar in Contemporary Iberian Literatures and Cultures
Detailed exploration of advanced issues in 20th- and 21st-century Iberian literatures and cultures.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

8550 Seminar in Indigenous and Colonial Latin American Literatures and Cultures
Detailed exploration of advanced issues in indigenous and colonial Latin American literatures and cultures.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

8560 Seminar in Independence and 19th-Century Latin American Literatures and Cultures
Detailed exploration of advanced issues in Latin American literatures and cultures of the independence period and the 19th century.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

8570 Seminar in Modern Latin American Literatures and Cultures
Detailed exploration of advanced issues in Latin American literatures and cultures of the modern period from approximately 1880 to 1950.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

8580 Seminar in Contemporary Latin American Literatures and Cultures
Detailed exploration of advanced issues in contemporary Latin American literatures and cultures.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

8590 Seminar in Comparative Spanish and Spanish American Literature and Culture
Detailed exploration of advanced issues comparing Spanish and Spanish American literatures.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

8595 Seminar in Comparative Luso-Hispanic Literature and Culture
Detailed exploration of advanced issues comparing the literatures and cultures of the Portuguese- and Spanish-speaking worlds.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 18 cr hrs.

8650 Seminar in Latin American Cultures
Intensive exploration of a cultural period, topic, or problem; topic varies.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8660 Seminar in Iberian Cultures
Intensive exploration of a cultural period, topic or problem; topic varies.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8780 Research Methods and Design
Introduction to research methods and design in Iberian and Latin American literatures and cultures. Required course for Literature and Culture PhD programs.
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 803.

8800 Seminar in Literary and Cultural Theory
Intensive study of special topics in literary and cultural theory with attention to their relationship to Iberian and Latin American literatures and cultures.
Prereq: Grad standing, or permission of instructor. Repeatable to a maximum of 12 cr hrs.

8880 Interdepartmental Seminar
Two or more departments present seminars on subjects of mutual interest; topics to be announced.
Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.

8890 Publication Workshop
Revision and expansion of a seminar paper for potential publication in an academic journal, based on feedback from instructor and classmates.
This course is progress graded (SU).

8893 Hispanic Linguistics Colloquium
Forum for presentation of research in Hispanic linguistics; introduction to professional issues in workshop format.
Repeatable to a maximum of 15 cr hrs. This course is progress graded (SU).

8894 Literatures and Cultures Colloquium
Forum for presentation of research in Iberian and Latin American literatures and cultures; introduction to professional issues in workshop format.
Repeatable to a maximum of 15 cr hrs. This course is progress graded (SU).

8899 Research for Dissertation
Research for dissertation purposes only.
Repeatable to a maximum of 99 cr hrs. This course is progress graded (SU).

Speech and Hearing Science

2051 Analyzing the Sounds of Language
The sounds that languages use are examined. Quantitative analytical tools used in phonetic science are introduced. Small experiments are conducted to introduce students to research.
Prereq: Math 1075 or 1148, or an ACT math subscore of 22 or higher that is less than two years old, or Math Placement Level R. Not open to students with credit for 286, 286H, Ling 2051 (Lingust 286), or Ling 2051H (Linguist 286H). GE data only course. Cross-listed in Ling.

2194 Group Studies
Designed to give groups of students an opportunity to pursue special studies not otherwise offered.
Prereq: Permission of instructor. Not open to students with 5 cr hrs of 294. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded SU.

2230 Introduction to Communication and Its Disorders
Survey of the topics, methodologies, and applications of speech and hearing science in normal and aberrant communication; lectures and readings.
Prereq: Not open to students with credit for 230.

2250 Brain and Language
Exploration of the neurological basis of language in humans and other species; examination of language deficits caused by brain damage.
Prereq: Not open to students with credit for 250.

3310 Improving Intercultural Speech-Language Skills
Examination of cultural variation in speech-language use found in the United States; exploration of how individuals can improve their intercultural speech-language skills.
Prereq: Not open to students with credit for 310. GE diversity soc div in the US course.

3320 Principles of Phonetics
Provides articulatory and acoustic descriptions of speech sounds and a comparative study of phonetic transcription systems.
Prereq: Not open to students with credit for 320.

3330 Language Acquisition
Introduction to language acquisition in normal children.
Prereq: Not open to students with credit for 330 or 430. GE soc sci indivs and groups course.
3330H Language Acquisition  U  3
Introduction to language acquisition in normal children. Prereq: Honors standing or permission of instructor. Not open to students with credit for 3330 (330), 3330H, or 430. GE soc sci indivs and groups course.

3340 Introduction to the Art and Science of Sound  U  3
Designed to teach the basic principles of acoustics to undergraduate students in the Arts and Sciences who have had little previous experience with math or biological and physical sciences. The student should gain an appreciation of the concepts underlying the generation, transmission and measurement of sound waves traveling through air. Prereq: Not open to students with credit for 340.

3350 Speech-Language Communication Across the Life Span: Issues and Problems in Our Communities  U  3
Exploration of the development of communication skills throughout the life span and the consequences of communication disorders for individuals, their families, and their communities. Prereq: Not open to students with credit for 350. GE soc sci indivs and groups course.

3360 Observation in Speech-Language Pathology and Audiology  U  3
Observation in appraisal and treatment of communication disorders. Prereq: 2230 (230). Not open to students with credit for 360. This course is graded S/U.

4420 Anatomy, Physiology and Science of Speech  U  3
Anatomy and physiology of the structures involved in speech production and the acoustic characteristics of speech sounds. Prereq: 3320 (320), or equiv course in Phonetics, and Biology 101, 102, 113, 114, 115H, or 116H. Not open to students with credit for 420.

4430 Introduction to Language Science and Language Disorders  U  3
Foundational understanding normal/disordered language development or language altered by neurological disorders is the structure of language and associated cognitive processes. This course will associate the structure of language to principles in the assessment of language/disorders and treatment of language disorders, developmental and acquired, across the life span. Prereq: 2230 (230) or 3330 (330) or equiv, or permission of instructor.

4440 Anatomy, Physiology, and Science of Hearing  U  3
The anatomical properties and physiological processes of the system of hearing and balance in humans and the stimulus processing capabilities of the normal auditory system. Prereq: 3340 (340) or equiv, and Biology 1101 (101), 1102 (102), 1113 (113), or 1114 (114); or permission of instructor. Not open to students with credit for 440.

4510 Disability Studies in Context  U  3
The history, nature, meaning, and consequences of disability from the differing viewpoints of a range of academic disciplines and professions. Prereq: Not open to students with credit for 510.

4520 Introduction to Speech-Language Pathology  U  3
Etiology, appraisal, and management of disorders of speech and language in children and adults. Prereq: 3320 (320), 3330 (330), and 4420 (420), or equiv, or permission of instructor. Not open to students with credit for 520.

4540 Introduction to Audiology  U  3
The nature, causes, identification, and rehabilitative treatment of persons with hearing disorders. Prereq: 4440 (440), or equiv. Not open to students with credit for 540.

4999 Baccalaureate Research and Thesis  U  2 - 10
A program of directed independent study for the academically strong student with an interest in research and the desire to complete a thesis. Prereq: GPA 3.4 or above in SpHrng, and Jr or Sr standing, and permission of the instructor. Not open to students with maximum cr hrs in 4999H or 783H. Repeatable to a maximum of 10 cr hrs or 5 completions. This course is graded S/U.

4999H Honors Research and Thesis  U  2 - 10
A program of independent study for the student with special aptitudes; individual conferences and reports, leading to the completion of the Honors thesis. Prereq: SpHrng GPA 3.4 or above, Jr standing, permission of the instructor and permission of the ASC Honors Committee. Not open to students with 15 qtr cr hrs in 783H. Repeatable to a maximum of 10 or hrs or 5 completions. This course is graded S/U.

5193 Individual Studies  U G  1 - 3
Conference, library, and laboratory work. Prereq: Permission of instructor. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.

5605 Multicultural Aspects of Communication  U G  3
Examination of normal communicative behavior, including development, and the assessment and management of speech-language-hearing disorders of culturally and linguistically diverse populations. Prereq: 3330 (330), Ling 3601 (303), or 3602 (372), or equiv, or permission of instructor. Not open to students with credit for 605.

5714 Introduction to Sign Language  U G  3
Introductory course in manual sign language systems. Prereq: Not open to students with credit for 714.

5716 Intermediate Sign Language  U G  3
Continuation course in manual sign language with an emphasis on increasing vocabulary and fluency. Prereq: 5714 (714). Not open to students with 5 qtr cr hrs of 716. Repeatable to a maximum of 6 cr hrs.

5718 Advanced Sign Language Systems  U G  3
Advanced course in manual sign language with an emphasis on achieving fluency in conversation. Prereq: 5714 (714) or 5716 (716). Not open to students with 2 completions in 718. Repeatable to a maximum of 6 cr hrs.

5732 Introduction to Aural Rehabilitation I  U G  3
Assessment and management of communication disorders associated with hearing loss. Prereq: 4540 (540), or permission of instructor. Not open to students with credit for 734.

5760 Neurology of the Speech and Hearing Mechanism  U  3
The structure and function of the central and peripheral nervous systems as they relate to speech and hearing. Prereq: Biology 1101 (101) or above. Not open to students with credit for 765.

5785 Research Methods I  U  3
Introduction to research design and data analysis for the hearing and speech sciences. Prereq: Grad standing or permission of instructor. Not open to students with credit for 785.

5798 Study Tour  U G  1 - 10
Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Prereq: Permission of instructor. This course is repeatable for different titled study tours only. Repeatable to a maximum of 24 cr hrs or 3 completions. This course is graded S/U.

5891 Proseminar in Cognitive Science  U  3
Provides an in-depth examination of the interdisciplinary perspective. Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs. Cross-listed in CSE, Ling, Philos, and Psych.

5892 Workshops  U  1 - 5
Intensive study of a clinical area newly expanded within the field; geared for practicing clinicians to update information and increase skill levels. Prereq: Written Permission of workshop director. Repeatable to a maximum of 8 cr hrs or 8 completions. This course is graded S/U.

6143 Professional Issues I  G  2
Consideration is given to the audiology scope of practice, health privacy issues, and the role of professional organizations. Prereq: Requires acceptance in AuD program. First year AuD students only. Not open to students with credit for 643.01. This course is graded S/U.

6150 The Role of the SLP in Autism Spectrum Disorders and Alternative/Augmentative Communication  G  3
Provides students with knowledge in autism spectrum disorders and augmentative and alternative communication by integrating research with clinical practice in assessment, treatment, and intervention. Prereq: Grad standing, and coursework in language development, or permission of instructor.

6170 Clinical and Educational Methods in the Schools  G  2
Models, strategies, methodologies, and curriculum involved in planning, implementing, and evaluating team-based instruction for students with communication, language, and learning disabilities. Prereq: Grad standing in SpHrng; or permission of instructor. Not open to students with credit for 670.

6189 Field Experience in the Schools  G  4 - 8
Major practicum experience for students pursuing certification to practice speech/language pathology in schools. Prereq: Grad standing in SpHrng, and permission of instructor. Repeatable to a maximum of 8 cr hrs or 2 completions. This course is graded S/U.

6194 Group Studies  G  1 - 2
Designed to give groups of students an opportunity to pursue advanced studies not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 7 cr hrs or 7 completions. This course is graded S/U.
6243 Professional Issues II G 2
Discussion centers on ethical practices and licensure issues in audiology. Issues related to counseling, voluntary credentials, and professional advocacy are considered. Prereq: Requires acceptance in AuD program. Not open to students with credit for 643.02. This course is graded S/U.

6705 Audiolgic Assessment I G 3
Detailed treatment of the theoretical and practical aspects of standard audiolgic assessment. Prereq: Not open to students with credit for 705.

6706 Audiolgic Assessment II G 3
Detailed treatment of the theoretical and practical aspects of the physiologic evaluation of the auditory system using immittance and otocochleic emissions. Prereq: 6705 (705). Not open to students with credit for 706.

6707 Audiolgic Assessment III G 3
Study of the techniques involved in the administration and interpretation of electromyotomography, rotation, and posturotomography assessments. Prereq: 6706 (706). Not open to students with credit for 750.

6708 Audiolgic Assessment IV G 3
Detailed treatment of the theoretical and practical aspects of electrophysiologic measures, including electrocochleography, auditory brainstem responses, middle latency responses, and cognitive potentials. Prereq: 6707. Not open to students with credit for 707.

6710 Phonological Processes and Disorders G 3
Approaches to understanding the nature and clinical management of phonological disability in children and youth. Prereq: Grad standing in Speech and Hearing Science, or permission of instructor. Not open to students with credit for 710.

6725 Language Acquisition and Early Intervention in Language Delay G 3
Development of language in children with an emphasis on the interaction between the development of language and cognition with implications for delay. The emphasis is on children aged zero to five years. Prereq: Grad standing, or permission of instructor. Not open to students with credit for 725.

6726 Child Language Disorders: Assessment G 3
Assessment and treatment of language disorders in preschool and school-aged children; both norm-referenced and criterion-referenced. The emphasis is on school-aged children. Prereq: 6725 (725). Not open to students with credit for 726.

6732 Audiolastic Rehabilitation in Children G 2
The impact of hearing loss on a child’s speech and language development is considered. Educational models and treatment options for children with hearing loss are discussed. Prereq: Grad standing in SphHrng, or permission of instructor. Not open to students with credit for 732.

6733 Adult Audiolastic Rehabilitation G 3
The impact of hearing loss on social, vocational, and psychological well-being. Treatment options and measures of treatment outcome. Prereq: Not open to students with credit for 733.

6735 Hearing Aids I G 3
The physical and electroacoustic characteristics of hearing aids, including electroacoustic analysis, acoustics of amplification systems, signal processing strategies, and devices used in specialized fittings. Prereq: 6706 (706). Not open to students with credit for 735.

6740 Fluency: Theory and Treatment G 3
Theories, principles, and procedures for the appraisal and treatment of persons with dysfluencies in speech. Prereq: Grad standing in SphHrng, or permission of instructor. Not open to students with credit for 740.

6742.01 Clinical Seminar in Speech and Language Disorders I: Fundamentals of Treatment Designs G 3
Lectures, discussions and labs covering the fundamentals of treatment design and case management for Speech-Language Disorders. Prereq: Grad standing in SphHrng, or permission of instructor. Not open to students with 9 cr hrs of 744. This course is graded S/U.

6742.02 Clinical Methods in Speech Language Disorders: Specialized Topics in Treatment Designs G 3
Lectures, discussions and labs covering methodology for speech sound disorders and oral and written language. Prereq: Grad standing in SphHrng, or permission of instructor. This course is graded S/U.

6742.03 Clinical Methods in Speech and Language Disorders: Adult Neurogenics G 1
Readings, discussions, and labs related to topics on the assessment and management of the adult neurogenic population’s speech, and language disorders. Prereq: Grad standing in SphHrng, or permission of instructor. This course is graded S/U.
Clinical Seminar in Hearing Disorders: Ethics & Evidence Based Practice  
Readings and discussion of topics pertinent to the assessment and treatment of hearing disorders. 
Prereq: Grad standing, or permission of instructor. Not open to students with credit for 743. Repeatable to a maximum of 2 hrs. This course is graded S/U.

School Internship Seminar II  
Special topics, management concerns, and other planned experiences related to the school internship in speech-language pathology. 
Prereq: 6710 (670) & 7170 (770). Repeatable to a maximum of 4 cr hrs or 2 completions. Not open to students with 6 qtr hrs or 870.

Clinical Seminar in Hearing Disorders: Counseling and Report Writing  
Readings and discussion of topics pertinent to the assessment and treatment of hearing disorders. 
Prereq: Grad standing; or permission of instructor. Repeatable to a maximum of 2 cr hrs or 2 completions. This course is graded S/U. Not open to students with credit for 743.

Interdisciplinary Perspective on Developmental Disabilities  
Provides an introduction to the psychosocial, medical, and educational implications of developmental disabilities. 
Prereq: Permission of instructor. Not open to students with credit for 7117.01 or 7117.03. Cross-listed in HHRHSc, EduSc, SocWork, Nursing, and Psych.

Interdisciplinary Perspective on Autism Spectrum Disorders  
Teaches the analytical skills necessary to comprehend and formulate an interdisciplinary framework relating to major scientific and theoretical perspectives in autism spectrum disorders. 
Prereq: Permission of instructor. Not open to students with credit for 7117.01 and 7117.02. Cross-listed in HHRHSc, EduSc, SocWork, Nursing, and Psych.

Advanced Clinical Seminar in Speech and Language Disorders  
Readings and discussion of topics pertinent to the assessment and treatment of speech and language disorders and to preparation for the professional life in Speech-Language Pathology. 
Prereq: 2 or more sem cr hrs in 6742, or 3 or more qtr cr hrs in 744; and Grad standing in SphHrng. Not open to students with 9 or more qtr hrs in 744. Repeatable to a maximum of 5 cr hrs. This course is graded S/U.

Pediatric Audiology I  
Etiology and assessment of hearing loss in children. 
Prereq: 6707 or 707. Not open to students with credit for 805.

Pediatric Audiology II  
The nature, diagnosis, and treatment recommendations of adult hearing disorders. 
Prereq: 5705, 6706, 7606, or equiv. Not open to students with credit for 806.

Seminar for Singing Health Specialist  
Required seminar for candidates in the Singing Health Specialization to enable coordination of skills, concepts and practices necessary for successful SHS specialization. 
Prereq: Admission to Singing Health Specialization, completion of Otolaryngology 8803, 8804 & 8809. Not open to students with credit for 815 or Music 815. Cross-listed in Music 7815.

Acoustic Phonetics  
An introduction to the acoustic characteristics of human speech sounds, the acoustic theory of speech production, and spectrographic analysis. 
Prereq: Grad standing in Speech and Hearing Science, or permission of instructor. Not open to students with credit for 820.

Experimental Phonetics  
Experimental investigations of acoustic, physiological, and psychological aspects of speech. 
Prereq: Grad standing in SphHrng, or permission of instructor. Not open to students with credit for 832.

Hearing Aids II  
The selection and fitting of amplification devices and the verification of patient outcomes. 
Prereq: 6735. Not open to students with credit for 835.

Advanced Practicum in Audiology  
Students are placed in local audiology clinics, medical practices, and medical centers to put into practice skills learned in the classroom. 
Prereq: Satisfactory completion of second year of AuD program. Repeatable to a maximum of 6 cr hrs or 2 completions. This course is graded S/U.
Statistics

1350  Elementary Statistics  U  3
Introduction to probability and statistics, experiments, and sampling, data analysis and interpretation.

1430  Statistics for the Business Sciences  U  4
Fundamentals of probability and statistics: Data collection and summaries, random variables, simple linear regression, two-way tables, conditional probability, sampling distributions, confidence intervals, hypothesis tests, ANOVA.
PreReq: Math 1131 (132), 1151 (152.xx), 1156, 1161.xx (161.xx), or 1181H (161.xxH), or permission of instructor. Not open to students with credit for 133. GE data anly course.

1430H  Statistics for the Business Sciences  U  4
Calculus-based fundamentals of probability and statistics: Data collection and summaries, random variables, simple linear regression, two-way tables, conditional probability, sampling distributions, confidence intervals, hypothesis tests, ANOVA.
PreReq: Honors standing, and Math 1131 (132), 1151 (152.xx), 1156, 1161.xx (161.xx), or 1181H (161.xxH), or permission of instructor. Not open to students with credit for 133. GE data anly course.

1450  Introduction to the Practice of Statistics  U  3
Algebra-based introduction to data analysis, experimental design, sampling, probability, inference, and linear regression. Emphasis on applications, statistical reasoning, and data analysis using statistical software.
PreReq: Math 1116 (116) or 1130 (130) or above, or Math Placement Level L or M, or permission of instructor. Not open to students with credit for 2450 (245) or 145. GE data anly course.

2450  Introduction to Statistical Analysis I  U  3
Calculus-based introduction to statistical data analysis. Includes sampling, experimental design, probability, binomial and normal distributions, sampling distributions, inference, regression, ANOVA, two-way tables.
PreReq: Math 1131, 1151 (152.xx), 1156, 1161.xx, or 1181H, or equiv, or permission of instructor. Not open to students with credit for 245. GE data anly course.

2460H  Introduction to Statistical Analysis II  U  3
Introductory statistics review; Simple linear regression; Multiple regression; One-way ANOVA review; Multiple comparisons; Two-way ANOVA; Bootstrap and permutation tests; Parametric tests; Intro to quality/process control; Intro time series.
PreReq: 2450 (245), or permission of instructor. Not open to students with credit for 5301 (528), 5302 (529), 246, or 530.

2480  Statistical Computing for the Life Sciences  U  3
Calculus-based introduction to the statistical analysis of biological data, including probability, common discrete and continuous distributions, experimental design, hypothesis testing, linear regression and correlation.
PreReq: Math 1131, 1151 (152), 1156, 1161.XX, or 1181H, or equiv, or permission of instructor. Not open to students with credit for 2450 (245) or 218. GE data anly course.

2510.01  Statistics in the Sports World  U  2
Ask and answer questions, debate issues and analyze data from your favorite sports using statistics. Statistical techniques include contingency tables, regression, estimation, confidence levels, testing. Cannot be used to replace a GE data anly course.
PreReq: One GE data anly course, or equiv, or permission of instructor. Not open to students with credit for 201.01.

2510.02  Statistics in the Environmental Sciences  U  2
Learn, discuss, and apply statistical methods to important problems in the environmental sciences. Statistical techniques will be introduced and illustrated through applications in climate change, pollution monitoring, and biodiversity/conservation.
PreReq: One GE data anly course, or equiv, or permission of instructor. Not open to students with credit for 200.01. Cannot be used to replace a GE data anly course.

2520.01  Introduction to Probability for Data Analytics  U  3
An introduction to probability and its role in statistical methods for data analytics. Equal emphasis is placed on analytical and simulation-based methods for quantifying uncertainty. Approaches to assessing the accuracy of simulation methods are discussed. Students should have some prior knowledge of basic programming. Applications of probability and sampling to big-data settings are discussed.
PreReq: Math 1152, 1161.xx, 1172, or 1181 or equiv, and CSE Placement Level A or equiv; or permission of instructor.

2520.02  Introduction to Statistical Inference for Data Analytics  U  4
Foundational inferential methods for learning about populations from samples, including point and interval estimation, and the formulation and testing of hypotheses. Statistical theory is introduced to justify the approaches. The course emphasizes challenges that arise when applying classical ideas to big data, partially through the use of computational and simulation techniques.
PreReq: 3201, or permission of instructor.

3301  Statistical Modeling for Discovery I  U  3
Statistical models for data analysis and discovery in big-data settings, with primary focus on linear regression models. The challenges of building meaningful models from vast data are explored, and emphasis is placed on model building and the use of numerical and graphical diagnostics for assessing model fit. Interpretation and communication of the results of analyses is emphasized.
PreReq: 3202 and Math 2568; or permission of instructor.

3302  Statistical Modeling for Discovery II  U  3
Statistical models for data analysis and discovery in big-data settings. The regression models developed in Stat 3301 are extended to data settings with binary and multi-category outcomes. An introduction to some of the most commonly used statistical methods for exploring and analyzing multivariate data is provided. Interpretation and communication of the results of analyses is emphasized.
PreReq: 3301; or permission of instructor.

3303  Bayesian Analysis and Statistical Decision Making  U  3
Introduction to concepts and methods for making decisions in the presence of uncertainty. Topics include: formulation of decision problems and quantification of their components; learning about unknown features of a decision problem based on data via Bayesian analysis; characterizing and finding optimal decisions. Techniques and computational methods for practical implementation are presented.
PreReq: 3302; or permission of instructor.

3350  Basic Statistics for Engineers  U  2
Introduction to probability; Normal distribution; Confidence intervals for means; Hypothesis tests for means; Multi-factor experiments; Experiments with blocking.
PreReq: Math 1152 (153), 1161.xx, 1172 (254), or 1181, or equiv, or permission of instructor. Not open to students with credit for 3460, 3470, 427, or 428. GE data anly course.

3460  Principles of Statistics for Engineers  U  3
Introduction to probability, random variables, distributions, expected values; confidence intervals; paired and unpaired t-tests; linear regression; analysis of variance; blocked experiments; fractional factorial experiments; quality control charts.
PreReq: Math 1152, 1161.xx, 1172, 1181H, 153 or 254, or equiv, or permission of instructor. Not open to students with credit for 3450, 3470, 427, or 428. GE data anly course.

3470  Introduction to Probability and Statistics for Engineers  U  3
Introduction to probability, Bayes theorem; discrete and continuous random variables, expected value, probability distributions; point and interval estimation; hypotheses tests for means and proportions; least squares regression.
PreReq: Math 1152, 1161.xx, 1172, 1181H, 153 or 254, or equiv, or permission of instructor. Not open to students with credit for 3450, 3460, 427, or 428. GE data anly course.

4193  Individual Studies  U  1 - 3
Individual conferences, assigned readings, and reports on minor investigations.
PreReq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 5 completions. This course is graded S/U.

4194  Group Studies  U  1 - 5
Designed to give groups of students an opportunity to pursue special studies not otherwise offered.
PreReq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions. This course is graded S/U.

4201  Introduction to Mathematical Statistics I  U  4
Basic concepts in mathematical statistics, including probability, discrete and continuous distributions and densities, mathematical expectation, functions of random variables, transformation techniques, sampling distributions, order statistics.
PreReq: Math 2153 (254), 2162.xx (263), 2182H (263.01H), or 4182H (264H), or permission of instructor. Not open to students with credit for 6201 (520), 6301 (610), 6302 (620), 420, or Math 4530 (530).

4202  Introduction to Mathematical Statistics II  U  4
Decision theory, point and interval estimation, Neyman-Pearson lemma, likelihood ratio tests, tests for means, variances, and proportions, nonparametric tests, regression, and ANOVA.
PreReq: 4201 (420), Math 4530 (530), or 5530H (531H), or permission of instructor. Not open to students with credit for 6201, 6302 (623), 6802 (621 and 622), or 421. GE data anly course.
4288  Bridge Course for Introduction to Probability and Statistics for Engineering and the Sciences II  U  2
For students who have taken Stat 427 but not Stat 428 under quarters, and need to take the 'Introduction to Probability and Statistics for Engineering and the Sciences' sequence. Prereq: 427. Not open to students with credit for 428, 3460, 3470.

4620  Introduction to Statistical Learning  U  2
The course provides an introduction to the principles of statistical learning and standard learning techniques for regression, classification, clustering, dimensionality reduction, and feature extraction. Prereq: 3302, or permission of instructor.

4690  Undergraduate Topics in Statistics  U  1 - 4
Various topics in Statistics and Data Analysis that are relevant to an undergraduate audience. Topics vary per offering. Repeatable to a maximum of 12 cr hrs or 3 completions.

4998  Undergraduate Research in Statistics  U  1 - 5
Designed to give undergraduates experience in carrying out statistics research. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 6 completions. This course is graded S/U.

5299  Intermediate Data Analysis Bridge Course  U  G  2
Covers the two sample problem and one-way analysis of variance for students who have taken Stat 528 but not Stat 529 under quarters, and need to take the data analysis sequence (Stat 528-530 under quarters, Stat 5301-5302 under semesters). Prereq: 528, or permission of instructor. Not open to students with credit for 5301.

5301  Intermediate Data Analysis I  U  G  4
The first course in a two-semester non-calculus sequence in data analysis covering descriptive statistics, design of experiments, probability, statistical inference, one-sample t, goodness of fit, two sample problem, and one-way ANOVA. Prereq: Math 1075 (104) or equiv, or Math Placement Level of R, or permission of instructor. Not open to students with credit for 5301 (529) and 529. GE data anly course.

5302  Intermediate Data Analysis II  U  G  3
The second course in a two-semester sequence in data analysis covering simple linear regression (inference, model diagnostics), multiple regression models, variable selection, model selection, two-way ANOVA, mixed effects model. Prereq: 5299, 5301, or 529, or permission of instructor. Not open to students with credit for 530. GE data anly course.

5510  Statistical Foundations of Survey Research  U  G  3
Understand and practice methods of survey research and data analysis including questionnaire design and pilot testing, non-sampling and sampling errors, sampling design, descriptive statistics, estimation, and hypothesis testing; and ethics. Prereq: 1350 (135), 1450 (145), or 5301 (528), and Math 1075 (104), or equiv; or permission of instructor. Not open to students with credit for 6510 (651) or 651.

5550  Introductory Time Series Analysis  U  G  3
Introduces the statistical methodology and models to analyze time series data in practice. Prereq: 4202 and 5302, or permission of instructor. Not open to students with credit for 6550 (635) or 7550.

5740  Introduction to SAS Software  U  G  2
The basic statistical procedures covered will be illustrated using SAS. The intent of the course is to cover some of the SAS statistical methods that graduate students from outside the Statistics Department require for their own research. Prereq: 5302 (530), or permission of instructor. Not open to students with credit for 574.

5760  Statistics for Engineering and the Sciences II  U  G  3
Graduate or undergraduate students enrolled in this course will work with a graduate student consultant employed by the Statistical Consulting Service for the purpose of making progress on their thesis or dissertation. Repeatable to a maximum of 15 or hrs. This course is graded S/U.

6030  Teaching of Statistics  G  2
Introduction to the teaching of statistics; teaching strategies; communicating with students; review of topics taught in Stat 1330, 1350, and 1450; and the computing lab. Prereq: Grad standing in Statistics or Biostatistics. Not open to students with credit for 639. This course is graded S/U.

6040  Mentored Teaching Experience in Statistics  G  2
The application of best pedagogical practices in selected statistics teaching experiences. A supervised teaching component is included. Prereq: Grad standing in Statistics or Biostatistics, and permission of instructor. Not open to students with credit for 604. This course is graded S/U.

6060  Early Start in Statistics  G  3
Selected mathematical topics (induction, integration by parts, L’Hospital’s rule, and Taylor series), with applications to random variables, properties of common probability distributions, sampling distributions, and convergence in probability. Prereq: Grad standing in Stat or Biostat; or permission of instructor. Not open to students with credit for 602.

6193  Individual Studies in Foundational Graduate Topics in Statistics  G  1 - 4
Individual conferences, assigned readings, and reports on minor investigations in foundational graduate topics in Statistics. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 5 completions. This course is graded S/U.

6194  Group Studies in Foundational Graduate Topics in Statistics  G  1 - 5
Designed to give students an opportunity to pursue special studies in foundational graduate topics in Statistics not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 15 cr hrs or 3 completions. This course is graded S/U.

6201  Mathematical Statistics  G  4
Introduction to probability, random variables, expectation, moment generating functions, discrete and continuous distributions, limit theorems, maximum likelihood and Bayesian estimation, confidence intervals, hypothesis tests, Neyman-Pearson lemma, t and F tests. Prereq: Math 2153 (254) or equiv, or permission of instructor. Not open to students with credit for 6301 (610) or 6801 (620).

6301  Probability for Statistical Inference  G  3
Introduction to probability, random variables, and distribution theory; intended primarily for students in MAS degree program. Prereq: Math 4547 (548), or permission of instructor. Not open to students with credit for 606 (621), or Math 4530 (630), or 5530H (531).

6302  Theory of Statistical Analysis  G  3
Estimation, hypothesis tests, best tests, likelihood ratio tests, confidence sets, sufficiency, efficient estimators; intended primarily for students in the MAS degree program. Prereq: 6301 (610) or 6801 (620), or permission of instructor. Not open to students with credit for 6062 (621, 622, or 623).

6410  Design and Analysis of Experiments  G  4
Principles of designing experiments; analysis of variance techniques for hypothesis testing, simultaneous confidence intervals; block designs, factorial experiments, random effects and mixed models, split plot designs, response surface design. Prereq: 6201 (521), 6302 (623), or 6802 (622), and 6540 (645) or 6950; or permission of instructor. Not open to students with credit for 6910 (641).

6450  Applied Regression Analysis  G  4
Simple and multiple linear regression, diagnostics, model selection, models with categorical variables. Prereq: 6201 (521), or equiv, or permission of instructor. Not open to students with credit for 6950 (645).

6510  Survey Sampling Methods  G  3
Sampling from finite populations, simple random, stratified, systematic and cluster sampling design, ratio and regression estimates, non-sampling errors, models. Prereq: 5301 (529) or PubHBio 6212 (703), or equiv. Not open to students with credit for 651 or PubHBio 7225 (651). Cross-listed in PubHBio 7225.

6520  Applied Statistical Analysis with Missing Data  G  3
Models and methods for the dataset with missing values, including imputation, likelihood-based, and Bayesian models. Prereq: 6201, 6302 (623), or 6802 (622), and 6450 (645) or 6950. PubHBio 6203, or 703; or permission of instructor. Not open to students with credit for 6520 (652) or PubHBio 7240 (652). Cross-listed in PubHBio 7240.

6530  Introduction to Spatial Statistics  G  2
Provides an introduction to spatial statistical methods based on the viewpoint that spatial data are a realization from a random process. Prereq: 6450 (645), 6950, or Geog 883.02, or permission of instructor. Not open to students with credit for 6530 (829) or 631.

6540  Applied Stochastic Processes  G  3
An introduction to some of the most commonly encountered stochastic processes. Goals include understanding basic theory as well as applications. Students should be familiar with basic probability, including conditional probability and expectation. Prereq: 6301 (610) or equiv, or permission of instructor. Not open to students with credit for 632.

6550  The Statistical Analysis of Time Series  G  2
To develop knowledge of time series processes, modeling (identification, estimation, and diagnostics), and forecasting methods. Experience is gained in the statistical theory so as to be able to analyze time series data in practice. Prereq: 6201, 6302 (623), or 6802 (622), and 6450 (645) or 6950; or permission of instructor. Not open to students with credit for 635.

6560  Applied Multivariate Analysis  G  3
An introduction to classical multivariate statistical methods based on the multivariate normal distribution. Sufficient matrix algebra will be covered to enable students to understand multivariate methods using matrix notation. Prereq: 6450 (645) or 6950, or equiv, or Math 2568 (568), or equiv; or permission of instructor. Not open to students with credit for 656.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites and Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>6570</td>
<td>Applied Bayesian Analysis</td>
<td>G 2</td>
<td>Introduces various aspects of Bayesian modeling (including conditionally specified models and models for non-normal data) and simulation-based model-fitting strategies. PreReq: 6301 (610) or 6301 (621) or 622, or permission of instructor. PreReq or concur: 6450 (645) or 6950, and 6322 (623) [with 6301 prerequisite] or 6802 [with 6801 prerequisite]; or permission of instructor. Not open to students with credit for 625.</td>
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<tr>
<td>6605</td>
<td>Applied Survival Analysis</td>
<td>G 3</td>
<td>Introduction to time-to-event data analysis. Kaplan-Meier estimation, log rank tests, proportional hazards regression analysis for censored or truncated data with extensions to time-dependent covariates and model building. PreReq: 6450 (645), 6950, PUBH 6212, or 703, or permission of instructor. Not open to students with credit for 6865, Bicstat 605, or PUBH 6223. Cross-listed in PUBH 6235.</td>
</tr>
<tr>
<td>6610</td>
<td>Applied Nonparametric Statistics</td>
<td>G 3</td>
<td>Nonparametric tests, confidence intervals, estimation; topics include one- and two-sample problems, one- and two-way analysis of variance, multiple comparisons, correlation. PreReq: 5301 (529), 6201, or 6302 (623), or equiv, or permission of instructor. Not open to students with credit for 661.</td>
</tr>
<tr>
<td>6615</td>
<td>Design and Analysis of Clinical Trials</td>
<td>G 2</td>
<td>Design, monitoring, and analysis of clinical trials; includes protocol development, randomization schemes, sample size methods, and ethical issues. PreReq: 5301 (528 and 529), or equiv, or permission of instructor. Not open to students with credit for Bicstat 615 or PUBH 6215. Cross-listed in PUBH 6215.</td>
</tr>
<tr>
<td>6620</td>
<td>Environmental Statistics</td>
<td>G 2</td>
<td>Survey of statistical methods for environmental data, with a focus on applications. Topics include sampling, regression, censoring, risk analysis, bioassay, time series, spatial statistics, and environmental extremes. PreReq: 5302 (529) or 6450 (645) or 6910 or G63 683.xx or 833.01; or precon or Stat 6910; or permission of instructor. Not open to students with credit for 662.</td>
</tr>
<tr>
<td>6625</td>
<td>Statistical Analysis of Genetic Data</td>
<td>G 3</td>
<td>Introduction to Mendelian principles, genetic epidemiology, and molecular genetics; family studies; model-based and model-free linkage analysis for mapping disease genes; genome wide association studies; association analysis using haplotypes. PreReq: 6301 (610) and 6302 (623), or permission of instructor.</td>
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<tr>
<td>6640</td>
<td>Principles of Statistical Quality Control</td>
<td>G 3</td>
<td>Statistical quality control. Topics include basic concepts, common control charts for quantitative and qualitative data, graphical techniques, process capability studies, and selected additional material as time permits. PreReq: 6201 (521), 6302 (623), or 6902 (622), or equiv, or permission of instructor. Not open to students with credit for 664.</td>
</tr>
<tr>
<td>6650</td>
<td>Discrete Data Analysis</td>
<td>G 2</td>
<td>Two-by-two tables; cross-sectional, prospective, and retrospective studies; measures and tests of association; log linear models; association graphs; analysis of stratified tables. PreReq: 5301 (529), 6450 (645), 6950, PUBH 6203, or 703, or permission of instructor. Not open to students with credit for 665.</td>
</tr>
<tr>
<td>6690</td>
<td>Foundational Graduate Topics in Statistics</td>
<td>G 1 - 4</td>
<td>Various foundational topics in Statistics and Data Analysis that are relevant to a graduate audience. Topics vary per offering. PreReq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions.</td>
</tr>
<tr>
<td>6730</td>
<td>Introduction to Computational Statistics</td>
<td>G 2</td>
<td>Introduction to computational statistics. Students will learn how to manipulate data, perform statistical analyses, perform simple Monte Carlo experiments, use resampling methods and discuss the results obtained from their analyses. PreReq: 6301 (610), 6302 (623), and 6410 (641) or 6910, and 6450 (645) or 6950; or permission of instructor. Not open to students with credit for 673.</td>
</tr>
<tr>
<td>6740</td>
<td>Data Management and Graphics for Statistical Analyses</td>
<td>G 3</td>
<td>Data manipulation for statistical analyses, missing data calculations, merging and importing data sets, formatting data analysis results, using relational databases and SQL, character data, graphical presentation of data, and macro programming. PreReq: Not open to students with credit for 674 or 675.</td>
</tr>
<tr>
<td>6750</td>
<td>Statistical Consulting and Collaboration</td>
<td>G 2</td>
<td>Role of the statistician as both consultant and collaborator; enhancement of analytical and communication skills; structuring working engagements; introduction to consulting-specific technical skills; experience working on consulting projects. PreReq: 6450 (645) or 6950, or permission of instructor. Not open to students with credit for 600 or 601. This course is graded S/U.</td>
</tr>
<tr>
<td>6801</td>
<td>Statistical Theory I</td>
<td>G 4</td>
<td>Introduction to probability, random variables, distribution theory and principles of inference. Intended primarily for students in the PhD program in Statistics or Biostatistics. PreReq: Grad standing in Statistics or Biostatistics, or permission of instructor. Not open to students with credit for 6301 (610) or 620.</td>
</tr>
<tr>
<td>6802</td>
<td>Statistical Theory II</td>
<td>G 4</td>
<td>Introduction to statistical inference: Estimation, hypothesis testing, confidence intervals, and decision theory. Intended primarily for students in the PhD program in Statistics or Biostatistics. PreReq: 6801, or permission of instructor. Not open to students with credit for 622.</td>
</tr>
<tr>
<td>6860</td>
<td>Foundations of the Linear Model</td>
<td>G 2</td>
<td>Linear models; Least squares estimates; Multivariate normal distribution; Maximum likelihood estimators; Covariance matrices, information matrices; Quadratic forms; Principal components; Orthogonal polynomial regression; Non-central distributions. PreReq: Math 256B (568) or equiv, or permission of instructor. Concur: 6802. Not open to students with credit for 742.</td>
</tr>
<tr>
<td>6910</td>
<td>Applied Statistics I</td>
<td>G 4</td>
<td>One and two-sample problems, randomization-based inference, contingency tables, analysis of variance, the mixed model, experimental designs. Intended primarily for students in the PhD program in Statistics or Biostatistics. PreReq or concur: 6801, or permission of instructor. Not open to students with credit for 6410 (641).</td>
</tr>
<tr>
<td>6950</td>
<td>Applied Statistics II</td>
<td>G 4</td>
<td>Simple and multiple linear regression, diagnostics, model selection, the mixed model, and generalized linear models. Intended primarily for students in the PhD program in Statistics or Biostatistics. PreReq: 6801 (620) and 6910 (641), or permission of instructor. Not open to students with credit for 6450 (645).</td>
</tr>
<tr>
<td>6998</td>
<td>Research in Foundational Graduate Topics in Statistics</td>
<td>G 1 - 5</td>
<td>Research topics in foundational graduate topics in Statistics. PreReq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 6 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7021</td>
<td>Theory of Probability</td>
<td>G 3</td>
<td>Measure and integration, random variables, independence, integration and expectation, convergence, characteristic functions, central limit theorems. Intended primarily for PhD students in Statistics or Biostatistics. PreReq: 6802 (622), or permission of instructor. Not open to students with credit for 722 or 723.</td>
</tr>
<tr>
<td>7301</td>
<td>Advanced Statistical Theory I</td>
<td>G 3</td>
<td>Exponential families, sufficiency, Rao-Blackwell theorem, information, efficiency, maximum likelihood estimation, M-estimation, asymptotics, density estimation. Intended primarily for PhD students in Statistics or Biostatistics. PreReq: 6802 (622), or permission of instructor. Not open to students with credit for 821.</td>
</tr>
<tr>
<td>7302</td>
<td>Advanced Statistical Theory II</td>
<td>G 3</td>
<td>Hypothesis testing: likelihood ratio tests, resampling and permutation based tests, sequential tests, multiple testing, asymptotic distributions of test statistics. Intended primarily for PhD students in Statistics or Biostatistics. PreReq: 7301 or 622, or permission of instructor. Not open to students with credit for 820.</td>
</tr>
<tr>
<td>7410</td>
<td>Theory of the Linear Model</td>
<td>G 3</td>
<td>Theory of the general linear model, estimability, power and sample size. Random effects and nested models. Analysis of covariance. Models with block variables. Generalized linear models. PreReq: 6802 (622), 6860, and 6950 (645) or 6910 (641); or permission of instructor. Not open to students with credit for 742.</td>
</tr>
<tr>
<td>7430</td>
<td>Bayesian Analysis and Decision Theory</td>
<td>G 3</td>
<td>Decision theory, loss functions, subjective and objective prior distributions, posterior distribution, estimation, testing, prediction, sensitivity analysis, hierarchical modeling. Intended primarily for PhD students in Statistics or Biostatistics. PreReq: 7301 or 622, or permission of instructor. Not open to students with credit for 820.</td>
</tr>
<tr>
<td>7470</td>
<td>Bayesian Analysis and Decision Theory</td>
<td>G 3</td>
<td>Theory of the general linear model, estimability, power and sample size. Random effects and nested models. Analysis of covariance. Models with block variables. Generalized linear models. PreReq: 6802 (622), 6860, and 6950 (645) or 6910 (641); or permission of instructor. Not open to students with credit for 742.</td>
</tr>
<tr>
<td>7490</td>
<td>Multiple Comparisons Procedures</td>
<td>G 3</td>
<td>Types and levels of multiple comparison inference, abuses, sample size computation, graphical representation. PreReq: 7410 (742); or permission of instructor. Not open to students with credit for 743.</td>
</tr>
<tr>
<td>7470</td>
<td>Advanced Longitudinal Data Analysis</td>
<td>G 3</td>
<td>Classical and modern statistical approaches for continuous and discrete longitudinal data. Random effects and growth curve models, measurement error, generalized estimating equations, estimation with missing data, multivariate longitudinal data. PreReq: 6802 (622) and 6950 (645), or permission of instructor. Not open to students with credit for 726 or PUBH 8230. Cross-listed in PUBH 8230.</td>
</tr>
</tbody>
</table>
7540 Theory of Stochastic Processes
Markov chains, ergodicity, Poisson process, martingales, Brownian motion, Gaussian processes, diffusion processes. Intended primarily for students in the PhD program in Statistics or Biostatistics. Prereq: 7201, or permission of instructor. Not open to students with credit for 832.

7550 Time Series Theory and Methods
A systematic advanced treatment of areas of current interest in the statistical theory and methods for the analysis of time series processes. Topics will be announced each semester. Prereq: 6560 (655) or 6560, 6801 (620 and 621), 6802 (621 and 622), and 6950 (645); or permission of instructor.

7560 Multivariate Analysis
Matrix normal distribution; Matrix quadratic forms; Matrix derivatives; The Fisher scoring algorithm. Multivariate analysis of variance; Random coefficient growth models; Principal components; Factor analysis; Discriminant analysis; Mixture models. Prereq: 6802 (622), or permission of instructor. Not open to students with credit for 755 or 756.

7605 Advanced Regression Modeling of Time-to-Event Data
Advanced topics in survival analysis. Proportional hazards models, parametric regression models, length-bias and prevalent sampling, multivariate survival analysis, counting processes, recurrent events. Prereq: 6952 (622) and 6950. Not open to students with credit for PubHBio 8235 or 706. Cross-listed in PubHBio 8235.

7610 Theory of Nonparametric Statistics
Theory of distribution-free statistics based on counting and ranking: U-statistics; univariate and multivariate rank regression; additional topics on nonparametric statistics. Prereq: 6802 (622), or permission of instructor. Not open to students with credit for 761.

7620 Elements of Statistical Learning
Statistical and Machine Learning - Applied modern regression, pattern recognition and clustering techniques for discovery/understanding of underlying statistical models within large, complex and noisy data sets. Prereq: 6301 (610) and 6302 (623), or 6801 (620) and 6802 (622), or ECE 804.xx or 806.xx or equiv; or permission of instructor. Not open to students with credit for 760.

7630 Nonparametric Function Estimation
Function estimation with emphasis on smoothing splines, flexible model building with multivariate data, reproducing kernel Hilbert space methods, additional topics in smoothing. Prereq: 6802 (622) and 6950 (645), or permission of instructor. Not open to students with credit for 763.

7730 Advanced Computational Statistics
Covers modern methods of statistical computing, with emphasis on how and why they work. As a prerequisite, students should be able to program basic functions. Intended primarily for students in the PhD program in Statistics or Biostatistics. Prereq: 6802 (622) and 6950 (645); or permission of instructor. Not open to students with credit for 773.

7755 Biostatistical Collaboration
Basic biomedical research methodologies; collaborate with biomedical researchers to design experiments and plan analyses; protocol preparation; professional skills development; statistical report preparation. Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Not open to students with credit for 775.

7789 Survey Research Practicum
Hands-on applications for students interested in the planning, implementation, and analysis of a scientific sample survey. Prereq: Admission to Grad interdisciplinary specialization in survey research, or permission of instructor. Not open to students with credit for 7789 or 789 in AEDEcon, AgrEduEd, BusML, Comm, Econ, EduPL, Geog, PolitSc, Psych, PubHth, PubAffs, SocSci, or Stat. Cross-listed in Comm, Econ, and PolitSc.

7998 Intermediate Graduate Research in Statistics
Research topics in intermediate graduate topics in Statistics. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 3 completions. This course is graded S/U.

7999 Masters Thesis Research in Statistics
Masters Thesis Research in Statistics. Prereq: Grad standing in Stat. Repeatable. This course is graded S/U.

8010 Seminar on Research Topics in Statistics
Lectures on current research by each graduate faculty member in statistics. Prereq: Grad standing in Statistics. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.

8193 Individual Studies in Advanced Graduate Topics in Statistics
Individual conferences, assigned readings, and reports on minor investigations in advanced graduate topics in Statistics. Prereq: Permission of instructor. Repeatable to a maximum of 25 cr hrs or 5 completions. This course is graded S/U.

8194 Group Studies in Advanced Graduate Topics in Statistics
Designed to give groups of students an opportunity to pursue special studies in advanced graduate topics in Statistics not otherwise offered. Prereq: Permission of instructor. Repeatable to a maximum of 25 cr hrs or 5 completions. This course is graded S/U.

8310 Large Sample Theory
Stochastic Convergence, Delta Method, Moment Estimators, M- and Z- estimators. Efficiency of Estimators, U-Statistics, Rank, Sign and Permutation Statistics. Large sample methods for functional data. Prereq: 7202 (722 and 723) and 7302 (821), or permission of instructor. Not open to students with credit for 888.

8410 Capstone Applications
Intensive, project-based investigation of applied and/or interdisciplinary statistical problems, suitable for advanced PhD students in Statistics and Biostatistics. Prereq: 7302 (821), 7410 (742), and 7540 (832), and Grad standing in Statistics or Biostatistics; or permission of instructor.

8450 Stochastic Epidemic Models
Introduction to methods of analyzing large population epidemic data from the viewpoint of stochastic processes theory. Topics will cover the SIR (susceptible-infective-removed) epidemic models both under the homogenous and restricted contact structures. Lectures will introduce the necessary background in probability and statistics along with real-life applications (e.g. HIV, H1N1 and SARS). Prereq: 6801, and 6540 or 7540; or permission of instructor. Not open to students with credit for PubHBio 8450. Cross-listed in PubHBio.

8460 Special Topics in Design of Experiments
Selection of Advanced Topics from: Theory of optimal design; Computational Algorithms; Design and analysis of computer experiments; Design for nonlinear models; Discrete choice experiments. Prereq: 7410 (742), or permission of instructor. Not open to students with credit for 847.

8530 Spatial and Spatio-Temporal Statistics
Geostatistics, kriging, hierarchical statistical models, Markov random fields, spatial point processes, spatio-temporal statistical models. Intended primarily for students in the PhD program in Statistics or Biostatistics. Prereq: 6802 (622) and 6950 (645), or permission of instructor. Not open to students with credit for 829.

8540 Topics in Advanced Stochastic Processes
Dedicated to advanced topics in stochastic processes, such as stochastic integration and stochastic differential equations (SDEs); numerical methods and inference for SDEs, etc. Applications in several areas will be discussed. Prereq: 7201 (722 and 723), or permission of instructor.

8570 Advanced Bayesian Analysis: Modeling
A systematic advanced treatment of areas of current interest in Bayesian analysis. Topics will be announced each semester. Prereq: 7303 (820), or permission of instructor. Repeatable to a maximum of 6 cr hrs.

8575 Advanced Bayesian Analysis: Computation
A systematic advanced treatment of areas of current interest in Bayesian analysis. Topics will be announced each semester. Prereq: 7730 (773) and 7303 (820), or permission of instructor.

8605 Advanced Survival Analysis
Counting process approach to modeling life history data, including Nelson-Aalen, product limit, and K-sample estimators. Topics from parametric models, semiparametric proportional and additive hazards regressions, and multivariate survival models. Prereq: 7201 (722 and 723) and 7540 (832), or permission of instructor. Not open to students with credit for Biostat 805 and 806.

8625 Statistical Methods for Analyzing Genetic Data
Basic principles of population genetics; gene frequency estimation; likelihood computation on pedigrees using peeling algorithm, Lander-Green algorithm, Monte Carlo methods; linkage analysis, population and family based association studies. Prereq: 6802 (622), or permission of instructor. Not open to students with credit for 833.

8750.01 Research Group in Statistical Learning and Data Mining
Research group in Statistical Learning and Data Mining. Topics vary by the offering. Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8750.02 Research Group in Design of Physical and Computer Experiments
Research group in Design of Physical and Computer Experiments. Topics vary by the offering. Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8750.03 Research Group in Statistical Genetics and Bioinformatics
Research group in Genetics. Topics vary by the offering. Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.
Statistics

8750.04 Research Group in Quantitative Methods in Consumer Behavior
Research group in Quantitative Methods in Consumer Behavior. Topics vary by the offering.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8750.05 Research Group in Ranked Set Sampling
Research group in Ranked Set Sampling. Topics vary by the offering.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8750.06 Research Group in Spatial Statistics and Environmental Statistics
Research group in Spatial Statistics and Environmental Statistics. Topics vary by the offering.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8750.07 Research Group in the Analysis of Clinical Trials Data, Including Efficacy, Safety, and Biomarkers
Research group in Analysis of Clinical Trials Data. Topics vary by the offering.
Prereq: Grad standing in Statistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8750.08 Research Group in Observational Data
Research group in Observational Data. Topics vary by the offering.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8810 Advanced Topics in Statistics I
A systematic advanced treatment of areas of current interest in Statistics. Topics will be announced each semester.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.

8820 Advanced Topics in Statistics II
A systematic advanced treatment of areas of current interest in Statistics. Topics will be announced each semester.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.

8830 Advanced Topics in Statistics III
A systematic advanced treatment of areas of current interest in Statistics. Topics will be announced each semester.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.

8840 Advanced Topics in Statistics IV
A systematic advanced treatment of areas of current interest in Statistics. Topics will be announced each semester.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.

8850 Advanced Topics in Biostatistics I
A systematic advanced treatment of areas of current interest in Biostatistics. Topics will be announced each semester.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.

8860 Advanced Topics in Biostatistics II
A systematic advanced treatment of areas of current interest in Biostatistics. Topics will be announced each semester.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 24 cr hrs or 8 completions.

8891 Interdisciplinary Seminar
Graduate seminar for graduate interdisciplinary studies.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8895 Statistics Seminar
Topics range over the current research interests of statisticians from around the world; some lectures are of an expository nature.
Prereq: Grad standing in Statistics or Biostatistics, or permission of instructor. Repeatable to a maximum of 20 cr hrs. This course is graded S/U.

8999 PhD Dissertation Research in Statistics
PhD Dissertation research in Statistics.
Prereq: Permission of instructor. Repeatable. This course is graded S/U.

Surgery

5610 Techniques in Transplantation Research
Provides students with exposure to theoretical & practical aspects of techniques in transplant research.
Prereq: Permission of instructor. Not open to students with credit for 610. This course is graded S/U.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credit Hours</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7190.10</td>
<td>Research Studies in Surgery: Peripheral Vascular Surgery</td>
<td></td>
<td>Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7193.01</td>
<td>Individual Studies: General Surgery</td>
<td>G 1 - 12</td>
<td>Conducting basic science or clinical research on a surgically related topic under faculty supervision. Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7193.02</td>
<td>Individual Studies: Pediatric Surgery</td>
<td>G 1 - 12</td>
<td>Conducting basic science or clinical research on a surgically related topic under faculty supervision. Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7193.04</td>
<td>Individual Studies: Surgical Infectious Diseases</td>
<td>G 1 - 12</td>
<td>Conducting basic science or clinical research on a surgically related topic under faculty supervision. Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7193.06</td>
<td>Individual Studies: Surgical Oncology</td>
<td>G 1 - 12</td>
<td>Conducting basic science or clinical research on a surgically related topic under faculty supervision. Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7193.10</td>
<td>Individual Studies: Wound Healing</td>
<td>G 1 - 12</td>
<td>Conducting basic science or clinical research on a surgically related topic under faculty supervision. Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7193.12</td>
<td>Individual Studies: Molecular Medicine</td>
<td>G 1 - 12</td>
<td>Conducting basic science or clinical research on a surgically related topic under faculty supervision. Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>8501</td>
<td>Career Development Course for Surgeons I</td>
<td>M 2</td>
<td>A course designed for surgery residents to strengthen their research practices and data collection to gain the skills needed for grant writing. Prereq: Surgical Resident, Surgical Fellow, Surgery Junior Faculty, and permission of instructors. This course is graded S/U.</td>
</tr>
<tr>
<td>8814</td>
<td>Responsible Conduct of Research: Human Participants and the Use of Animals in Biomedical Research</td>
<td>2</td>
<td>Responsible conduct of research with human participants and the use of animals in biomedical research is crucial to maintaining the public trust in both the results and the methods of biomedical research. Repeatable to a maximum of 4 hrs.</td>
</tr>
<tr>
<td>8815</td>
<td>Training in Clinical Research I</td>
<td>G 2</td>
<td>Provide exposure to students to ongoing clinical trials at OSUMC and essential skills that are needed to conduct research. Prereq: Permission of instructor. This course is graded S/U.</td>
</tr>
<tr>
<td>8820</td>
<td>Training in Clinical Research II</td>
<td>G 2</td>
<td>Continuation of 8815. Provides exposure to students to ongoing clinical trials at OSUMC and essential skills that are needed to conduct research. Prereq: 8815, and permission of instructor. This course is graded S/U.</td>
</tr>
<tr>
<td>8845</td>
<td>The History of Immunology</td>
<td>G 3</td>
<td>Understand immunology &amp; pertinent research, students must understand its history so to appreciate where the field of immunology started, the progress and discoveries made. M/VIMG 701 recommended. This course is graded S/U. Cross-listed in M/VIMG.</td>
</tr>
<tr>
<td>8850</td>
<td>Seminars in Surgery: Grand Rounds</td>
<td>G 2</td>
<td>Discussion of current clinical advances in pertinent literature in Surgery with emphasis on Clinical and Basic Sciences as well as translational application. Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 4 or hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8860</td>
<td>Seminars in Surgery: Morbidity and Mortality</td>
<td>G 2</td>
<td>Educational seminars in Surgical Complications. Prereq: Must be a PGY-2 or more advanced in surgery residency or related programs. Repeatable to a maximum of 4 or hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8999</td>
<td>Research in Surgery</td>
<td>G 1 - 12</td>
<td>Research for thesis purposes. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>1101</td>
<td>Elementary Swahili I</td>
<td>U 4</td>
<td>Development of oral proficiency in Swahili through basic listening, speaking, and reading skills using a competency-based curriculum. Not open to native speakers of the language through regular course enrollment. Prereq: Not open to students with credit for 101. This course is available for EM credit. GE for lang course.</td>
</tr>
<tr>
<td>1102</td>
<td>Elementary Swahili II</td>
<td>U 4</td>
<td>Continuation of 1101; further work on developing oral proficiency in Swahili through basic listening, speaking, and reading skills using a competency-based curriculum. Not open to native speakers of the language through regular course enrollment. Prereq: 1101. Not open to students with credit for 102. This course is available for EM credit. GE for lang course.</td>
</tr>
<tr>
<td>1103</td>
<td>Elementary Swahili III</td>
<td>U 4</td>
<td>Continuation of 1102; further work on developing oral proficiency in Swahili through basic listening, speaking, and reading skills using a competency-based curriculum. Not open to native speakers of the language through regular course enrollment. Prereq: 1102. Not open to students with credit for 104. This course is available for EM credit. GE for lang course.</td>
</tr>
<tr>
<td>1121</td>
<td>Swahili Bridge Course</td>
<td>U 5</td>
<td>This course is designed to meet the foreign language requirement for the students who took Swahili 101 before the university converted to the current semester system. The goal of this course is to assist students prepare for their final course.</td>
</tr>
<tr>
<td>2201</td>
<td>Intermediate Swahili I</td>
<td>U 3</td>
<td>Enhances the students proficiency in the speaking, reading, listening, and writing of the Swahili language in meaningful communicative contexts. Prereq: 1103. This course is available for EM credit.</td>
</tr>
<tr>
<td>2241</td>
<td>Intermediate Swahili II: Translation</td>
<td>U 3</td>
<td>Students gain practical experience in reading and translating materials selected from a wide range of sources. Prereq: 2201. This course is available for EM credit.</td>
</tr>
<tr>
<td>3301</td>
<td>Intermediate Swahili III</td>
<td>U 3</td>
<td>A cultural and historical overview of the Swahili people and their location in East Africa. Prereq: 2241. This course is available for EM credit.</td>
</tr>
<tr>
<td>4401</td>
<td>Advanced Swahili I</td>
<td>U 3</td>
<td>Students work with advanced Swahili grammatical patterns. Prereq: 3301. Not open to students with credit for 401.</td>
</tr>
<tr>
<td>4402</td>
<td>Advanced Swahili II</td>
<td>U 3</td>
<td>Students explore contemporary issues of a Swahili speaking world. Prereq: 4401. Not open to students with credit for 402.</td>
</tr>
<tr>
<td>1101</td>
<td>Swedish I</td>
<td>U 4</td>
<td>Introduction to language and culture of Sweden with emphasis on the acquisition of basic communication skills in a cultural context. Closed to native speakers of this language. Prereq: Not open to students with credit for 101.01, or to students with 2 or more years of study in this language in high school, except by permission of dept. GE for lang course.</td>
</tr>
<tr>
<td>1102</td>
<td>Swedish II</td>
<td>U 4</td>
<td>Continued development of Swedish language skills and knowledge for effective communication. Emphasis on more advanced language structures and on more nuanced cultural issues. Not open to native speakers of this language through regular course enrollment or EM credit. Prereq: A grade of C- or above in 1101. Not open to students with credit for 102.01 and 103.01. GE for lang course. FL Admis Cond Course.</td>
</tr>
<tr>
<td>1103</td>
<td>Swedish III</td>
<td>U 4</td>
<td>Development of skills necessary for the independent use of Swedish. Discussions, presentations, writing and listening/viewing activities address topics of contemporary Sweden. Prereq: Grade of C- or better in 1102. Not open to students with credit for 103.01, 104.01, or to native speakers of this language through regular course enrollment or EM credit. GE for lang course. FL Admis Cond Course.</td>
</tr>
<tr>
<td>1104.01</td>
<td>Swedish IV</td>
<td>U 3</td>
<td>Development of skills necessary for the independent use of Swedish. Discussions, presentations, writing and listening/viewing activities address topics of contemporary Sweden. Prereq: Grade of C- or better in 1102. Not open to students with credit for 103.01, 104.01, or to native speakers of this language through regular course enrollment or EM credit. GE for lang course. FL Admis Cond course.</td>
</tr>
</tbody>
</table>
A study of the art and profession of live theatre with emphasis upon its cultural and social influences in our society.
PreReq: Permission of instructor. Not open to students with credit for 2101H (101H), 100, or 100H. This course is available for EM credit. GE VPA and diversity soc div in the US course. VSP Admis Cond course.

2100E Introduction to Theatre
U 3
A study of the art and profession of live theatre with emphasis upon its cultural and social influences in our society.
PreReq: Permission of instructor. Not open to students with credit for 2101H (101H), 100, or 100H. This course is available for EM credit. GE VPA and diversity soc div in the US course. VSP Admis Cond course.

2101H Introduction to Theatre
U 3
A study of the art and profession of live theatre with emphasis upon its cultural and social influences in our society.
PreReq: Honors standing or permission of instructor. Not open to students with credit for 2101H (101H), 100, or 100H. GE VPA and diversity soc div in the US course.

2110 Script Analysis
U 3
Fundamental principles for intensive study of the theatrical script as the basis for actor training, performance and production.
PreReq: 2100 or 2101H. Not open to students with credit for 210.

2111 Introduction to Production Design
U 3
Introduction to scenic, costume, lighting and sound design techniques for production; experience in research and designing projects.

2341H Moving Image Art
U 3
The issues and concepts fundamental to the development of an understanding of the aesthetics of film and video from the standpoint of the producer and maker.
PreReq: Honors standing or permission of instructor. Not open to students with credit for 2100 (101) or 2100H (101H). GE VPA course.

2351 Fundamentals of Radio and TV Production
U 3
Broadcasting techniques, skills and styles.
PreReq: Not open to students with credit for 580.

2367.01 Self Images: America on Stage, 1830 to the Present
U 3
Exploration of the images of Americans presented on popular stages through written analysis of theatrical and critical texts.
PreReq: English 1110 (110) or equiv, and Soph, Jr, or Sr standing. Not open to students with credit for 2367 (367). GE writing and comm course: level 2 and diversity soc div in the US course.

2367.01H Self Images: America on Stage, 1830 to the Present
U 3
Exploration of the images of Americans presented on popular stages through written analysis of theatrical and critical texts.
PreReq: Honors and Soph, Jr, or Sr standing, and English 1110 (110) or equiv. Not open to students with credit for 2367 (367). GE writing and comm course: level 2 and GE diversity soc div in the US course.

2367.02 African American Theatre History
U 3
Examination of aesthetic and sociological evolution in America of African American theatre, literature, and film.
PreReq: English 1110 (110) or equiv, and Soph, Jr, or Sr standing. Not open to students with credit for 2367 (367). GE writing and comm course: level 2 and lit and diversity soc div in the US course.

2367.03 Criticizing Television
U 3
Study of theatre history at an intermediate level with emphasis on writing skills. A critical analysis of a wide variety of television programs through viewing, discussing, reading, and writing.
PreReq: English 1110 (110) or equiv, and Soph, Jr, or Sr standing. Not open to students with credit for 2367.xx (367.xx) or ArtEduc 2367.03 (367.03). GE writing and comm course: level 2 and diversity soc div in the US course. Cross-listed in ArtEduc.

2811 The Craft of Acting
U 3
An introductory acting class exploring the basic techniques of imagination, concentration, and character development with monologues, scenes, and reading note-worthy plays.
PreReq: Not open to students with credit for 280. GE VPA course.

2832 Viewpoints Training
U 3
Introduction to Viewpoints Training: A method of improvisation that builds ensembles, strengthens physical range, and develops acting, directorial and choreographic skills.
PreReq: 2811. Not open to students with credit for 387.

3000 Production Run Crew Practicum
U 2
Hands-on involvement in the production of live theatre; participation leading to a more thorough understanding of theatre and in particular theatre design and technology. Repeatable to a maximum of 8 cr hrs.

3111 Stage Directing
U 3
An introduction to the basic principles, techniques and challenges of directing for the stage.
PreReq: 2110 and 2811. Not open to students with credit for 310.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Name</th>
<th>Credits</th>
<th>Prerequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>3221</td>
<td>Stage Management</td>
<td>3</td>
<td>Principles, practices, and techniques of stage management, and a survey of modern management techniques.</td>
</tr>
<tr>
<td>3241</td>
<td>Theatre Sound Techniques</td>
<td>3</td>
<td>An examination of the art of sound design as well as an exploration of the craft of sound engineering for theatre.</td>
</tr>
<tr>
<td>3351</td>
<td>Television Production I</td>
<td>3</td>
<td>Fundamentals of television broadcasting through lectures, labs, and practicum involvement with OSU's student television station and media lab.</td>
</tr>
<tr>
<td>3352</td>
<td>Television Production II</td>
<td>3</td>
<td>Intermediate level course providing students with in depth study of television broadcasting through lectures, labs, and practicum involvement with OSU's student television and media lab.</td>
</tr>
<tr>
<td>3411</td>
<td>Introduction to Scenic Design</td>
<td>3</td>
<td>Introduction to basic design elements for the stage including research, sketching, color theory, model building, drafting and stagecraft.</td>
</tr>
<tr>
<td>3511</td>
<td>Introduction to Costume Design</td>
<td>3</td>
<td>Fundamental exploration of methods of design and production as applies to costumes.</td>
</tr>
<tr>
<td>3551</td>
<td>Stage Make-Up</td>
<td>3</td>
<td>Practical application of theories and techniques of make-up design. Emphasis on presentation styles. Purchase of make-up kit required.</td>
</tr>
<tr>
<td>3597</td>
<td>Issues of the Contemporary World: Censorship and Performance</td>
<td>3</td>
<td>Exploration of censorship in live performance in both Western and non-Western communities and the ways such practice links to governmental public policy or to pressure groups.</td>
</tr>
<tr>
<td>3611</td>
<td>Introduction to Lighting Design</td>
<td>3</td>
<td>Introduction to basic lighting design elements for the stage including research, collaboration, basic electrical practice, color theory, drafting, and lighting stage work.</td>
</tr>
<tr>
<td>3731</td>
<td>Theatre Histories and Literatures</td>
<td>3</td>
<td>Survey of representative theatre and performance from Western and non-Western traditions from classical Greece to present day.</td>
</tr>
<tr>
<td>3812</td>
<td>Acting Studio I: Stanislavski</td>
<td>3</td>
<td>An intermediate acting studio exploring the Stanislavski basic acting technique of given circumstances, intentions, obstacles and strategies, in exercises, scenes and discussion.</td>
</tr>
<tr>
<td>3813</td>
<td>Acting Studio II: Contemporary Scene</td>
<td>3</td>
<td>An intermediate acting studio focusing on scene study and dramatic analysis, utilizing contemporary plays, and studying current playwrights.</td>
</tr>
<tr>
<td>3814</td>
<td>Acting Studio III: Improv, Shakespeare and Period Styles</td>
<td>3</td>
<td>An advanced acting studio focusing on various acting topics and challenges, including improvisation, Shakespeare, period styles and others.</td>
</tr>
<tr>
<td>3815</td>
<td>Acting for the Camera</td>
<td>3</td>
<td>An advanced acting class focusing on the specific challenges of acting for the camera, both single camera and multi-camera.</td>
</tr>
<tr>
<td>3821</td>
<td>Accents and Dialects</td>
<td>3</td>
<td>The fundamentals of acquiring dialects for the stage.</td>
</tr>
<tr>
<td>3825</td>
<td>Special Topics in Voice for the Stage</td>
<td>3</td>
<td>Individual voice problems: phonetic transcription and sound appreciation.</td>
</tr>
<tr>
<td>3831</td>
<td>Movement and Voice</td>
<td>3</td>
<td>Basic study and training in movement for actors, voice production, and whole body expressiveness.</td>
</tr>
<tr>
<td>3921S</td>
<td>Creation of Outreach Theatre</td>
<td>3</td>
<td>The creation, development and performance of interactive and instructional theatre for social awareness. Repeatable to a maximum of 6 cr hrs.</td>
</tr>
<tr>
<td>4000.01</td>
<td>Practicum: Stage Management</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.02</td>
<td>Practicum: Sound</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.03</td>
<td>Practicum: Video</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.04</td>
<td>Practicum: Stage Design</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.05</td>
<td>Practicum: Costuming &amp; Makeup</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.06</td>
<td>Practicum: Lighting</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.07</td>
<td>Practicum: Dramaturgy</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.08</td>
<td>Practicum: Acting</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.09</td>
<td>Practicum: General</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.11</td>
<td>Practicum: Theatre Management</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.14</td>
<td>Practicum: Technical Direction</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.18</td>
<td>Practicum: Directing</td>
<td>1 - 3</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision.</td>
</tr>
<tr>
<td>4000.19</td>
<td>Internship in Theatre</td>
<td>1 - 12</td>
<td>A cooperative education or internship assignment conducted under the supervision of a faculty member.</td>
</tr>
<tr>
<td>4194</td>
<td>Group Studies</td>
<td>1 - 3</td>
<td>Group studies.</td>
</tr>
<tr>
<td>421</td>
<td>Singing Actor</td>
<td>3</td>
<td>The fundamentals of acting through song.</td>
</tr>
<tr>
<td>421S</td>
<td>Performance Studies in Outreach Theatre</td>
<td>3</td>
<td>Use of improvisational acting techniques to develop the performance of an outreach touring theatre production.</td>
</tr>
</tbody>
</table>

Theatre 471
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<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4998</td>
<td>Undergraduate Scholarship: Research and Creative Activity in Theatre</td>
<td>U 1-12</td>
<td>Undergraduate research or creative activities in varying topics leading towards a creative project without a thesis. Prereq: Permission of instructor. Repeatable to a maximum of 12 or hrs or 4 completions. This course is graded SU.</td>
</tr>
<tr>
<td>4998H</td>
<td>Undergraduate Scholarship: Research and Creative Activity in Theatre</td>
<td>U 1-12</td>
<td>Undergraduate research or creative activities in varying topics leading towards a creative project without a thesis. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 12 or hrs or 4 completions. This course is graded SU.</td>
</tr>
<tr>
<td>4999</td>
<td>Undergraduate Thesis Scholarship: Research and Creative Activity in Theatre</td>
<td>U 1-12</td>
<td>Undergraduate research or creative activities in varying topics that will lead to a thesis. Prereq: Permission of instructor. Repeatable to a maximum of 12 or hrs or 4 completions. This course is graded SU.</td>
</tr>
<tr>
<td>4999H</td>
<td>Undergraduate Honors Thesis Scholarship: Research and Creative Activity in Theatre</td>
<td>U 1-12</td>
<td>Undergraduate research or creative activities in varying topics that will lead towards an Honors thesis. Prereq: Honors standing and permission of instructor. Repeatable to a maximum of 12 or hrs or 4 completions. This course is graded SU.</td>
</tr>
<tr>
<td>5111</td>
<td>Advanced Stage Directing</td>
<td>U G 3</td>
<td>Principles, techniques and practices of advanced stage directing with an emphasis on text analysis, research and process. Prereq: 3111 (310). Not open to students with credit for 610.</td>
</tr>
<tr>
<td>5177</td>
<td>Alexander Technique</td>
<td>U G 1-2</td>
<td>The relationship of kinesthetic perception and the postural reflexes to physical coordination in performance. Prereq: Permission of instructor. Repeatable to a maximum of 8 or hrs or 4 completions. Cross-listed in Dance and Music.</td>
</tr>
<tr>
<td>5189</td>
<td>Field Work in Theatre, Cinema, or Video</td>
<td>U G 1-2</td>
<td>Planned production or management experience in an off-campus professional, educational, community theatre, film or video facility, or other agency under supervision. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 3 completions. This course is graded SU.</td>
</tr>
<tr>
<td>5193</td>
<td>Individual Studies</td>
<td>U G 1-3</td>
<td>Conference, library, and laboratory work. Prereq: Permission of instructor. Repeatable to a maximum of 12 or hrs or 4 completions. This course is graded SU.</td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies</td>
<td>U G 1-3</td>
<td>Group Studies. Repeatable to a maximum of 12 or hrs or 4 completions.</td>
</tr>
<tr>
<td>5211</td>
<td>Production Design I</td>
<td>U G 3</td>
<td>Investigation of scenic, costume, lighting, sound, and media design techniques for production. Research, design, and preparation of design and technical materials for several playscripts. Prereq: 2211, or permission of instructor.</td>
</tr>
<tr>
<td>5212</td>
<td>Production Design II</td>
<td>U G 3</td>
<td>Further investigation of theatre design techniques for production. Comprehensive research for a play; collaboration with a guest director. Advanced preparation of design and technical materials. Prereq: 5211.</td>
</tr>
<tr>
<td>5220</td>
<td>Professional Aspects</td>
<td>U G 3</td>
<td>Study of the professional theatre as a business; contracts, unions, the theatre marketplace; preparation of resumes, portfolios, audition pieces, interview. Prereq: Not open to students with credit for 600.</td>
</tr>
<tr>
<td>5221</td>
<td>Theatre Management</td>
<td>U G 3</td>
<td>Principles, practices, and techniques of theatre management and a survey of modern management techniques. Prereq: Not open to students with credit for 601.</td>
</tr>
<tr>
<td>5231</td>
<td>Topics in Technical Theatre</td>
<td>U G 1½</td>
<td>Exploration of theatre technology topics including: technical direction, theatrical rigging, stage automation systems, and media as a scenic element. Repeatable to a maximum of 9 or hrs.</td>
</tr>
<tr>
<td>5241</td>
<td>Topics in Sound Technology</td>
<td>U G 3</td>
<td>An exploration of topics on theatrical sound including audio system form and function, live mix, aesthetics of sound, audio engineering and theatrical sound design. Prereq: 5241 or 5212.</td>
</tr>
<tr>
<td>5261</td>
<td>Theatre Graphics I</td>
<td>U G 3</td>
<td>An examination of drafting techniques and graphics presentation in relation to theatre design and technology, with an emphasis on 2D environments. Prereq: Not open to students with credit for 621.01.</td>
</tr>
<tr>
<td>5262</td>
<td>Theatre Graphics II</td>
<td>U G 1½</td>
<td>An exploration of advanced techniques in theatre drafting and graphics, with an emphasis on 3D environments. Prereq: Not open to students with credit for 621.02.</td>
</tr>
<tr>
<td>5263.01</td>
<td>Theatre Graphics III: Scenic</td>
<td>U G 1½</td>
<td>An exploration of scenic graphics and presentation software generally recognized as industry standards in the theatre.</td>
</tr>
<tr>
<td>5263.02</td>
<td>Theatre Graphics III: Lighting</td>
<td>U G 1½</td>
<td>An exploration of lighting graphics and presentation software generally recognized as industry standards in the theatre.</td>
</tr>
<tr>
<td>5263.03</td>
<td>Theatre Graphics III: Costume</td>
<td>U G 1½</td>
<td>An exploration of costume graphics and presentation software generally recognized as industry standards in the theatre.</td>
</tr>
<tr>
<td>5310</td>
<td>Fundamentals of Media Design</td>
<td>U G 3</td>
<td>A foundational introduction to the skills, tools, best practices, collaborative processes, and theories for media and projection design in a live performance production environment. Prereq: 2211, or permission of instructor.</td>
</tr>
<tr>
<td>5321</td>
<td>Video Production I</td>
<td>U G 3</td>
<td>Basic video production through research and project assignments. Basic camera, sound, lighting and editing techniques will be practiced in collaborative and individual settings. Prereq: Permission of instructor. Not open to students with credit for 634.</td>
</tr>
<tr>
<td>5322</td>
<td>Editorial Process</td>
<td>U G 3</td>
<td>Non-linear editing exploration of post-production techniques from editorial concepts to outputting video. Students will expand their knowledge of the editorial process and their analytical skills. Prereq: 5321 and permission of instructor. Not open to students with credit for 633.</td>
</tr>
<tr>
<td>5331</td>
<td>Screenwriting</td>
<td>U G 3</td>
<td>Exploration of creative script-writing for video/cinema; development of short or feature length scripts. Prereq: Permission of instructor. Not open to students with credit for 636.</td>
</tr>
<tr>
<td>5341</td>
<td>Studies in the Documentary</td>
<td>U G 3</td>
<td>Exploration of the conceptual, aesthetic, critical, social, ethical, and practical issues in the practice of documentary and reality production of cinema and video works. Prereq: Permission of instructor. Not open to students with credit for 777.</td>
</tr>
<tr>
<td>5411</td>
<td>Scenic Design I</td>
<td>U G 3</td>
<td>Presentation of scenic design in three dimensional model form; emphasis on designing for non-proscenium production. Prereq: Not open to students with credit for 643.</td>
</tr>
<tr>
<td>5412</td>
<td>Scenic Design II</td>
<td>U G 3</td>
<td>Presentation of multiple-setting, scenic design in three dimensional models, renderings and sketches; emphasis on storyboarding to show clear progression of scenic changes. Prereq: Not open to students with credit for 644.</td>
</tr>
<tr>
<td>5441</td>
<td>Period Styles for Production</td>
<td>U G 3</td>
<td>An exploration of period styles from ancient to contemporary; emphasis on architecture, clothing, furniture, jewelry, textiles, and decorative objects. Prereq: Not open to students with credit for 649 and 650.</td>
</tr>
<tr>
<td>5511</td>
<td>Costume Design Techniques</td>
<td>U G 3</td>
<td>Exploration of methods and techniques of design as applies to costumes. Prereq: Not open to students with credit for 656.</td>
</tr>
<tr>
<td>5531</td>
<td>Intermediate Stage Costume Construction</td>
<td>U G 3</td>
<td>Practical application of theories and techniques of costume/clothing construction. Includes setting collars, sleeves, application of closures. Prereq: Not open to students with credit for 651.</td>
</tr>
<tr>
<td>5611</td>
<td>Lighting Design</td>
<td>U G 3</td>
<td>A study of light as a design element for theatrical performance; analysis and preparation of designs for realized and theoretical theatre applications. Prereq: Not open to students with credit for 625.</td>
</tr>
<tr>
<td>5621</td>
<td>Lighting Technology/Production</td>
<td>U G 3</td>
<td>An examination of the craft of theatre technology, with an emphasis on technical projects as associated with the responsibilities of a production electrician. Prereq: Not open to students with credit for 628.</td>
</tr>
</tbody>
</table>
Survey of history, theory, and practical exercises in production dramaturgy; the art of interrogating plays in production.

An introduction to the language, history, and culture of the Czech Republic designed to prepare students for an international experience. The course is a combination of instructor led lectures, discussions and presentations including a wide variety of Czech visual materials, and is a prerequisite for students participating in the Prague Theatre Study Tour Program. Prereq: 2100 (101), and acceptance to the Prague Theatre Study Tour, and permission of instructor. Repeatable to a maximum of 5 cr hrs.

Advanced study on the history of creating new performance works through the collaborative, collective artistic process of devising.

Advanced study of theatre and performance strategies used for social change and community engagement which includes Theatre for Development, and Augusto Boal’s theory and practice.

Advanced study of the ubiquitous solo performer that considers the classical Greek rhapsodies, to Chautauqua, to contemporary solo artists, many of whom create new works.

Advanced study of a focused theatre history topic such as African American, Latin America, Asian American, Native American, women playwrights, and gay and lesbian theatre.

Advanced study on the history of creating new performance works through the collaborative, collective artistic process of devising.

Advanced study of theatre history and contemporary practice of the art form of musical theatre including an emphasis on the American Rock Musical.

Advanced study of a focused international theatre history topic such as African, Spanish and Portuguese, Asian theatre, theatre masks, puppets, Irish diaspora. Prereq: Not open to students with credit for 675.01.

History, theory and literature of the Senior Theatre Movement from its beginnings to the present from both theatrical and gerontological perspectives. Prereq: Not open to students with credit for 675.01.

Practical exploration of Life Review, Oral Histories, Reader’s Theatre, Comedy, Improv and Lifewriting with elders in class and in the outreach community. Prereq: Not open to students with credit for.

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An introduction to the language, history, and culture of the Czech Republic designed to prepare students for an international experience. The course is a combination of instructor led lectures, discussions and presentations including a wide variety of Czech visual materials, and is a prerequisite for students participating in the Prague Theatre Study Tour Program. Prereq: 2100 (101), and acceptance to the Prague Theatre Study Tour, and permission of instructor. Repeatable to a maximum of 5 cr hrs.

Advanced study of a focused theatre history topic such as African American, Latin America, Asian American, Native American, women playwrights, and gay and lesbian theatre.

Advanced study on the history of creating new performance works through the collaborative, collective artistic process of devising.

Advanced study of theatre and performance strategies used for social change and community engagement which includes Theatre for Development, and Augusto Boal’s theory and practice.

Advanced study of the ubiquitous solo performer that considers the classical Greek rhapsodies, to Chautauqua, to contemporary solo artists, many of whom create new works.

Advanced study of a focused theatre history topic such as African American, Latin America, Asian American, Native American, women playwrights, and gay and lesbian theatre.

Advanced study on the history and contemporary practice of the art form of musical theatre including an emphasis on the American Rock Musical.

Advanced study of a focused international theatre history topic such as African, Spanish and Portuguese, Asian theatre, theatre masks, puppets, Irish diaspora. Prereq: Not open to students with credit for 675.01.

History, theory and literature of the Senior Theatre Movement from its beginnings to the present from both theatrical and gerontological perspectives. Prereq: Not open to students with credit for 675.01.

Practical exploration of Life Review, Oral Histories, Reader’s Theatre, Comedy, Improv and Lifewriting with elders in class and in the outreach community. Prereq: Not open to students with credit for.

Advanced study on the history and contemporary practice of the art form of musical theatre including an emphasis on the American Rock Musical.

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Advanced study of the ubiquitous solo performer that considers the classical Greek rhapsodies, to Chautauqua, to contemporary solo artists, many of whom create new works.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>7000.01</td>
<td>Practicum: Stage Management</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7000.02</td>
<td>Practicum: Sound</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7000.03</td>
<td>Practicum: Video</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7000.04</td>
<td>Practicum: Stage Design</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7000.05</td>
<td>Practicum: Costuming &amp; Makeup</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7000.06</td>
<td>Practicum: Lighting</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7000.07</td>
<td>Practicum: Dramaturgy</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7000.08</td>
<td>Practicum: Acting</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7000.09</td>
<td>Practicum: General</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7000.11</td>
<td>Practicum: Theatre Management</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7000.14</td>
<td>Practicum: Technical Direction</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7000.18</td>
<td>Practicum: Directing</td>
<td>G 1 - 5</td>
<td>Individual theatrical performance and production activities at an advanced level under faculty supervision. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7189</td>
<td>Field Work in Theatre, Cinema, or Video</td>
<td>G 1 - 12</td>
<td>Planned production or management experience in an off-campus professional, educational, community theatre, film or video facility, or other agency under supervision. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 3 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7311</td>
<td>Advanced Moving Image Art</td>
<td>G 3</td>
<td>Exploration of sketchbook approach to research and development of creative cinema/video projects. Prereq: Permission of instructor. Not open to students with credit for 813.</td>
</tr>
<tr>
<td>7312</td>
<td>Screen Media</td>
<td>G 3</td>
<td>Exploration of video images in conjunction with live performance, installation or adaptation of theatre works through the integration and expansion of technical and analytical skills. Prereq: Permission of instructor. Not open to students with credit for 814.</td>
</tr>
<tr>
<td>7511</td>
<td>Advanced Costume Design</td>
<td>G 3</td>
<td>Exploration of advanced topics in costume design, including historical drama, comedy, musicals, opera and dance. Emphasis on various rendering techniques and fabrication of designs. Prereq: 5211 and 5212. Repeatable to a maximum of 9 cr hrs.</td>
</tr>
<tr>
<td>7701</td>
<td>Greek, Roman and Medieval Theatre and Performance: History, Literature and The</td>
<td>G 4</td>
<td>Advanced study and directed research in Greek, Roman, Medieval performance texts, criticism and history.</td>
</tr>
<tr>
<td>7702</td>
<td>Early Modern to the Enlightenment: Theatre, Performance, Theory, Text</td>
<td>G 4</td>
<td>Advanced study and directed research in early modern to Enlightenment theatre, performance, theory and criticism.</td>
</tr>
<tr>
<td>7703</td>
<td>Mass Entertainment, Modernism and the Rise of Realism</td>
<td>G 4</td>
<td>Advanced study of popular entertainment in the mid to late 19th century, the rise of realism, performance, theory and criticism.</td>
</tr>
<tr>
<td>7704</td>
<td>Contemporary Theatre and Performance: Experimentation and New Media</td>
<td>G 4</td>
<td>Advanced study of contemporary performance with particular focus on the Wexner Center for the Arts season, including New Works and New Media, theory and criticism.</td>
</tr>
<tr>
<td>7821</td>
<td>Advanced Dialects</td>
<td>G 3</td>
<td>Dialect analysis and acquisition for the theatre. Prereq: Not open to students with credit for 880.</td>
</tr>
<tr>
<td>7831</td>
<td>Advanced Movement</td>
<td>G 3</td>
<td>Fundamentals of movement for actors: Studies in how the body (the actor's instrument) works and how the body moves. Prereq: Not open to students with credit for 781 and 887.</td>
</tr>
<tr>
<td>7832</td>
<td>Viewpoints and Suzuki Physical Acting</td>
<td>G 3</td>
<td>Viewpoints training; Method of improvisation that builds ensembles, while strengthening acting, directing and choreography. Suzuki, a martial arts style of physical training, will be incorporated. Prereq: Not open to students with credit for 773 and 887.</td>
</tr>
<tr>
<td>7841</td>
<td>Advanced Script Analysis for the Actor</td>
<td>G 3</td>
<td>Advanced script analysis for the actor that explores different approaches to text based on the stylistic demands of a play. Prereq: Not open to students with credit for 710.</td>
</tr>
<tr>
<td>7899.01</td>
<td>Criticism and Theory</td>
<td>G 2 - 4</td>
<td>Special Topics Seminar in Criticism and Theory. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7899.02</td>
<td>New Media and Performance</td>
<td>G 2 - 4</td>
<td>Special Topics Seminar in New Media and Performance. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
</tr>
<tr>
<td>7899.03</td>
<td>Dramatic Literature</td>
<td>G 2 - 4</td>
<td>Special Topics Seminar in Dramatic Literature. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
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<tr>
<td>7899.04</td>
<td>Performance Studies</td>
<td>G 2 - 4</td>
<td>Special Topics Seminar in Performance Studies. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
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<tr>
<td>7899.05</td>
<td>Physical and Devised Theatre</td>
<td>G 2 - 4</td>
<td>Special Topics Seminar in Physical and Devised Theatre. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
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<tr>
<td>7899.06</td>
<td>Playwriting</td>
<td>G 2 - 4</td>
<td>Special Topics Seminar in Playwriting. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
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<tr>
<td>7899.07</td>
<td>Special Topics: Theatre History</td>
<td>G 2 - 4</td>
<td>Special Topics Seminar in Theatre History. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
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<tr>
<td>7911</td>
<td>Composition</td>
<td>G 3</td>
<td>Advanced instruction in learning multiple ways of creating new performance work. Prereq: Not open to students with credit for 888.</td>
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<tr>
<td>8000.01</td>
<td>Advanced Studies: Stage Management</td>
<td>G 1 - 5</td>
<td>Advanced Studies in Stage Management. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
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<tr>
<td>8000.02</td>
<td>Advanced Studies: Sound</td>
<td>G 1 - 5</td>
<td>Advanced Studies in Sound. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
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<tr>
<td>8000.03</td>
<td>Advanced Studies: Video</td>
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<td>Advanced Studies in Video. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
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<td>Advanced Studies: Stage Design</td>
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<td>Advanced Studies in Stage Design. Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
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<tr>
<td>8000.05</td>
<td>Advanced Studies: Costuming &amp; Makeup</td>
<td>G 1 - 5</td>
<td>Advanced Studies in Costuming and Makeup. Prereq: Permission of Instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
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<td>8000.17</td>
<td>Advanced Studies: Criticism</td>
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<td>8000.18</td>
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<tr>
<td>8000.27</td>
<td>Advanced Studies: Theory</td>
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<td>Prereq: Permission of instructor. Repeatable to a maximum of 32 cr hrs or 8 completions.</td>
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<td>8000.37</td>
<td>Advanced Studies: History</td>
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<tr>
<td>8000.46</td>
<td>Advanced Studies: Playwriting</td>
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<td>8000.47</td>
<td>Advanced Studies: Dramatic Literature</td>
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<tr>
<td>8193</td>
<td>Individual Studies</td>
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<td>G 1 - 3</td>
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<tr>
<td></td>
<td>Conference, library, and laboratory work.</td>
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<td>Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is graded S/U.</td>
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<tr>
<td>8411</td>
<td>Advanced Scenic Design</td>
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<td>G 3</td>
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<tr>
<td></td>
<td>Advanced topics in scenic design including musicals, opera and dance; design for alternative venues including industrials, themed entertainment, events and exhibitions.</td>
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<td>Prereq: 5211 and 5212. Repeatable to a maximum of 9 cr hrs.</td>
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<tr>
<td>8521</td>
<td>Advanced Topics in Costume Technology</td>
<td></td>
<td>G 2 - 4</td>
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<tr>
<td></td>
<td>Advanced topic in draping, tailoring, costume crafts, millinery, wig and hair styling. Repeatable to a maximum of 12 cr hrs or 3 completions.</td>
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<tr>
<td>8611</td>
<td>Advanced Lighting Design</td>
<td></td>
<td>G 3</td>
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<tr>
<td></td>
<td>Advanced topics in lighting design including musicals, operas, installations, design research and investigation in sources located in design collections held at the Theatre Research Institute.</td>
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<td></td>
<td>Prereq: 5611 and 6651. Repeatable to a maximum of 9 cr hrs.</td>
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<tr>
<td>8621</td>
<td>Advanced Topics in Lighting Technology</td>
<td></td>
<td>G 2 - 4</td>
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<td></td>
<td>Practical application of theories and techniques of lighting technology, with an emphasis on moving (or automated) lighting equipment, data, and control systems. Repeatable to a maximum of 12 cr hrs or 3 completions.</td>
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<tr>
<td>8798.01</td>
<td>Study Tour: Domestic</td>
<td></td>
<td>G 1 - 12</td>
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<tr>
<td></td>
<td>Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Domestic. Repeatable to a maximum of 36 cr hrs or 4 completions.</td>
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<tr>
<td>8798.02</td>
<td>Study Tour: International</td>
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<td>G 1 - 12</td>
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<tr>
<td></td>
<td>Specific content, location, semester(s) of offering, and prerequisites vary; contact department office for details. Foreign. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 4 completions.</td>
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<tr>
<td>8811</td>
<td>Advanced Acting Studio IV</td>
<td></td>
<td>G 3</td>
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<tr>
<td></td>
<td>A Graduate acting class focused on developing a professional Showcase. Prereq: Not open to students with credit for 982.</td>
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<tr>
<td>8841</td>
<td>Avant-garde</td>
<td></td>
<td>G 3</td>
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<tr>
<td></td>
<td>Study in theory and practice of Avant-garde Theatre and Theatrical Performance Art. Prereq: Not open to students with credit for 981.</td>
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<tr>
<td>8899</td>
<td>Workshops</td>
<td></td>
<td>G 1 - 12</td>
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<tr>
<td></td>
<td>Intensive study of a problem common to the participants for the purpose of developing principles and practices relating to it. Prereq: Permission of instructor. Repeatable to a maximum of 36 cr hrs or 4 completions.</td>
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<tr>
<td>8911</td>
<td>Devising: Techniques of Creating New Work</td>
<td></td>
<td>G 3</td>
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<tr>
<td></td>
<td>Laboratory in performer-created works with a director/choreographer. Creation of solo and group works from multiple sources, giving equal value to text, action and movement. Prereq: Not open to students with credit for 987.01.</td>
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<tr>
<td>8912</td>
<td>Solo Projects</td>
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<td>G 3</td>
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<tr>
<td></td>
<td>Laboratory in solo performer-created works. Repeatable to a maximum of 27 cr hrs.</td>
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<tr>
<td>8921</td>
<td>Outreach and Engagement</td>
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<td>G 3</td>
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<td></td>
<td>Exploration of the collaborative outreach and engagement process in the development of an original ensemble creation which will emphasize community themes. Repeatable to a maximum of 6 cr hrs.</td>
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<tr>
<td>8930</td>
<td>Directed Teaching Experience in Theatre</td>
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<td>G 1 - 3</td>
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<td>Designed to aid the prospective teacher of theatre in the development of essential teaching skills in a variety of settings. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions.</td>
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<tr>
<td>8935</td>
<td>Proseminar</td>
<td></td>
<td>G 1 - 5</td>
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<tr>
<td></td>
<td>Reading, directed study, and/or projects in theatre history, criticism, literature, acting, directing, and/or design. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 9 completions. This course is graded S/U.</td>
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<tr>
<td>8999</td>
<td>Research in Theatre: Dissertation</td>
<td></td>
<td>G 1 - 3</td>
</tr>
<tr>
<td></td>
<td>Research for dissertation purposes only. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 9 completions. This course is graded S/U.</td>
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<tr>
<td>1101</td>
<td>Introductory Colloquial / Modern Tibetan</td>
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<td></td>
<td>Acquaints learners with the speaking, reading, and writing of modern colloquial Tibetan based on Standard (Central) Tibetan pronunciation. Prereq: Not open to students with credit for 101. GE for language course.</td>
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<td>1102</td>
<td>Introductory Colloquial / Modern Tibetan II</td>
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<td></td>
<td>Acquaints learners with the speaking, reading, and writing of modern colloquial Tibetan based on Standard (Central) Tibetan pronunciation. Prereq: 1101 (101). Not open to students with credit for 102. GE for language course.</td>
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<td>1102.03</td>
<td>Introductory Colloquial/Modern Tibetan II: Bridge2</td>
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<td>Bridge course for students transitioning from the quarter to semester system. Acquaints learners with the speaking, reading, and writing of modern colloquial Tibetan based on Standard (Central) Tibetan pronunciation. Prereq: 1102. Not open to students with credit for 1102. This course is available for EM credit. GE for language course. FL Admis Cond course.</td>
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<td>1102.05</td>
<td>Introductory Colloquial/Modern Tibetan II: Bridge</td>
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<td>Bridge course for students transitioning from quarter to semester system. Acquaints learners with the speaking, reading, and writing of modern colloquial Tibetan based on Standard (Central) Tibetan pronunciation. Prereq: 1101. Not open to students with credit for 1101. This course is available for EM credit. GE for language course. FL Admis Cond course.</td>
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<td>5011</td>
<td>Advanced Colloquial / Modern Tibetan I</td>
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<td>Prepares learners to expand their proficiency in the speaking, reading, and writing of modern colloquial Tibetan. Prereq: 1102. Repeatable to a maximum of 12 cr hrs. GE for language course. FL Admis Cond course.</td>
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<td>5101</td>
<td>Advanced Colloquial / Modern Tibetan II</td>
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<td>Prepares learners to expand their proficiency in the speaking, reading, and writing of modern colloquial Tibetan. Prereq: 1102. Prereq: equiv. Repeatable to a maximum of 12 cr hrs. GE for language course. FL Admis Cond course.</td>
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<td>5111</td>
<td>Introductory Literary / Classical Tibetan</td>
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<td>Acquaints learners with the grammar of classical literary Tibetan. Prereq: Not open to students with credit for 601 or 602.</td>
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<td>5112</td>
<td>Introductory Literary / Classical Tibetan</td>
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<td>Acquaints learners with the grammar of classical literary Tibetan. Prereq: 5111. Not open to students with credit for 602 or 603.</td>
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### Tibetan

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<td>Tibetian 5113. Repeatable to a maximum of 12 cr hrs.</td>
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### Turkish

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<tr>
<td>1103</td>
<td>Intermediate Turkish I</td>
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<td>2101</td>
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<td>2194</td>
<td>Group Studies</td>
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<td>2701</td>
<td>Turkish Literature in Translation</td>
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<td>3001</td>
<td>Advanced Turkish Syntax</td>
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### Twi Language

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<td>1103</td>
<td>Elementary Twi III</td>
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### Urdu

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### Uzbek

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<tr>
<td>1101</td>
<td>Elementary Uzbek I</td>
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</table>
Continued study of Uzbek Language, with appropriate cultural background; further development of listening, reading, speaking, and writing skills. Not open to native speakers. Prereq: 1101. This course is available for EM credit. GE for lang course.

Continued study of Uzbek Language, with appropriate cultural background; further development of listening, reading, speaking, and writing skills. Not open to native speakers. Prereq: 1102. This course is available for EM credit. GE for lang course.

Extensive reading from literary texts, with practice in conversation and composition. Not open to native speakers. Prereq: 1103.

Continued reading from literary texts, with further practice in conversation, composition, and translation. Not open to native speakers. Prereq: 2101.

**Veterinary Biosciences**

**4998.01 Individual Studies in Veterinary Biosciences, Undergraduate Research Project**
- Laboratory, library, conference, and reports concerning animal disease problems. This course covers research experiences for undergraduate students. Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

**4998.02 Individual Studies in Veterinary Biosciences, Undergraduate Research Project**
- Laboratory, library, conference, and reports concerning animal disease problems. The faculty and student will agree on a course project suitable for a letter grade. Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions. 6640 Fundamentals of Oncology

Oriented towards graduate students in cancer-related programs, consisting of a series of lectures covering a variety of aspects of experimental oncology. Cross-listed in Pathol.

**7190 Specialized Study in Veterinary Medicine**
- Field or laboratory study in the various areas of veterinary medicine through an approved elective experience with qualified professionals. Enrollment allows students the opportunity to pursue a specific area of veterinary interest. Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 3 cr hrs.

**7190.01 Applied Veterinary Medicine Experience**
- Field or laboratory study in the various areas of veterinary medicine through an approved experience with qualified professionals. Prereq: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 22 cr hrs or 11 completions. This course is graded S/U.

**7190.02 Applied Veterinary Medicine Experience**
- Field or laboratory study in the various areas of veterinary medicine through an approved experience with qualified professionals. Prereq: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 22 cr hrs or 11 completions.

**7193.01 Individual Studies in Veterinary Biosciences**
- Laboratory, library, conference, and reports concerning animal disease problems. This course is to be used by Masters students for research experiences and for Doctoral students prior to candidacy. Repeatable to a maximum of 60 or hrs or 60 completions. This course is graded S/U.

**7193.02 Individual Studies in Veterinary Biosciences**
- Laboratory, library, conference, and reports concerning animal disease problems. The faculty and student agree on a course project suitable for a letter grade. Prereq: Grad or Prof standing in Veterinary Medicine program, or permission of instructor. Not open to students with credit for 696. Repeatable to a maximum of 30 cr hrs.

**7194.01 Group Studies in Veterinary Biosciences**
- Group studies course in topic areas of veterinary biosciences. Prereq: Grad standing, or standing in VetMed program, or DVM, or equiv. This course is graded S/U.

**7194.02 Group Studies in Veterinary Biosciences**
- Group studies course in topic areas of veterinary biosciences. Prereq: Grad standing, or standing in Veterinary Medicine program, or DVM, or equiv. Repeatable to a maximum of 15 cr hrs.

**7700 Functional Neuroanatomy**
- Structure and function of the Central Nervous System (CNS) studied through discussion and dissection with emphasis on three-dimensional relationships of selected brain and spinal cord regions. Prereq: VMColl 603. Not open to students with credit for 700.

**7170.14 Applied Veterinary Medicine: Applied Pathology**
- Students will perform necropsies of the major domestic species in the applied pathology rotation. The will learn to recognize and describe common gross pathologic lesions and become familiar with the role of histopathology in assessment of necropsy a Prereq: 4th yr standing in Veterinary Medicine Program. Not open to students with credit for VetClin 710.14. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

**7170.50 Applied Veterinary Medicine: Clinical Pathology**
- Clinical experience in daily review of cytologies and blood smears from clinical cases using a videomicroscope and projected images. Prereq: 4th yr standing in Veterinary Medicine Program. Not open to students with credit for 724. This course is graded S/U.

**7171 Basic Macroscopic Pathology**
- Basic process of identifying gross lesions in domestic animals and some exotic species. Prereq: Not open to students with credit for 711.

**7172 Applied Veterinary Clinical Pathology**
- Designed to review how to evaluate cytology samples from various body systems using a videomicroscope and projected images. Prereq: VetMed 6618 (618). Not open to students with credit for 710.

**7175 Applied Virology**
- Problem-based cases will be used to promote self-directed learning in the concepts of virus-induced disease. Emphasis will be on the development of thinking skills to identify questions and problems related to virus-associated diseases in animals. Prereq: Grad standing or professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 715.

**7177 Veterinary, Comparative, and Translational Immunology**
- The immune system critically influences health and disease. Human and mouse immunity are extensively studied but much less is known about veterinary and comparative immunology. This course covers these topics and disease applications. Prereq: Not open to students with credit for 717.

**7179 Applied Histopathology**
- Interpret histological tissue in actual case material. These changes will be interpreted in the context of clinical history and gross post-morten findings in order to reconstruct the disease progression. Prereq: VMColl 6550.02 (650.02) and 6530 (530), or permission of instructor. Not open to students with credit for 719 of 720.

**7721 Laboratory Animal Medicine**
- Familiarizes students with regulatory and compliance issues, management of animal facilities, the scientific basics of laboratory animal medicine, and the design and performance of animal experiments. Prereq: Not open to students with credit for 721.

**7730 Endocrinology**
- Endocrinology will introduce graduate or professional students to the fundamental principles of the major endocrine systems in vertebrates and prepare students for initiating research in this area. Prereq: Biochem 511, or permission of instructor. Not open to students with credit for 730. Cross-listed in AnimSci.

**7741 Molecular Biology and Pathogenesis of Viruses**
- An integrated study of the molecular mechanisms of virus replication and host-virus relationships that control virus pathogenesis or use as a therapeutic agent. Prereq: Grad or Prof standing in Veterinary Medicine program, or permission of instructor. Not open to students with credit for 741. Cross-listed in MolGen and MolVim.

**7751 Professional and Ethical Issues in Biomedical Research**
- A discussion course based on case scenarios dealing with ethical issues facing biomedical researchers, such as publishing practices, confidentiality, mentoring, etc. Prereq: Not open to students with credit for 751. This course is graded S/U.

**7777 Veterinary Plant Toxicology**
- To familiarize the veterinary student with toxic plants and their diagnosis and treatment of toxicity. Prereq: Prof standing in Veterinary Medicine program, or permission of instructor. Not open to students with credit for 777.

**7778 Basic and Applied Autonomic Pharmacology**
- The principles of autonomic pharmacology with special emphasis on the drugs used in the practice of veterinary medicine. Prereq: Prof standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 778.

**7790 Electrocardiography**
- Genesis of components of the ECG. ECG changes indicating: disturbance in rhythm, chamber enlargement, abnormal AV conduction, abnormal inter/intra-ventricular conduction, myocardial injury, electrolyte disturbance, drug toxicity. Prereq: grad or professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 790.
Veterinary Biosciences

7791 Heart Sounds, Pressure Pulses, and Pressure-Volume Loops G V 2 Physiological origin of heart sounds, murmurs, pressure pulses, and pressure-volume loops in health and disease. Prereq: 2nd or 3rd year standing for Veterinary Professional students. Not open to students with credit for 791.

7792 Prototypical Cardiovascular Diseases G V 2 Pathophysiology, diagnosis, and basis of therapy for typical cardiovascular diseases. Prereq: Grad or Prof standing in Veterinary Medicine program. Not open to students with credit for 792.

7793 Advanced Comparative Electrocardiography G V 2 Advanced topics in ECG. Prereq: 7791 and grad or professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 797.

7800 Canine Surgical Anatomy V 2 Detailed study of regional anatomy of the thoracic and pelvic limbs as it relates to selected surgical approaches to the limb and joints. Prereq: VMColl 520, and professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 693. This course is graded S/U.

7801 Advanced Feline Veterinary Anatomy V 2 Detailed study of feline body systems based on a regional anatomic approach and small group presentation. Prereq: VMColl 520, and professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 693. This course is graded S/U.

7807 Gene Expression: Post-Transcriptional Control G V 3 Intensive study of problems in the general area of post-transcriptional control of gene expression. The course consists of student presentations and case examinations of recently published results in these fields. Prereq: Grad or professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 880.07, Cross-listed in MGen 7807.

7851 Teaching in the Veterinary Curriculum G 2 Reviews pedagogical principles and practices to be used when designing, preparing, and delivering courses within a professional veterinary curriculum. Prereq: Grad standing in the College of Veterinary Medicine; or permission of instructor. Not open to students with credit for 651. This course is graded S/U.

7852 Hematology Case Discussion V % A discussion of laboratory data from clinical cases in an interactive small group setting. The focus is on hematology. Weekly case discussions require student participation. Prereq: VMColl 6816 (018), and 3rd-year standing in Veterinary Medicine program. Not open to students with credit for 852. This course is graded S/U.

7896 Advanced Topics in Veterinary Biosciences G V 1 A small group course for professional students, house officers, and graduate students in veterinary biosciences. The course format involves graded student presentations of selected papers from the human and veterinary biomedical literature. Prereq: grad or professional standing in Veterinary Medicine program.

8739 Specialty Training in Clinical Pathology G 1 - 10 In-depth study of common laboratory tests, specialized and ancillary laboratory tests, principles of laboratory testing, and quality assurance with an emphasis on data analysis from clinical patients. Prereq: Grad or Doct standing in VMColl, or equiv, or permission of instructor. Not open to students with credit for 739. Repeatable to a maximum of 50 or hrs or 10 completions. This course is graded S/U.

8801 Advanced Veterinary Anatomy of Carnivores G V 3 Review the anatomy of the body system using dogs as models to gain in-depth knowledge of dog anatomy and apply this knowledge as the basis for physical and radiographic diagnosis and surgery. Prereq: VMColl 520. Not open to students with credit for 802.03.

8802 Advanced Anatomy of Herbivores G 5 An advanced regional and comparative study of the equine and ruminant species through dissection, prosection, and discussion. Prereq: Basic Equine and Ruminant Anatomy, and Grad standing in VME; or permission of instructor. Not open to students with credit for 802.01 or 802.02.

8810 Advanced Systemic Pathology 1: Laboratory Animal Pathology G 2 Lecture course covering the principles diseases of laboratory mice, rats, nonhuman primates rabbits, guinea pigs, hamsters, gerbils, and fish as well as lower vertebrates and animals in zoological collections and wildlife species. Prereq: DVM or equiv. Not open to students with credit for 810.

8811 Advanced Systemic Pathology 2 G 2 Advanced pathology covering the reproductive, endocrine, ophthalmic, and cardiovascular systems of domestic animals. Prereq: VetBios students in the Combined Pathology Residency/PhD program, or DVM students; or permission of team leader. Not open to students with credit for 811.

8812 Advanced Systemic Pathology 3 G 2 Advanced pathology covering the respiratory, nervous, and musculoskeletal systems of domestic animals. Prereq: DVM or equiv. Not open to students with credit for 812.

8813 Advanced Systemic Pathology IV G 2 Advanced Pathology covering the hemi-lymphatic, hepatobiliary, digestive systems, and dermatopathology. Prereq: Enrollment in DVM degree program, or equiv.

8814 Advanced Systemic Pathology 5 G V 1 Advanced pathology covering the hemi-lymphatic system of domestic animals. Prereq: VetBios students in the Combined Pathology Residency/PhD Program, or DVM students; or permission of team leader.

8815 Advanced Systemic Pathology VI G V 1 Advanced pathology covering the urinary system of domestic animals. Prereq: VetBios students in the Combined Pathology Residency/PhD program, or DVM students; or permission of team leader.

8855 Commercialization for Researchers G 2 Teaches the basics of commercialization of university discoveries including invention reporting and assessment, intellectual property, project development, market analysis, marketing, licensing, startups, and conflicts of interests. Repeatable to a maximum of 4 or hrs.

8891 Research Seminar in Veterinary Biosciences G V 1 Presentation of new scientific knowledge in weekly seminars by faculty and graduate students. Prereq: Grad standing or Prof standing in Veterinary Medicine program. Repeatable to a maximum of 18 or hrs. This course is graded S/U.

8893 Case Conference: Hematology G 1 A discussion of laboratory data from clinical cases in an interactive small group setting. The focus is on hematology. Weekly case discussions require student participation. Prereq: VMColl 6818, and professional standing in Veterinary Medicine program. Not open to students with credit for 852. This course is graded S/U.

8893.01 Applied Comparative Pathology G 1 - 4 Advanced training in gross dissection and interpretation of gross lesions in animals. Prereq: DVM degree or equiv. Not open to students with credit for 815. Repeatable to a maximum of 12 or hrs or 3 completions. This course is graded S/U.

8893.02 Veterinary Surgical Pathology G 1 Case-based from surgical biopsies from the Veterinary Medical Center. Students cut in biopsy material, interpret prepared slides, make a diagnosis and write reports under supervision of a faculty pathologist. Prereq: Grad standing in Veterinary Medicine Program, and DVM degree; or equiv. Not open to students with credit for 815. Repeatable to a maximum of 12 or hrs. This course is graded S/U.

8895.01 Current Topics in Comparative & Translational Immunology G V 1 The immune system critically influences health and disease. Species differences can dramatically impact animal modeling and translational applications in immunology. This course covers current topics of comparative and translational immunology. Prereq: MVMIG 701, and Grad or Professional standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 693. This course is graded S/U.

8895.02 Seminars in Diagnostic Veterinary Pathology G 1 Seminars correlating lesion interpretation, pathogenesis and clinical signs in veterinary cardio-dermat-mato-, gross, lab animal, large animal, neuro-, ophthalmic, surgical, and zoo pathology. Prereq: Grad standing in Veterinary Medicine program, or permission of instructor. Not open to students with credit for 795. Repeatable to a maximum of 18 or hrs. This course is graded S/U.

8895.03 Seminar in Veterinary Clinical Pathology G 1 Designed to prepare clinical pathology residents for a career in clinical pathology through in-depth discussion of the principles and application of laboratory testing and quality assurance and interpretation of laboratory data. Prereq: Grad or Doct standing in VMColl, or equiv, or permission of instructor. Not open to students with credit for 800.01. Repeatable to a maximum of 10 cr hrs. This course is graded S/U.

8895.04 Veterinary Histopathology Seminar G 1 Weekly histopathology seminars to establish written and oral microscopic descriptive skills and correlate interpretation with pathogenesis. Prereq: Grad standing or permission of instructor. Not open to students with credit for 800.02. Repeatable to a maximum of 18 or hrs. This course is graded S/U.

8899 Research in Veterinary Biosciences G 1 - 10 Research for dissertation purposes only. Prereq: Grad standing in Veterinary Medicine program; or permission of instructor. Not open to students with max credit for 999. Repeatable to a maximum of 60 or hrs or 60 completions. This course is graded S/U.
4998.01 Individual Studies in Veterinary Clinical Sciences, Undergraduate Research Project
A supervised critical investigation of some aspects of animal disease about which there is mutual curiosity of both the student and faculty. The faculty and the student agree on a course project that can be assigned a grade.
Repeatable to a maximum of 20 cr or 20 completions. This course is graded S/U.

4998.02 Individual Studies in Veterinary Clinical Sciences, Undergraduate Research Project
A supervised critical investigation of some aspects of animal disease about which there is mutual curiosity of both the student and faculty. This course covers the research experiences of undergraduate students.
Prereq: Permission of instructor. Repeatable to a maximum of 30 or 11 completions.

7190.01 Applied Veterinary Medicine Experience
Field or laboratory study in the various areas of veterinary medicine through an approved experience with qualified professionals.
Prereq: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 22 cr hrs or 11 completions. This course is graded S/U.

7190.02 Applied Veterinary Medicine Experience
Field or laboratory study in the various areas of veterinary medicine through an approved experience with qualified professionals.
Prereq: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 22 cr hrs or 11 completions.

7193.01 Independent Studies in Veterinary Clinical Sciences
A supervised critical investigation of some aspects of animal disease about which there is mutual curiosity of both students and faculty. This course covers research experiences of Masters students and Doctoral students prior to candidacy.
Prereq: Standing in Veterinary Medicine program, or Grad standing. Repeatable to a maximum of 60 cr hrs or 60 completions. This course is graded S/U.

7193.02 Individual Studies in Veterinary Clinical Sciences
A supervised critical investigation of some aspects of animal disease about which there is mutual curiosity of both students and faculty. The faculty and student agree on a course project suitable for a letter grade. Repeatable to a maximum of 30 cr hrs.

7194.01 Group Studies in Veterinary Clinical Sciences
Group studies course in topic areas of veterinary clinical sciences.
Prereq: Grad standing in Veterinary Medicine program, or equiv. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.

7194.02 Group Studies in Veterinary Clinical Sciences
Graded group studies course in topic areas of veterinary clinical sciences.
Prereq: Grad standing, DVM or equivalent, or veterinary medicine program standing.

7622 Advanced Equine Medical and Surgical Procedures
A laboratory course designed to develop skills in ultrasound examination, proper use of diagnostic nerve blocks and intra-articular injections, and surgical procedures in the horse.
Prereq: VMColl 7617 and 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 622.01.

7628 Small Animal Surgery
Lecture based presentation of the principles of, selection criteria for, and practical application of, small animal soft tissue and orthopedic surgery.
Prereq: 3rd year standing in Veterinary Medicine program. Not open to students with credit for 628.

7710.01 Applied Veterinary Medicine: Community Practice
Problem-solving and clinical skills taught by physical examination, diagnosis and treatment of client-owned animals. Disease prevention and client education are emphasized, such as nutrition, vaccinations, parasite control, dentistry, animal behavior.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.02 Applied Veterinary Medicine: Shelter Medicine and Surgery
Clinical experience with shelter dogs and cats at the Capital Area Humane Society including anesthesia and general surgery, health and behavior screening, and infectious disease surveillance and prevention.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.03 Applied Veterinary Medicine: Small Animal Internal Medicine
Patient diagnosis and management in small animal internal medicine service, including patient care responsibility, client communication, and interactions with all members of the patient care team. Students will build on and apply knowledge gained.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.04 Applied Veterinary Medicine: Small Animal Surgery - Soft Tissue
Clinical experience in the management of surgical diseases of small animal patients. Students will be responsible for the preoperative, operative, and postoperative treatment for animals presented to the small animal surgery soft tissue service.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.05 Applied Veterinary Medicine: Small Animal Surgery - Orthopedics
Clinical experience in the surgical management of orthopedic diseases of small animal patients. Students will be responsible for the preoperative, operative, and postoperative treatment for patients presented for small animal orthopedic surgery.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.06 Applied Veterinary Medicine: Farm Animal Medicine and Surgery
Diagnosis, management, and prevention of medical and surgical diseases of farm animals.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.07 Applied Veterinary Medicine: Large Animal Ambulatory Services
Provides students with hands-on experience working in a large animal clinic, including patient care and business management aspects. Provides instruction in production medicine and its role in modern agriculture.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.08 Applied Veterinary Medicine: Equine Medicine
Application of the principles of diagnosis, treatment, and prevention of medical diseases of horses.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.09 Applied Veterinary Medicine: Equine Surgery
Application of the principles of diagnosis, treatment, and prevention of surgical diseases of horses.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.10 Applied Veterinary Medicine: Equine Field Service
Application of the principles of diagnosis, treatment, and prevention of diseases of horses.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.11 Applied Veterinary Medicine: Equine Emergency and Critical Care Medicine
Provides students supervised experience in hospital-based emergency and critical care experience with horses.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.13 Applied Veterinary Medicine: Clinical Anesthesiology
Students will assess large and small animal patients for anesthesia, select proper anesthetic protocols, learn proper use of anesthetic equipment, and induce, maintain, monitor, and recover patients in a supervised hospital anesthesia practice.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.15 Applied Veterinary Medicine: Small Animal Critical Care
Evaluation, monitoring and management of small animal patients in the intensive care unit and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.16 Applied Veterinary Medicine: Small Animal Emergency
Evaluation and management of small animal patients presented to the emergency service and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum.
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 710.11. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.17 Applied Veterinary Medicine: Comparative Ophthalmology
Application of principles of diagnosis and treatment of diseases of the eye to animal patients, including dogs, cats, horses, and farm animals.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7710.18 Applied Veterinary Medicine: Dermatology
Patient diagnosis and management in the dermatology service, including patient care, client communication, and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>V</th>
<th>Hrs</th>
<th>Prerequisites</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>7710.19</td>
<td>Applied Veterinary Medicine: Cardiology</td>
<td>V</td>
<td>2</td>
<td>Clinical instruction in diagnosis, treatment and prevention of cardiovascular diseases of animals, including patient care, client communication, and interactions with all members of the patient care team. Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.</td>
<td>2</td>
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<tr>
<td>7710.20</td>
<td>Applied Veterinary Medicine: Small Animal Neurology</td>
<td>V</td>
<td>2</td>
<td>Patient diagnosis and management in the neurology service including patient care, client communication, and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum. Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.</td>
<td>2</td>
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<tr>
<td>7710.21</td>
<td>Applied Veterinary Medicine: Small Animal Oncology</td>
<td>V</td>
<td>2</td>
<td>Patient diagnosis and management in the oncology service, including patient care, cytology and imaging interpretation, client communication, and interactions with all members of the patient care team. Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.</td>
<td>2</td>
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<tr>
<td>7710.22</td>
<td>Applied Veterinary Medicine: Theriogenology</td>
<td>V</td>
<td>2</td>
<td>Clinical experience with diagnosis and treatment of reproductive disorders of dogs, cats, cattle and horses, including assisted reproductive procedures. Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.</td>
<td>2</td>
</tr>
<tr>
<td>7710.23</td>
<td>Applied Veterinary Medicine: Advanced Theriogenology</td>
<td>V</td>
<td>2</td>
<td>Clinical experience with assisted reproductive procedures in domestic animals with emphasis on techniques commercially available for cattle. Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.</td>
<td>2</td>
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<tr>
<td>7710.50</td>
<td>Applied Veterinary Medicine: Diagnostic Imaging</td>
<td>V</td>
<td>2</td>
<td>Students will further develop their image interpretation skills. Emphasis on conventional radiography but alternate imaging modalities such as CT, MRI and nuclear medicine may be included. Students may customize their learning experience based on their area of interest (e.g. equine, small animal, food animal). Students are not expected to participate in the technical aspects of diagnostic imaging. Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.</td>
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<tr>
<td>7710.51</td>
<td>Applied Veterinary Medicine: Ultrasonography</td>
<td>V</td>
<td>2</td>
<td>Clinical experience with diagnostic ultrasonography for veterinary students working under daily direction of the ultrasound technologist, faculty or resident in radiology. Prereq: 4th yr standing in Veterinary Medicine program. This course is graded S/U.</td>
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<tr>
<td>7710.52</td>
<td>Applied Veterinary Medicine: Radiation Oncology</td>
<td>V</td>
<td>2</td>
<td>Clinical experience in radiation oncology for veterinary students working under the daily direction of technologists, residents and faculty in radiology. Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.</td>
<td>2</td>
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<tr>
<td>7710.53</td>
<td>Applied Veterinary Medicine: Small Animal Rehabilitation and Sports Medicine</td>
<td>V</td>
<td>2</td>
<td>Clinical exposure to rehabilitation. Students will be responsible for patient care and selected treatment modalities of animals presented to the Rehabilitation and Sports Medicine Service. Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.</td>
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<tr>
<td>7710.54</td>
<td>Applied Veterinary Medicine: Small Animal Behavior</td>
<td>V</td>
<td>2</td>
<td>Students will observe and participate in behavioral medicine appointments as well as gain clinical experience in behavior wellness and stress handling. Students will learn to assess and diagnose behavior and to create treatment and management plans for both Behavioral Medicine and Community Practice patients. Prereq: 4th yr standing in the Professional Veterinary Program. Repeatable to a maximum of 4 cr hrs. This course is graded S/U.</td>
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<tr>
<td>7718</td>
<td>Clinical Problem Solving and Treatment in Small Animals I - Internal Medicine</td>
<td>V</td>
<td>2</td>
<td>Exposes the student to approximately 30 clinical cases likely to be encountered in internal medicine of sick dogs and cats using an interactive format with progressive disclosure of information to the students. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 718.</td>
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<tr>
<td>7719</td>
<td>Clinical Problem Solving and Treatment in Small Animals II - Medical Subspecialties</td>
<td>V</td>
<td>2</td>
<td>Problem-oriented course using case discussions to teach the diagnostic and therapeutic approach to the most common clinical problems in small animal internal medicine. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 719.</td>
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<tr>
<td>7720</td>
<td>Introduction to Small Animal Clinical Nutrition</td>
<td>V</td>
<td>2</td>
<td>Basic concepts and principles of veterinary clinical nutrition and application of these concepts and principles to the nutritional care of small animal patients. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 720.01.</td>
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<tr>
<td>7721</td>
<td>Dialysis Therapy</td>
<td>G</td>
<td>1</td>
<td>Introduction to principles and practice of dialysis and related therapies.</td>
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<tr>
<td>7722</td>
<td>Clinical Problems in Small Animal Cardiology</td>
<td>V</td>
<td>1</td>
<td>Skills in physical examination, radiographic and electrocardiographic interpretation, and management of common cardiovascular diseases in a small group setting. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 722.</td>
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<tr>
<td>7723</td>
<td>Emergency &amp; Critical Care Volunteer Program</td>
<td>V</td>
<td>1</td>
<td>Clinical exposure to emergency receiving and medical management of hospitalized patients in the intensive care unit through volunteer shifts with the emergency and critical care service and attendance at clinical teaching rounds. Prereq: 1st (second semester), 2nd, or 3rd yr standing in Veterinary Medicine program. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.</td>
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<tr>
<td>7724</td>
<td>Feline Medicine</td>
<td>V</td>
<td>1</td>
<td>Survey of medical diseases unique to the cat and their management. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 724. This course is graded S/U.</td>
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<tr>
<td>7727</td>
<td>Avian Medicine and Surgery</td>
<td>V</td>
<td>2</td>
<td>An overview of all aspects of avian medicine including nutrition, behavior, captive management, diagnostic and therapeutic techniques, disease problems, anesthesia and surgery. Includes companion birds, wildlife, backyard poultry and zoo species. Prereq: 2nd or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 727.</td>
<td>2</td>
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<tr>
<td>7728</td>
<td>Veterinary Clinical Endocrinology</td>
<td>V</td>
<td>1</td>
<td>To familiarize pre-clinical veterinary students with the clinical presentation, laboratory abnormalities, and treatment of common endocrine disorders of dogs and cats. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 728. This course is graded S/U.</td>
<td>1</td>
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<tr>
<td>7729</td>
<td>Pet Loss Education and Grief Support</td>
<td>G</td>
<td>V</td>
<td>An applied learning environment for students to develop introductory client communication, grief education, and grief support skills. Prereq: 1st (second semester), 2nd, 3rd, or 4th yr standing in Veterinary Medicine program; or permission of instructor. Not open to students with credit for 729. Repeatable to a maximum of 4 cr hrs or 2 completions. This course is graded S/U.</td>
<td>1-2</td>
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<tr>
<td>7732</td>
<td>Equine Lameness and Gait Abnormalities</td>
<td>V</td>
<td>1%</td>
<td>Acquaints students with conditions of the horse that produce gait abnormalities as the presenting clinical complaint. Prereq: 2nd or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 732.</td>
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<tr>
<td>7733</td>
<td>Common Medical Problems of Horses and Foals</td>
<td>V</td>
<td>1</td>
<td>Common medical problems in adult horses and foals using a problem-oriented, intensive approach. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 733.</td>
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<tr>
<td>7737</td>
<td>Equine Intensive Care</td>
<td>V</td>
<td>1</td>
<td>Students will be taught to critically evaluate, treat and monitor patients in the equine intensive care unit through supervised patient contact and weekly seminars. Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 737.</td>
<td>1</td>
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<tr>
<td>7738</td>
<td>Basic Equine Medicine</td>
<td>V</td>
<td>2</td>
<td>Basic equine medicine and surgery, particularly as it applies to the pleasure horse population. Presented from the generalist's perspective and addressing problems most frequently encountered. Prereq: 2nd or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 738.</td>
<td>2</td>
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<tr>
<td>7739</td>
<td>Diagnostic Equine Lameness</td>
<td>V</td>
<td>1</td>
<td>Designed to provide hands-on experience in the diagnosis and treatment of equine lameness. Prereq: 2nd or 3rd yr standing in Veterinary Medicine program; and successful completion of course pre-test; and prereq or concur: 7738. Not open to students with credit for 739.</td>
<td>1</td>
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<tr>
<td>7743</td>
<td>Basic Exotic Animal Medicine - Small Mammals</td>
<td>V</td>
<td>2</td>
<td>Provides a basic background for a new graduate veterinarian regarding exotic species commonly treated in a companion animal setting. The focus will be on mammalian species. Prereq: Grad or professional standing in Veterinary Medicine program. Not open to students with credit for 743.</td>
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<td>Course Code</td>
<td>Course Title</td>
<td>Credits</td>
<td>Description</td>
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<tr>
<td>7746.01</td>
<td>Cattle Diseases I</td>
<td>G V 2</td>
<td>Diagnosis and treatment of medical and surgical diseases of individual cattle. Prereq: 2nd or 3rd yr standing in Veterinary Medicine program, or Grad standing. Not open to students with credit for 746.</td>
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<tr>
<td>7746.02</td>
<td>Cattle Diseases II</td>
<td>V 2</td>
<td>Builds upon concepts provided in CDE 1. Like the 1st half of this course, basic organ system related diseases of cattle are covered in other courses. Prereq: 7746.01.</td>
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<tr>
<td>7747</td>
<td>Small Ruminant Medicine and Surgery</td>
<td>G V 2</td>
<td>Common medical, surgical, and management related problems in sheep, goats, and South American camelds. Prereq: DVM or equiv, or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 747.</td>
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<tr>
<td>7749</td>
<td>Equine Ophthalmology</td>
<td>V 1</td>
<td>Comprehensive problem-based discussions of equine ophthalmic cases, clinical patient examinations, and stall-side rounds, ophthalmic techniques laboratory and cadaver surgery laboratory. Prereq: VMColl 6612; 3rd year standing in Veterinary Medicine program. Not open to students with credit for 749.</td>
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<tr>
<td>7751</td>
<td>Equine Anesthesiology</td>
<td>G V 1</td>
<td>Review of the literature on equine anesthesia. Prereq: DVM or equiv, or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 751. This course is graded S/U.</td>
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<tr>
<td>7752</td>
<td>Advanced Veterinary Clinical Neurology</td>
<td>V 1</td>
<td>Presentation and discussion of common neurological problems and diseases. Prereq: 6603, 3rd year standing in Veterinary Medicine program. This course is graded S/U.</td>
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<tr>
<td>7753</td>
<td>Small Animal Pain Management</td>
<td>G V 1</td>
<td>Uses the current literature to review the clinical pharmacology of analgesic drugs and techniques used to manage acute and chronic pain in dogs and cats. Prereq: VMColl 7562 or equiv; 3rd yr standing in Veterinary Medicine program.</td>
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<tr>
<td>7754</td>
<td>Veterinary Clinical Oncology</td>
<td>V 2</td>
<td>Provides veterinary students with advanced knowledge and understanding of oncology, including cancer diagnosis, chemotheroy, and client communications. Prereq: Third-year standing in veterinary medicine program.</td>
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<tr>
<td>7762</td>
<td>Clinical Veterinary Ophthalmology</td>
<td>V 1</td>
<td>A problem-based approach to differential diagnosis, final diagnosis, and treatment of ophthalmic diseases in large and small animals. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 762. This course is graded S/U.</td>
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<tr>
<td>7763</td>
<td>Small Animal Endoscopy</td>
<td>V 1</td>
<td>Use of endoscopy for evaluation of gastrointestinal, lower urinary tract, and respiratory disorders of dogs and cats. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 763.</td>
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<tr>
<td>7768</td>
<td>Integrative Medicine</td>
<td>V 1</td>
<td>Overview of integrative medicine, including discussion of the basic science of biology. Prereq: 1st (second semester), 2nd, 3rd, or 4th yr standing in Veterinary Medicine program. Not open to students with credit for 768.</td>
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<tr>
<td>7771</td>
<td>Applied Veterinary Clinical Dermatology</td>
<td>G V 1</td>
<td>Case-based problem-oriented studies of common dermatologic problems in dogs and cats. Prereq: 6606, and 3rd yr standing in Veterinary Medicine program or Grad standing; or permission of instructor. Prereq: 1st (second semester), 2nd, 3rd, or 4th yr standing in Veterinary Medicine program. Not open to students with credit for 768.</td>
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<tr>
<td>7772</td>
<td>Large Animal Cardiology</td>
<td>G V 1</td>
<td>Clinical approach to the diagnosis and management of spontaneous cardiovascular diseases in horses, cattle, and camelds. Prereq: DVM or equiv; or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 783.</td>
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<tr>
<td>7773</td>
<td>Large Animal Radiographic Interpretation</td>
<td>V 2</td>
<td>A review and practice of radiographic anatomy and interpretative skills of large animal diagnostic images with emphasis on the musculoskeletal system. Prereq: 3rd yr standing in Veterinary Medicine program.</td>
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<tr>
<td>7774</td>
<td>Introduction to Alternate Imaging and Contrast Radiography</td>
<td>V 1</td>
<td>Basics of contrast radiography and alternative imaging modalities (ultrasonography, computed tomography, magnetic resonance imaging, scintigraphy) and an overview of their use as diagnostic tools in veterinary medicine. Prereq: 1st yr (second semester) or 2nd yr standing in Veterinary Medicine program. Not open to students with credit for VMColl 526.</td>
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<tr>
<td>7775</td>
<td>Anesthesia Case Management</td>
<td>V 1</td>
<td>Covers anesthetic management of veterinary patients for elective and emergency procedures. Prereq: Third-year standing in veterinary medicine program.</td>
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<tr>
<td>7776</td>
<td>Radiobiology for the Radiologist</td>
<td>G 1</td>
<td>This course is intended to review the ACVR Radiobiology objective in preparation for the ACVR preliminary board examination. Prereq: 1st (second semester) or 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 793. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.</td>
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<tr>
<td>7777</td>
<td>Puppy Kindergarten</td>
<td>V 1</td>
<td>Participation in education of pet owners about behavior wellness and socialization of puppies. The course allows students to observe and influence the development of canine behavior. Prereq: 1st (second semester) or 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 793. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.</td>
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<tr>
<td>7778</td>
<td>Equine Colic Team</td>
<td>V 1</td>
<td>Diagnosis, treatment, and prevention of diseases of the equine gastrointestinal system. A practical course, in which the students are assigned on-call duty for emergency colic patients. Prereq: 2nd or 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 796.03. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.</td>
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<tr>
<td>7780</td>
<td>Environmental Enrichment for Shelter Dogs</td>
<td>V 1</td>
<td>Review the scientific literature on enrichment in shelter animals and discuss practical means of implementation. It will include discussion of means to identify and mitigate stress in shelter dogs to increase their adoptability and hands on involvement with implementing a behavioral enrichment program for dogs at the Franklin County Dog Shelter. Prereq: Standing in the Veterinary Professional curriculum. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.</td>
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<tr>
<td>7791</td>
<td>Small Animal Theriogenology</td>
<td>G V 1</td>
<td>Control of reproductive function in dogs and cats and how to diagnose and devise a treatment plan for infertility due to infectious and noninfectious causes. Prereq: VMColl 7805; 2nd or 3rd yr standing in Veterinary Medicine program or grad standing. Not open to students with credit for 791.03.</td>
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<tr>
<td>7792</td>
<td>Advanced Theriogenology Laboratory</td>
<td>G V 1</td>
<td>A laboratory for the application of research, diagnostic and therapeutic technique involving the reproductive system of domestic animals. Prereq: 2nd or 3rd yr standing in Veterinary Medicine program or grad standing. Not open to students with credit for 792.</td>
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<tr>
<td>7793</td>
<td>Lectures in Equine Theriogenology</td>
<td>G V 2</td>
<td>Focuses on the pathophysiology of common reproductive disorders and how to devise plans to treat common reproductive disorders in horses. Prereq: 2nd or 3rd yr standing in the Veterinary Medicine program, or grad standing. Not open to students with credit for 791.01.</td>
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<tr>
<td>7794</td>
<td>Equine Theriogenology Laboratory</td>
<td>V 1</td>
<td>A laboratory session that will enable students to practice techniques for assessing reproductive function and fertility potential of horses. Prereq: 3rd yr standing in Veterinary Medicine program, and enrollment in the Equine Career Area of Emphasis; or permission of instructor. Concur: 7793. Not open to students with credit for 791.01.</td>
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<tr>
<td>7795</td>
<td>Seminar in Veterinary Clinical Sciences</td>
<td>G V 1</td>
<td>Critical review of literature related to topics in veterinary clinical sciences for veterinary medicine and graduate students. Primary emphasis is placed on experimental design, methods, and conclusions. Prereq: Standing in Veterinary Medicine program, or Grad standing. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
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<tr>
<td>7795.02</td>
<td>Seminar in Reproductive Physiology and Medicine</td>
<td>G V 1</td>
<td>Critical review of the current literature related to comparative reproductive physiology and medicine. Primary emphasis will be placed on experimental design, methods, and conclusions. Prereq: 1st (second semester), 2nd, or 3rd yr standing in Veterinary Medicine program, or DVM or equiv; or permission of instructor. Not open to students with credit for 790. This course is graded S/U.</td>
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<tr>
<td>7796</td>
<td>Advanced Topics in Veterinary Clinical Sciences</td>
<td>G V 1</td>
<td>A small group course for professional students, house officers, and graduate students in veterinary clinical sciences. The course format involves graded student presentations of selected papers from the human and veterinary biomedical literature. Prereq: Standing in Veterinary Medicine program or DVM or equiv; or permission of instructor.</td>
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<tr>
<td>8100</td>
<td>Nuclear Medicine and Special Procedures in Digital Imaging</td>
<td>G 2</td>
<td>Reviews basic principles of special procedures in diagnostic imaging. Interpretive principles using case examples and a current review of the literature will be targeted with a focus on the ACVR Examination Objectives. Prereq: Students must have a DVM/VMD, or equiv degree; or permission of instructor.</td>
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<tr>
<td>8700.01</td>
<td>Small Animal Surgery Principles 1</td>
<td>G 2</td>
<td>Principles of Small Animal Surgery including but not limited to anesthesia and pain management, wound closure, hernias, oncoligic surgery, instrumentation and patient preparation. Prereq: Residents in Grad programs, or by petition of team leader.</td>
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8701  Small Animal Surgery Principles II  G  2  
Principles of Small Animal Surgery including but not limited to orthopedics, cardiovascular disease, renal physiology and urogenital surgery. 
Prereq: Resident in Grad program, or petition of team leader.

8781  Research Methods and Grantsmanship  G  1  
Introduction to grantsmanship, including the development of a research question, use of appropriate statistical methods, and the preparation of a research proposal that will be reviewed by the class. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 800.

8782.01  Techniques in Ophthalmic and Vision Research I  G  1  
Familiarizes students with current research techniques in comparative ophthalmology. This will include, but not be limited to PCR, cell culture, drug delivery, immunohistochemistry and other common ophthalmic research tools. 
Prereq: DVM or equiv; or permission of instructor.

8782.02  Techniques in Ophthalmic and Vision Research II  G  1  
Familiarizes the student with current research techniques in comparative ophthalmology. This will include, but not be limited to PCR, cell culture, drug delivery, immunohistochemistry and other common ophthalmic research tools. 
Prereq: 8782.01, and DVM, or equiv; or permission of instructor.

8783  Experimental Design & Data Analysis in Veterinary & Comparative Medicine I  G  1  
Principles and practice of study designs and data analyses commonly used in veterinary and comparative medical research. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 801.

8784  Experimental Design & Data Analysis in Veterinary & Comparative Medicine II  G  1  
Introduction to the principles and practice of study designs and data analyses commonly used in veterinary and comparative medical research. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 801.

8785  Molecular Techniques in Veterinary Medicine  G  1  
Covers the basics of molecular biology and the techniques commonly used in research reported in today's medical journals. 
Prereq: DVM or equiv; or permission of instructor.

8788  Advanced Ophthalmic Research Techniques  G  1  
Familiarize the student with current research techniques used in comparative ophthalmology including PCR, RT-PCR, cell culture, drug delivery, immunohistochemistry and other common ophthalmic research tools. 
Prereq: DVM or equiv; or permission of instructor.

8789  Advanced Ophthalmic Research Techniques  G  1  
Familiarizes the student with current research techniques in comparative ophthalmology. These will include PCR, RT-PCR, cell culture, drug delivery, immunohistochemistry and other common ophthalmic research tools. 
Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

8790  Veterinary Clinical Pharmacology and Therapeutics  G  1½  
Mechanism of action, indications and adverse effects of selected categories of drugs used in veterinary medicine. Emphasis is placed on cellular receptors, receptor interactions, and signaling pathways as related to clinical effect and toxicity. 
Prereq: Enrollment in Veterinary Medicine program or equiv, or permission of instructor.

8791  Clinical Correlations in Large Animal Medicine & Surgery  G  1  
The purpose of this course is to develop clinical expertise in large animal medicine through interactive case-based discussions covering pathophysiology, clinical medicine, treatment, and prognosis. Evidence-based medicine will be emphasized. 
Prereq: DVMs in residency/Grad programs, or by petition of team leader. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

8822.02  Advanced Veterinary Internal Medicine: Gastroenterology  G  2  
In-depth review of the pathophysiology, diagnosis, and medical treatment of selected gastrointestinal diseases of dogs and cats. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.02.

8822.03  Advanced Veterinary Internal Medicine: Respiratory Disease  G  2  
An in-depth review of the pathophysiology, diagnosis, and medical treatment of selected respiratory diseases of dogs and cats. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.03.

8822.04  Advanced Veterinary Internal Medicine: Neurology  G  2  
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.04.

8822.05  Advanced Veterinary Internal Medicine: Cardiovascular Diseases  G  2  
Pathophysiology, pharmacology, and clinical science relevant to the diagnosis, assessment, and management of cardiovascular diseases of domesticated animals. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.05.

8822.06  Advanced Veterinary Internal Medicine: Nephrology and Urology  G  2  
In-depth review of the pathophysiology, diagnosis, and medical treatment of urinary tract diseases of dogs and cats. Renal physiology relevant to clinical medicine, diagnostic imaging techniques, management of specific urinary tract syndromes. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.06.

8822.07  Advanced Veterinary Internal Medicine: Basic Science of Oncology  G  2  
In depth review of basic cancer biology with a focus on the diagnosis, and treatment of veterinary neoplasia. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.07.

8822.08  Advanced Veterinary Internal Medicine: Hepatology  G  2  
In-depth review of the pathophysiology, diagnosis, and medical treatment of selected diseases of the hepatobiliary system and pancreas in dogs and cats. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.08.

8822.09  Advanced Veterinary Internal Medicine: Dermatology  G  2  
In-depth review of the pathophysiology, diagnosis, and treatment of selected dermatologic disorders of dogs and cats, including pharmacoekinetics of selected drugs used in comparative dermatology. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.09.

8822.10  Advanced Veterinary Internal Medicine: Clinical Ophthalmology  G  1  
Advanced clinical examination and medical and surgical ophthalmic diseases of both large and small animals. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 822.10.

8822.11  Advanced Veterinary Internal Medicine: Comparative Structure and Function of the Integument  G  2  
Normal anatomy, physiology and functions of the skin and related structures. 
Prereq: DVM or equiv; or permission of instructor.

8822.12  Advanced Veterinary Internal Medicine: Otolaryngology and Audiology  G  1  
Designed to introduce the student to the basics of ear disease and audiology. 
Prereq: DVM or equiv; or permission of instructor.

8822.13  Equine Musculoskeletal Imaging  G  1  
Covers all aspects of equine musculoskeletal imaging (radiology, ultrasound, nuclear medicine, MRI) with particular emphasis on pathologic conditions and the best diagnostic modality to document the pathology. 
Prereq: DVM degree, and permission of instructor.

8823  Veterinary Core Communications Skill Competency  G  1  
Competency in core communication skills increases client satisfaction, adherence to treatment recommendations, better outcomes, and decreased risk of claims of malpractice. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 823. This course is graded S/U.

8824  Congenital Heart Disease in Animals  G  2  
An overview and in-depth analysis of congenital malformations of the heart and great vessels in veterinary species. Complex lesions are emphasized, with a focus on the pathophysiology and diagnostic findings. 
Prereq: DVM degree, and permission of instructor.

8833.01  Advanced Veterinary Surgery: Anesthesia & Critical Care  G  1½  
Review of physiology and medical intervention for selected topics including cardiopulmonary resuscitation, sepsis, and ischemia/reperfusion in veterinary anesthesia and critical care; comparison to similar topics in human medicine when appropriate. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 833.01.

8833.02  Advanced Veterinary Surgery: Gastrointestinal Surgery  G  2  
Covers advanced large animal surgical techniques of the gastrointestinal tract. Current literature will be reviewed and pathophysiology and medical case management will also be included in the lecture series.

8833.03  Advanced Veterinary Surgery: Thoracic Surgery  G  2  
Fundamental respiratory pathophysiology, diagnostic techniques for respiratory disease, and respiratory and thoracic surgery methodology in comparative veterinary surgical sciences. 
Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 833.03.

8833.04  Advanced Veterinary Surgery: Surgical Neurology  G  2  
Fundamentals of neurologic exam and lesion localization; neuro-opthalmology, hearing disorders, neurodiagnostic techniques, neuromuscular disorders, imaging, pathophysiology of vertebral column trauma; surgical techniques; peripheral nerve injury and rehabilitation. 
Prereq: DVM or equiv; or permission of instructor.
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<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>8833.06</td>
<td>Advanced Veterinary Surgery: Renal, Urologic and Reproductive Surgery</td>
<td>2</td>
<td>DVM or equiv; permission of instructor. Not open to students with credit for 833.06.</td>
</tr>
<tr>
<td>8833.07</td>
<td>Advanced Veterinary Surgery: Musculoskeletal Surgery</td>
<td>1</td>
<td>DVM or equiv; permission of instructor. Not open to students with credit for 833.07.</td>
</tr>
<tr>
<td>8833.09</td>
<td>Advanced Veterinary Surgery: Oncologic and Reconstructive Surgery</td>
<td>1</td>
<td>DVM or equiv; permission of instructor. Not open to students with credit for 833.09.</td>
</tr>
<tr>
<td>8833.10</td>
<td>Advanced Veterinary Ocular Microsurgical Techniques I</td>
<td>2</td>
<td>DVM or equiv; permission of instructor.</td>
</tr>
<tr>
<td>8833.11</td>
<td>Advanced Veterinary Ocular Microsurgical Techniques II</td>
<td>2</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8844.01</td>
<td>Advanced Large Animal Internal Medicine: Clinical Pharmacology</td>
<td>1½</td>
<td>DVM or equiv; permission of instructor.</td>
</tr>
<tr>
<td>8844.02</td>
<td>Advanced Large Animal Internal Medicine: Medical and Surgical Gastrointestinal Diseases</td>
<td>2½</td>
<td>DVM or equiv; permission of instructor.</td>
</tr>
<tr>
<td>8844.03</td>
<td>Advanced Large Animal Internal Medicine: Metabolic and Endocrine Diseases</td>
<td>1½</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8844.04</td>
<td>Advanced Large Animal Internal Medicine: Neurology</td>
<td>2½</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8844.05</td>
<td>Advanced Large Animal Internal Medicine: Hematology and Oncology</td>
<td>2½</td>
<td>DVM or equiv; permission of instructor. Not open to students with credit for 822.04.</td>
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<tr>
<td>8844.06</td>
<td>Advanced Large Animal Internal Medicine: Musculoskeletal Diseases</td>
<td>1</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8844.07</td>
<td>Advanced Large Animal Internal Medicine: Cardiovascular Medicine</td>
<td>2½</td>
<td>DVM or equiv; permission of instructor. Not open to students with credit for 833.05.</td>
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<tr>
<td>8844.08</td>
<td>Advanced Large Animal Internal Medicine: Hepatology</td>
<td>½</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8844.09</td>
<td>Advanced Large Animal Internal Medicine: Principles of Fluid and Electrolyte Balance</td>
<td>½</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8844.10</td>
<td>Advanced Large Animal Internal Medicine: Respiratory Diseases</td>
<td>2½</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8844.11</td>
<td>Advanced Large Animal Internal Medicine: Infectious Disease</td>
<td>1½</td>
<td>DVM or equiv; permission of instructor.</td>
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<td>8844.12</td>
<td>Advanced Large Animal Internal Medicine: Toxicology</td>
<td>1</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8844.13</td>
<td>Large Animal Internal Medicine Seminars: Neonatology</td>
<td>1</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8844.14</td>
<td>Advanced Large Animal Internal Medicine: Special Topics</td>
<td>1</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8871</td>
<td>Small Animal Abdominal Ultrasound</td>
<td>1</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8872</td>
<td>Advanced Equine Sport Horse Surgery</td>
<td>1</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8893.01</td>
<td>Case Conference: Orthopedic Surgery</td>
<td>1</td>
<td>DVM or equiv; permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
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<tr>
<td>8893.02</td>
<td>Case Conference: Soft Tissue Surgery</td>
<td>1</td>
<td>DVM or equiv; permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
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<tr>
<td>8893.04</td>
<td>Case Conference: Radiology</td>
<td>1</td>
<td>DVM or equiv; permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
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<tr>
<td>8894.01</td>
<td>Advanced Comparative Clinical Ophthalmology I</td>
<td>1</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8894.02</td>
<td>Advanced Comparative Clinical Ophthalmology II</td>
<td>1</td>
<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8894.03</td>
<td>Advanced Comparative Clinical Ophthalmology III</td>
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<td>DVM or equiv; permission of instructor.</td>
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<tr>
<td>8894.04</td>
<td>Case Conference: Radiology</td>
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<td>DVM or equiv; permission of instructor.</td>
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Veterinary Clinical Sciences 483
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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Grading</th>
<th>Credits</th>
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<tbody>
<tr>
<td>8894.05</td>
<td>Radiology Known Case Conference Introductory I</td>
<td>G</td>
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<tr>
<td></td>
<td>Teach and train radiology graduate students the correct approach to diagnostic</td>
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<td></td>
<td>image interpretation during their 3 year program. Radiology graduate students</td>
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<td></td>
<td>are expected to formulate a ranked list of differential diagnoses and discuss other</td>
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<td></td>
<td>diagnostic modalities that may aid in further determining a diagnosis.</td>
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<td></td>
<td>Discussion of pathophysiology will be included.</td>
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<td>Prereq: 8894.04, and Veterinary Diagnostic Imaging Residency.</td>
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<td>8894.06</td>
<td>Radiology Known Case Conference Intermediate I</td>
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<td></td>
<td>Teach and train radiology graduate students the correct approach to diagnostic</td>
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<td></td>
<td>Prereq: 8894.04 and 8894.05, and Veterinary Diagnostic Imaging residency.</td>
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<tr>
<td>8894.07</td>
<td>Radiology Known Case Conference Intermediate II</td>
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<td>Teach and train radiology graduate students the correct approach to diagnostic</td>
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<td>Discussion of pathophysiology will be included.</td>
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<td>Prereq: 8894.04, 8894.05, and 8894.06, and Veterinary Diagnostic Imaging Residency.</td>
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<tr>
<td>8894.08</td>
<td>Radiology Known Case Conference Advanced I</td>
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<td>Teach and train radiology graduate students the correct approach to diagnostic</td>
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<td>Prereq: 8894.04, 8894.05, and 8894.06, and Veterinary Diagnostic Imaging Residency.</td>
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<tr>
<td>8895.01</td>
<td>Advanced Topics in Veterinary Cardiology</td>
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<td>A small group course based on discussion of the current literature and focused</td>
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<td>on the general subject of cardiology. The course format involves graduate student</td>
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<td>presentations of selected papers and chapters from journals and textbooks.</td>
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<td>Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 9</td>
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<td>or 9 cr hrs or 9 completions. This course is graded S/U.</td>
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<tr>
<td>8895.02</td>
<td>Advanced Topics in Veterinary Clinical and Comparative Oncology</td>
<td>G</td>
<td>1</td>
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<tr>
<td></td>
<td>Critical review of literature on topics related to veterinary clinical and</td>
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<td>comparative (animal and human) oncology and neoplastic pathology review.</td>
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<td>Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 2</td>
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<td>cr hrs.</td>
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<tr>
<td>8895.03</td>
<td>Advanced Topics in Veterinary Dermatology and Otolaryngology</td>
<td>G</td>
<td>1</td>
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<td></td>
<td>Small group discussion and critical review of current topics in veterinary medicine from</td>
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<td>selected journals and textbooks.</td>
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<td>Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 9</td>
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<td>cr hrs.</td>
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<tr>
<td>8895.04</td>
<td>Advanced Topics in comparative Diagnostic Imaging</td>
<td>G</td>
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<td></td>
<td>Familiarize radiology residents and graduate students with comparative diagnostic imaging by critical review of the biomedical literature. Emphasis on evaluation of study design, methodology, and data interpretation. Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
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<tr>
<td>8895.07</td>
<td>Advanced Topics in Veterinary Neurology</td>
<td>G</td>
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<td>A small-group course based on the discussion of the current literature and review of topics of neuroimaging and neuropathology related to clinical correlations. Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.</td>
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<tr>
<td>8895.08</td>
<td>Advanced Topics in Comparative Anesthesiology</td>
<td>G</td>
<td>1</td>
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<td></td>
<td>Critical review of current literature related to anesthesiology with a focus on research design, methodology, and interpretation. Prereq: DVM or equiv; or permission of instructor. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.</td>
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<tr>
<td>8895.13</td>
<td>Journal Review in Comparative Emergency and Critical Care</td>
<td>G</td>
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<tr>
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<td>Familiarize the student with comparative Emergency and Critical Care. The current and past primary literature from selected peer-reviewed journals will be critically reviewed with regards to study design, methodology and data interpretation. Prereq: DVMs in residency/grad programs, or by petition of the team leader. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
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<tr>
<td>8895.14</td>
<td>Comparative Small Animal Internal Medicine</td>
<td>G</td>
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<td>Critical review of the veterinary &amp; human biomedical literature in internal medicine with respect to study design, methodology, and data interpretation and discussion of clinical implications of results. Prereq: DVMs in residency/Grad programs, or by petition of team leaders. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
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<tr>
<td>8895.15</td>
<td>Comparative Small Animal Internal Medicine</td>
<td>G</td>
<td>1</td>
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<td></td>
<td>Critical review of the veterinary &amp; human biomedical literature in internal medicine with respect to study design, methodology, and data interpretation and discussion of clinical implications of results. Prereq: DVMs in residency/Grad programs, or by petition of team leaders. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
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<tr>
<td>8896.03</td>
<td>Advanced Topics in Veterinary Dermatology and Otolaryngology</td>
<td>G</td>
<td>1</td>
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<tr>
<td></td>
<td>Small group discussion and critical review of current topics in veterinary medicine from selected journals and textbooks. Prereq: DVM or equivalent, or permission of instructor.</td>
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<tr>
<td>8896.04</td>
<td>Dermatopathology I</td>
<td>G</td>
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<td></td>
<td>Familiarize the student with both normal microscopic anatomy of the skin and dermatopathology of exotic, large and small animals. Prereq: DVM or equivalent, or permission of instructor.</td>
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<tr>
<td>8896.05</td>
<td>Dermatopathology II</td>
<td>G</td>
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<td>Familiarizes students with interpretation of dermatopathology by pattern analysis. Recognition of subtle changes, cellular infiltrates and infectious organisms will be emphasized to allow development of differential diagnoses. Prereq: DVM or equivalent, or permission of instructor.</td>
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<tr>
<td>8896.06</td>
<td>Dermatopathology III</td>
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<td></td>
<td>Builds on recognition of subtle changes, cellular infiltrates and presence of infectious organisms and include pattern recognition to differentiate neoplastic, benign and malignant neoplasms of mammalian species. Prereq: DVM or equivalent, or permission of instructor.</td>
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<tr>
<td>8896.07</td>
<td>Advanced Topics in Veterinary Neurology</td>
<td>G</td>
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<td></td>
<td>A small group course based on discussion of the current literature and review of topics of neuroimaging and neuropathology with clinical correlations. Prereq: DVM or equivalent, or permission of instructor.</td>
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<td>8896.08</td>
<td>Advanced Topics in Comparative Anesthesiology</td>
<td>G</td>
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<td></td>
<td>Critical review of the current literature related to veterinary anesthesiology with a focus on study design, methodology and interpretation. Prereq: DVM or equivalent, or permission of the instructor.</td>
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<tr>
<td>8896.09</td>
<td>Comparative Ocular Histology I</td>
<td>G</td>
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<td>Familiarizes the student with comparative ocular histology and ocular histopathology. Illustrative histopathologic case material will be used to facilitate discussion of diseases processes. Prereq: DVM or equivalent, or permission of instructor.</td>
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<tr>
<td>8896.10</td>
<td>Comparative Ocular Histology II</td>
<td>G</td>
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<td>Familiarizes the student with comparative ocular histology and ocular histopathology. Illustrative histopathologic case material will be used to facilitate discussion of diseases processes. Prereq: DVM or equivalent, or permission of instructor.</td>
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<tr>
<td>8896.11</td>
<td>Comparative Ocular Histology III</td>
<td>G</td>
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<tr>
<td></td>
<td>Familiarizes the student with comparative ocular histology and ocular histopathology. Illustrative histopathologic case material will be used to facilitate discussion of diseases processes. Prereq: DVM or equivalent, or permission of instructor.</td>
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<tr>
<td>8896.12</td>
<td>Advanced Comparative Ophthalmology</td>
<td>G</td>
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<td>Familiarizes the student with comparative ophthalmology by critical review and evaluation of the current and past biomedical literature with emphasis on study design, methodology, and data interpretation. Prereq: DVM or equivalent, or permission of instructor.</td>
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<tr>
<td>8896.13</td>
<td>Advanced Comparative Anesthesiology: Classic Literature Review</td>
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<td>A small group course based on discussion of the classic anesthesia literature with a focus on study design, methodology, and interpretation. Course format involves discussion of selected historical papers from journals pertaining to anesthesiology.</td>
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</tbody>
</table>
8896.14 Advanced Farm Animal Surgery

An in depth study of special topics including the surgical conditions and surgical treatments of cattle, small ruminants, and pigs.
Prereq: Resident/grad students in large animal, or permission of team leader.

8896.15 Advanced Topics in Anesthesiology: Respiratory Pathophysiology

A small group course based on discussion of respiratory pathophysiology as it pertains to anesthetic practice. Course format involves review and presentation of information from "Pulmonary Pathophysiology" by West, other textbooks and journals.
Prereq: Resident in Veterinary Anesthesiology, or permission of team leader.

8896.16 Advanced Topics in Anesthesiology: Anesthetic Uptake and Action

A small group course based on discussion of mechanism of action of inhaled anesthetics, uptake, solubility, and metabolism. Course format involves review and presentation of information from "Anesthetic Uptake and Action" by Eger and other sources.
Prereq: Grad standing. This course is designed for residents in Veterinary Anesthesiology but others may be considered upon petition to the team leader.

8896.17 Journal Review in Comparative Emergency and Critical Care

Familiarize the student with comparative Emergency and Critical Care. The current and past primary literature from selected peer-reviewed journals will be critically reviewed with regards to study design, methodology and data interpretation.
Prereq: DVMs in residency/graduate programs, or by petition of the team leader.

8896.18 Book Club in Comparative Emergency and Critical Care

1 - Renal Physiology

Covers the principles and practice of applied renal physiology as relevant to residents in the Emergency and Critical Care residency program.
Prereq: DVMs in residency/graduate programs, or by petition of the team leader.

8896.19 Book Club in Comparative Emergency and Critical Care

2-Coagulation and Specific Systems

Covers basic and applied physiology of coagulation/coagulation disorders. It will also cover applied systems physiology (GI, reproductive, neurologic, ophthalmologic) and nutrition as relevant to Critical Care Medicine.
Prereq: DVMs in residency/graduate programs, or by petition of the team leader.

8896.20 Book Club in Comparative Emergency and Critical Care

Ill-App Respiratory Physiology and SIRS/Sepsis

Covers the principles and practice of applied respiratory physiology. It will also cover the pathophysiology and management of SIRS and sepsis as relevant to residents in the Emergency and Critical Care residency program.
Prereq: DVMs in residency/Grad programs, or by petition of the team leader.

8896.21 Book Club in Comparative Emergency and Critical Care

IV-Shock, Trauma, and CPR

Covers the physiology and management of trauma and shock. It will also cover the principles and practice of cardopulmonary resuscitation as relevant to residents in the Emergency and Critical Care residency program.
Prereq: DVMs in residency/Grad programs, or petition of team leader.

8896.22 Book Club in Comparative Emergency and Critical Care

5-Apply Cardiovascular Physiology

Covers the principles and practice of applied cardiovascular physiology and therapeutics as relevant to residents in the Emergency and Critical Care residency program.
Prereq: DVMs in residency/Grad programs, or by petition of the team leader.

8896.23 Book Club in Comparative Emergency and Critical Care

6-Mech Ventilation, Monitoring, Inflammation

Covers the principles and practice of patient monitoring in the ICU, the use of mechanical ventilation, and the pathophysiology of inflammation as relevant to residents in the Emergency and Critical Care residency program.
Prereq: DVMs in residency/Grad programs, or by petition of the team leader.

8896.24 Advanced Topics in Anesthesiology: Anesthesia Equipment

A small group course based on discussion of the current equipment used in anesthetic practice. Course format involves review and presentation of information from "Understanding Anesthesia Equipment" as well as from other textbooks and journals.
Prereq: Veterinary Anesthesiology Residents only, others by permission from team leader.

8896.25 Advanced Topics in Anesthesiology: Respiratory Physiology

A small group course based on discussion of respiratory physiology as it pertains to anesthetic practice. Course format involves review and presentation of information from "Respiratory Physiology" by West, as well as other textbooks and journals.
Prereq: Veterinary Anesthesiology resident, or permission of team leader.

8896.26 Advanced Topics in Anesthesiology: Cardiovascular Physiology and Pharmacology for Anesthesia

A small group course based on discussion of respiratory physiology as it pertains to anesthetic practice. Course format involves review and presentation of information from "Respiratory Physiology" by West, as well as other textbooks and journals.
Prereq: Veterinary Anesthesiology Residents, or permission of team leader.

8999 Research in Veterinary Clinical Sciences

Research for dissertation purposes only. Repeatable. This course is graded S/U.

Veterinary Medicine

6510 Veterinary Preventive Medicine 1: Epidemiology and Population Systems

Descriptive and analytical epidemiology, including design, analysis, and interpretation of results; host, agent, and environmental factors in disease causation.
Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 510.

6520 Gross Anatomy 1

Body and its components as forms, relationships, and mechanical functioning.
Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 520.

6521 Gross Anatomy 2

Study of the structure and function of body systems of domesticated herbivores using the equine species as a model for dissection. Common anatomic features and species specific differences of the various systems are highlighted.
Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 521 or 522.

6525 Introduction to Veterinary Diagnostic Radiology

Radiation physics and safety; basic principles of image interpretation; normal radiographic anatomy of small and large animals.
Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 525 or 526.

6530 Comparative Structure and Function of Tissues

Correlated study of the development, microscopic structure, and ultrastructural morphology of tissues.
Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 530 or 531.

6540 Structure and Function of Cells

Introduction to structure and function at cellular level including physiological principles of homeostasis, energetics, metabolism, enzymes, nutrition, and growth.
Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 540.

6550.01 Comparative Biology of Disease 1: General Pathology and Immunology

An interdisciplinary study of the interactions between disease producing agents, body systems, tissues, cells, subcellular units, and selected drugs and toxins.
Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 550.01.

6550.02 Comparative Biology of Disease 2: Animal Pathogens

An interdisciplinary study of the interactions between disease producing agents, body systems, tissues, cells, subcellular units, and selected drugs and toxins.
Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 550.02.

6561 Principles of Veterinary Pharmacology

Basic principles of pharmacology, pharmacodynamics, pharmacokinetics, and therapeutics.
Prereq: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 561.

6565 Introduction to Animal Welfare

Historical, philosophical and scientific developments that have led to our current understanding of animal welfare and how it should be assessed. Welfare issues related to the different uses of animals in society.
Prereq: 2nd yr standing in Veterinary Medicine program.

6570.01 Introduction to Clinical Veterinary Medicine

Introduction to the basic concepts and skills required to practice clinical veterinary medicine, including the approach to a veterinary case, and some basic psychomotor, surgical and cognitive skills required by clinicians.
Prereq: 1st yr standing in Veterinary Medicine program. This course is graded S/U.

6570.02 Clinical Veterinary Medicine Experience

Experiential learning course allowing students to be immersed in various clinical settings to observe and participate in the clinical management of cases, as well as to explore alternative careers in the veterinary profession.
Prereq: 2nd yr standing in Veterinary Medicine program. This course is graded S/U.

6570.03 Clinical Reasoning and Decision-Making

Serves as a capstone experience to provide students with the opportunity to integrate the clinical veterinary skills and knowledge required to "think and behave like a clinician" in preparation for their clinical year.
Prereq: 3rd yr standing in Veterinary Medicine program.
<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Description</th>
<th>Prerequisites</th>
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</thead>
<tbody>
<tr>
<td>600</td>
<td>Cardiovascular System</td>
<td>V 3</td>
<td>A comparative study of the structure, function, and dysfunction of the cardiovascular system including arrhythmias, abnormal flow, congenital disease, etiologic agents, diagnostic methods, and therapeutic approaches.</td>
<td>Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 600.</td>
</tr>
<tr>
<td>601</td>
<td>Respiratory System</td>
<td>V 3</td>
<td>A comparative study of the structure, function, and dysfunction of the respiratory system including reaction to injury, ventilation defects, pneumonias, neoplastic disease, radiological diagnosis, and therapeutic approaches.</td>
<td>Prereq: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 601.</td>
</tr>
<tr>
<td>602</td>
<td>Urinary System</td>
<td>V 3</td>
<td>A comparative study of the structure, function, and dysfunction of the urinary system including diseases of the kidney, bladder, and urethra, and their diagnosis and treatment.</td>
<td>Pre req: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 602.</td>
</tr>
<tr>
<td>603</td>
<td>Nervous System</td>
<td>V 4</td>
<td>Comparative study of the structure, function and dysfunction of the nervous system including functional anatomy, pathology, and clinical evaluation of the brain and spinal cord.</td>
<td>Pre req: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 603.</td>
</tr>
<tr>
<td>604</td>
<td>Endocrine System</td>
<td>V 3</td>
<td>A comparative study of the anatomy, physiology, and pathology of the major endocrine systems and an introduction to diagnosis and treatment of endocrine disorders.</td>
<td>Pre req: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 604.</td>
</tr>
<tr>
<td>605</td>
<td>Reproductive System</td>
<td>V 3</td>
<td>A comparative study of the structure, function, and dysfunction of the reproductive system including etiologic, pathogenic, pathophysiologic, therapeutic, and preventive aspects of reproductive diseases.</td>
<td>Pre req: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 605.</td>
</tr>
<tr>
<td>606</td>
<td>Integumentary System</td>
<td>V 3</td>
<td>Study of the structure and function of the skin and ears as a basis for studying diseases of these organs. A problem-based approach to recognition, diagnosis and treatment of skin and ear diseases of domestic animals.</td>
<td>Pre req: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 606.</td>
</tr>
<tr>
<td>607</td>
<td>Musculo-skeletal System</td>
<td>V 3</td>
<td>A comparative study of the structure, function, and dysfunction of the musculoskeletal system including congenital and acquired diseases, their radiographic diagnosis, treatment, and prevention.</td>
<td>Pre req: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 607.</td>
</tr>
<tr>
<td>609</td>
<td>Digestive System</td>
<td>V 4</td>
<td>A comprehensive study of the gastrointestinal system of domestic animals.</td>
<td>Pre req: 2nd yr standing in Veterinary Medicine program. Not open to students with credit for 609.</td>
</tr>
<tr>
<td>610.01</td>
<td>Clinical Veterinary Parasitology</td>
<td>V 1</td>
<td>Clinical aspects of parasitic infections of cats, dogs, horses, cattle and small ruminants, including symptoms diagnosis treatments, control measures and zoonotic concerns.</td>
<td>Pre req: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 610.</td>
</tr>
<tr>
<td>610.02</td>
<td>Applied Clinical Veterinary Parasitology</td>
<td>V 1</td>
<td>Laboratory methods used in the diagnosis of parasitic infections in small and large animals.</td>
<td>Pre req: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 616.</td>
</tr>
<tr>
<td>611</td>
<td>Veterinary Preventive Medicine III: Emerging Diseases and Public Veterinary Practice</td>
<td>V 3</td>
<td>An introduction to veterinary accreditation, selected foreign and emerging animal diseases which could pose a threat to the US agriculture and the regulatory framework governing food safety.</td>
<td>Pre req: Third year standing in VMColl. Not open to students with credit for 611.</td>
</tr>
<tr>
<td>612</td>
<td>Introduction to Comparative Veterinary Ophthalmology</td>
<td>V 2</td>
<td>Comparative anatomy, histology and physiology of the normal and abnormal eye and adnexa of domestic animals.</td>
<td>Pre req: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 612.</td>
</tr>
<tr>
<td>614.01</td>
<td>Professional Development I-A</td>
<td>V 1</td>
<td>Introduction to the profession, ethics, and a variety of communication and self management information and skills necessary to be successful in veterinary school, the veterinary profession and in life.</td>
<td>Pre req: First year standing in VMColl. Not open to students with credit for 560.01, 560.02, or 614.01.</td>
</tr>
<tr>
<td>614.02</td>
<td>Professional Development I-B</td>
<td>V 1</td>
<td>Provides students with an introduction to leadership and builds on the foundations of ethics principles. Additional information on communication and self management is provided.</td>
<td>Pre req: First year standing in VMColl. Not open to students with credit for 614.02.</td>
</tr>
<tr>
<td>614.03</td>
<td>Professional Development II-A</td>
<td>V 1</td>
<td>Introduction to social awareness and relationship management, continued discussion of leadership development and application of ethics to build on the foundations of ethics principles.</td>
<td>Pre req: Second year standing in VMColl. Not open to students with credit for 614.03.</td>
</tr>
<tr>
<td>614.04</td>
<td>Professional Development II-B</td>
<td>V 1</td>
<td>Advanced learning in social awareness, relationship management, leadership development and application of ethics to build on the foundations of ethics principles.</td>
<td>Pre req: Second year standing in VMColl. Not open to students with credit for 614.04.</td>
</tr>
<tr>
<td>614.05</td>
<td>Professional Development III-A</td>
<td>V 1</td>
<td>Career planning including establishing employment goals, preparing a budget and managing student debt. Resume development, interviewing strategies, evaluating employment offers, negotiation skills and understanding employment contracts.</td>
<td>Pre req: 3rd yr standing in VMColl. Not open to students with credit for 614.05.</td>
</tr>
<tr>
<td>614.06</td>
<td>Professional Development III-B</td>
<td>V 2</td>
<td>Continued application of ethical decision making, expression of views through case discussions and writing assignments. Foundation in laws regulating the practice of veterinary medicine and regulating animals in society.</td>
<td>Pre req: 3rd yr standing in VMColl. Not open to students with credit for 614.06.</td>
</tr>
<tr>
<td>616</td>
<td>Clinical Pathology</td>
<td>V 4</td>
<td>Introduction to current concepts of clinical pathology (hematology, hemostasis, clinical chemistry, urinalysis, and cytology) and quality assurance.</td>
<td>Pre req: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 616.</td>
</tr>
<tr>
<td>641</td>
<td>Introduction to Animal Behavior</td>
<td>V 2</td>
<td>Basic concepts and applications of animal behavior with implications for welfare. Emphasis on domesticated animals, with some coverage of laboratory and wild animals in captivity.</td>
<td>Pre req: 1st yr standing in Veterinary Medicine program. Not open to students with credit for 641.</td>
</tr>
<tr>
<td>646</td>
<td>Veterinary Preventive Medicine II: Zoonotic Diseases</td>
<td>V 3</td>
<td>Recognition of zoonotic diseases in the US, host species, methods of transmission, risk factors for exposure, measures for control, prevention, and eradication.</td>
<td>Pre req: Second year standing in VMColl. Not open to students with credit for 646.</td>
</tr>
<tr>
<td>7190.01</td>
<td>Applied Veterinary Medicine Experience</td>
<td>V 2 - 16</td>
<td>Field or laboratory study in the various areas of veterinary medicine through an approved experience with qualified professionals.</td>
<td>Pre req: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 22 cr or 11 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>7190.02</td>
<td>Applied Veterinary Medicine Experience</td>
<td>V 2 - 16</td>
<td>Field or laboratory study in the various areas of veterinary medicine through an approved experience with qualified professionals.</td>
<td>Pre req: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 22 cr or 11 completions. This course is graded S/U.</td>
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<tr>
<td>7526</td>
<td>Veterinary Diagnostic Imaging</td>
<td>V 3</td>
<td>The detection, description, differential diagnosis, and case management of radiographic abnormalities.</td>
<td>Pre req: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 616.</td>
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<tr>
<td>7562</td>
<td>Introduction to Veterinary Anesthesia</td>
<td>V 2</td>
<td>Introduction to veterinary anesthesia.</td>
<td>Pre req: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 562.</td>
</tr>
<tr>
<td>7563</td>
<td>Introduction to Surgery</td>
<td>V 2</td>
<td>Introduction to surgery.</td>
<td>Pre req: Third year standing in VMColl. Not open to students with credit for 563.</td>
</tr>
<tr>
<td>7564</td>
<td>Clinical Microbiology and Pharmacology of Antimicrobial Agents</td>
<td>V 1</td>
<td>Detection and differential diagnoses of bacterial and fungal disease in domestic species and clinical pharmacology of antimicrobial and antifungal agents used in veterinary medicine.</td>
<td>Pre req: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 564.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
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<tr>
<td>7613</td>
<td>Veterinary Emergency and Critical Care Medicine</td>
<td>V 2</td>
<td>Principles and applications of fluid therapy and emergency and critical care medicine in small and large animals. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 613.</td>
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<tr>
<td>7615.01</td>
<td>Small Animal Operative Practice</td>
<td>V 4</td>
<td>Clinical instruction in and application of surgical techniques and treatment of small animal diseases. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 615.01.</td>
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<tr>
<td>7615.02</td>
<td>Small Animal Medicine Diagnostic Techniques and</td>
<td>V 1</td>
<td>Clinical instruction in and application of medical diagnostic and therapeutic techniques in small animals. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 615.02.</td>
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<tr>
<td>7616</td>
<td>Farm Animal Medicine Diagnostic Techniques, and</td>
<td>V 1</td>
<td>Instruction and self-study in minor techniques for large animals. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 616.</td>
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<tr>
<td>7617</td>
<td>Equine Medicine Diagnostic Techniques, and</td>
<td>V 1</td>
<td>Laboratory and self-instruction in equine techniques. Prereq: 3rd yr standing in Veterinary Medicine program. Not open to students with credit for 617.</td>
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<tr>
<td>7700.01</td>
<td>Applied Veterinary Medicine: Community Practice</td>
<td>V 2</td>
<td>Clinical skills taught by physical exam, diagnosis and treatment of client-owned animals. Disease prevention and client education are emphasized including nutrition, vaccinations, parasite control, dentistry, animal behavior, and screening tests. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.01. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>7700.02</td>
<td>Applied Veterinary Medicine: Shelter Medicine and</td>
<td>V 2</td>
<td>Clinical experience with shelter dogs and cats at the Capital Area Humane Society including anesthesia and general surgery, health and behavior screening, and infectious disease surveillance and prevention. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.17. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>7700.03</td>
<td>Applied Veterinary Medicine: Small Animal Internal</td>
<td>V 2</td>
<td>Patient diagnosis and management in the small animal internal medicine service, including patient care responsibility, client communication, and interactions with all members of the patient care team. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.02. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>7700.04</td>
<td>Applied Veterinary Medicine: Small Animal Surgery -</td>
<td>V 2</td>
<td>Clinical experience in the management of surgical diseases of small animal patients. Students will be responsible for the preoperative, operative, and postoperative treatment for animals presented to the small animal surgery soft tissue service. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.03. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>7700.05</td>
<td>Applied Veterinary Medicine: Small Animal Surgery -</td>
<td>V 2</td>
<td>Clinical experience in the surgical management of orthopedic diseases of small animals. Students will be responsible for the preoperative, operative, and postoperative treatment for animals presented to the small animal surgery orthopedics service. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.03. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>7700.06</td>
<td>Applied Veterinary Medicine: Farm Animal Medicine</td>
<td>V 2</td>
<td>Diagnosis, management, and prevention of medical and surgical diseases of farm animals. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.04. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>7700.07</td>
<td>Applied Veterinary Medicine: Large Animal Ambulatory</td>
<td>V 2</td>
<td>Services Provides students with experience working in a large animal clinic, including patient care and business management aspects. Provides instruction in production medicine and its role in modern agriculture. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.10. Repeatable to a maximum of 12 cr hrs.</td>
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<tr>
<td>7700.08</td>
<td>Applied Veterinary Medicine: Equine Medicine</td>
<td>V 2</td>
<td>Application of the principles of diagnosis, treatment, and prevention of medical diseases of horses. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.05. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7700.09</td>
<td>Applied Veterinary Medicine: Equine Surgery</td>
<td>V 2</td>
<td>Application of the principles of diagnosis, treatment, and prevention of surgical diseases of horses. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.05. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7700.10</td>
<td>Applied Veterinary Medicine: Equine Field Service</td>
<td>V 2</td>
<td>Application of the principles of diagnosis, treatment, and prevention of diseases of horses. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.06. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
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<tr>
<td>7700.11</td>
<td>Applied Veterinary Medicine: Equine Emergency and</td>
<td>V 2</td>
<td>Critical Care Medicine Provides students supervised experience in hospital-based emergency and critical care experience with horses. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.16. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7700.12</td>
<td>Applied Veterinary Medicine: Radiology</td>
<td>V 2</td>
<td>Students participate in all aspects of diagnostic radiology and become proficient in obtaining diagnostic radiographs, develop basic film reading skills, and understand radiology's role in clinical decision making and case management. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.07. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
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<tr>
<td>7700.13</td>
<td>Applied Veterinary Medicine: Clinical Anesthesiology</td>
<td>V 2</td>
<td>Supervised experience in hospital anesthesia practice. Students assess large and small animals for anesthesia, select proper anesthesia protocols, learn proper use of anesthetic equipment, and induce, maintain, monitor, and recover patients. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.09. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7700.14</td>
<td>Applied Veterinary Medicine: Applied Pathology</td>
<td>V 2</td>
<td>Students will perform necropsies of major domestic species. They will learn to recognize and describe common gross pathologic lesions and become familiar with the role of histopathology in assessment of necropsy material. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.14. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7700.15</td>
<td>Applied Veterinary Medicine: Small Animal Critical Care</td>
<td>V 2</td>
<td>Evaluation, monitoring and management of small animal patients in the intensive care unit and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.11. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7700.16</td>
<td>Applied Veterinary Medicine: Small Animal Emergency</td>
<td>V 2</td>
<td>Evaluation and management of small animal patients presented to the emergency service and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.11. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>7700.17</td>
<td>Applied Veterinary Medicine: Ophthalmology</td>
<td>V 2</td>
<td>Application of principles of diagnosis and treatment of diseases of the eye to animal patients, including dogs, cats, horses, and farm animals. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.12. Repeatable to a maximum of 12 cr hrs.</td>
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</tr>
<tr>
<td>7700.18</td>
<td>Applied Veterinary Medicine: Dermatology</td>
<td>V 2</td>
<td>Patient diagnosis and management in the dermatology service, including patient care, client communication, and interactions with all members of the patient care team. Students will build on and apply knowledge gained in the pre-clinical curriculum. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.15. Repeatable to a maximum of 12 cr hrs.</td>
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</tr>
<tr>
<td>7700.19</td>
<td>Applied Veterinary Medicine: Cardiology</td>
<td>V 2</td>
<td>Clinical instruction in diagnosis, treatment and prevention of cardiovascular diseases of animals, including patient care, client communication, and interactions with all members of the patient care team. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.19. Repeatable to a maximum of 12 cr hrs.</td>
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</tr>
<tr>
<td>7700.20</td>
<td>Applied Veterinary Medicine: Small Animal Neurology</td>
<td>V 2</td>
<td>Patient diagnosis and management in the neurology service, including patient care responsibility, client communication, and interactions with all members of the patient care team. Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.20. Repeatable to a maximum of 12 cr hrs.</td>
<td></td>
</tr>
</tbody>
</table>
7700.21 Applied Veterinary Medicine: Small Animal Oncology  V  2
Patient diagnosis and management in the oncology service, including patient care, cytology and imaging interpretation, client communication, and interactions with all members of the patient care team.
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.22. Repeatable to a maximum of 12 cr hrs.

7700.22 Applied Veterinary Medicine: Theriogenology  V  2
Clinical experience with diagnosis and treatment of reproductive disorders of dogs, cats, cattle and horses, including assisted reproductive procedures.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs.

7700.23 Applied Veterinary Medicine: Advanced Theriogenology  V  2
Clinical experience with assisted reproductive procedures in domestic animals with emphasis on techniques commercially available for cattle.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs.

7700.24 Applied Veterinary Medicine: Preventive Medicine  V  2
Clinical experience in population-based medicine, including visits to farms, humane societies, and animal laboratory facilities. Students will learn to recognize, analyze, and manage diseases affecting populations by applying epidemiologic principles.
Prereq: 4th yr standing in Veterinary Medicine program. Not open to students with credit for 700.08. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7700.25 Applied Veterinary Medicine: Advanced Preventive Medicine  V  2
Clinical experience in population-based medicine, including visits to farms, humane societies, and animal laboratory facilities. Students will learn to recognize, analyze, and manage diseases affecting populations by applying epidemiologic principles.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7720.01 Applied Veterinary Medicine: Community Practice Clerkship  V  2
Clinical skills taught by physical exam, diagnosis and treatment of client-owned animals in a private practice setting by participating practicing veterinarians. Disease prevention and client education are emphasized including nutrition, vaccinations, parasite control, dentistry, animal behavior, and screening tests.
Prereq: Fourth year standing in Veterinary Medicine professional degree program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7720.02 Equine Clinical Clerkship  V  2
The purpose of this course is to provide students with primary care experience to develop clinical skills taught by physical exam, diagnosis and treatment of client-owned animals. Disease prevention and client education are emphasized including wellness exams, vaccinations, parasite control, dentistry, lameness, and emergency care.
Prereq: Fourth year standing in Veterinary Medicine professional degree program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

7720.03 Farm Animal Practice Clerkship  V  2
The purpose of this course is to provide students with primary care experience to develop clinical skills taught by physical exam, diagnosis and treatment of client-owned animals. Disease prevention and client education are emphasized including wellness exams, vaccinations, parasite control, herd health, milk quality, nutrition, and lameness.
Prereq: Fourth year standing in Veterinary Medicine professional degree program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

### Veterinary Preventive Medicine

#### 2101 Introduction to Veterinary Medicine  U  2
To increase awareness of the many dimensions of veterinary medicine,
Prereq: Not open to students with credit for 101.

#### 4998.01 Individual Studies in Veterinary Preventive Medicine, Undergraduate Research Project  U  1 - 5
Laboratory and library investigations of animal disease problems involving veterinary preventive medicine. This course covers the research experiences of undergraduate students.
Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 30 completions. This course is graded S/U.

#### 4998.02 Individual Studies in Veterinary Preventive Medicine, Undergraduate Research Project  U  1 - 5
Laboratory and library investigations of animal disease problems involving veterinary preventive medicine. The faculty and student agree on a course project suitable for a letter grade.
Prereq: Permission of instructor. Repeatable to a maximum of 20 cr hrs or 20 completions.

#### 5775 Introduction to Production Agricultural Medicine  U/V  1
On-line course to introduce veterinary students, many of whom do not have a farm background, to animal agriculture and production medicine. Topics will include housing, vocabulary, markets and diseases for livestock species.

### Specialized Study in Veterinary Medicine

#### 7190 Specialized Study in Veterinary Medicine  V  1 - 3
Field or laboratory study in the various areas of veterinary medicine through an approved elective experience with qualified professionals. Enrollment allows students the opportunity to pursue a specific area of veterinary interest.
Prereq: 4th yr standing in Veterinary Medicine program. Repeatable to a maximum of 3 cr hrs.

#### 7190.01 Applied Veterinary Medicine Experience  V  2 - 16
Field or laboratory study in the various areas of veterinary medicine through an approved experience with qualified professionals.
Prereq: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 22 cr hrs or 11 completions. This course is graded S/U.

#### 7190.02 Applied Veterinary Medicine Experience  V  2 - 16
Field or laboratory study in the various areas of veterinary medicine through an approved experience with qualified professionals.
Prereq: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 22 cr hrs or 11 completions.

#### 7193.01 Individual Studies in Veterinary Preventive Medicine  G/V  1 - 8
Laboratory and library investigations of animal disease problems involving veterinary preventive medicine. Covers the research experiences for Masters students and Doctoral Students prior to candidacy.
Repeatable to a maximum of 60 cr hrs or 60 completions. This course is graded S/U.

#### 7193.02 Independent Study in Veterinary Preventive Medicine  G/V  1 - 6
Laboratory and library investigations of disease problems involving veterinary preventive medicine. The faculty and student agree on a course project suitable for a letter grade.
Repeatable to a maximum of 30 crhrs or 30 completions.

#### 7194.01 Group Studies in Veterinary Preventive Medicine  G/V  1
Group studies course in topic areas of veterinary preventive medicine.
Prereq: DVM or equiv, or Grad standing, or Veterinary Medicine program standing. This course is graded S/U.

#### 7194.02 Group Studies in Veterinary Preventive Medicine  G/V  3
Group studies course in topic areas of veterinary preventive medicine.
Prereq: Grad standing, or Veterinary Medicine program standing, or DVM, or equiv.
Repeatable to a maximum of 15 cr hrs.

#### 7612 Nutrition of Food Animals and Equine  V  3
Nutritional diseases and feeding practices for food-producing animals and equine.
Prereq: First-year, second semester, or second-year standing in veterinary medicine program.

#### 7710.25 Applied Veterinary Medicine: Advanced Preventive Medicine  V  2
Clinical experience in population-based medicine, including visits to farms, humane societies, and animal laboratory facilities. The student will learn to recognize, analyze, and manage disease conditions affecting populations.
Prereq: Fourth-year standing in Veterinary Medicine Program. Repeatable to a maximum of 12 cr hrs.

#### 7710.54 Applied Veterinary Medicine: Laboratory Animal Medicine  V  2
This course is designed to introduce fourth year veterinary students to all facets of laboratory animal medicine and its various disciplines (research, management, clinical medicine, diagnostics, husbandry, surgery and pathology).
Prereq: Fourth-year standing in Veterinary Medicine Program. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

#### 7710.55 Applied Veterinary Medicine: Beef and Dairy Production Medicine
Students will accompany veterinarians as they provide routine preventive and clinical services to dairy and beef cattle. Dairy and production medicine topics will be covered. Students are expected to participate in the treatment of patients.
Prereq: 4th yr standing in Veterinary Medicine Program. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.

#### 7710.56 Applied Veterinary Medicine: Capstone Rotation in Dairy Production Medicine  V  2
A two-week capstone clinical rotation in dairy veterinary production medicine. One week is devoted to acquiring, assimilating, and solidifying the principles of dairy production medicine through limited didactic instruction and visits to dairy farms. One week is devoted to acquiring the fundamentals of reproductive ultrasound through didactic instruction and extensive practice.
Prereq: 4th yr standing in the Veterinary Medicine Program. This course is graded S/U.

#### 7717 Introduction to Shelter Medicine  V  1
An introduction to shelter medicine. Material in the class will focus primarily on basic health principles and basic operations within a shelter environment.

#### 7721 Epidemiology of Zoonotic Diseases  G/V  3
Basic epidemiology of important zoonotic diseases, focusing on their etiology and epidemiology. Common manifestations in humans and animals, diagnostic procedures, and specific preventive and control measures.
Prereq: 2nd, 3rd, or 4th yr standing in Veterinary Medicine program. Not open to students with credit for 721.
Veterinary Preventive Medicine 489

7722 Foodborne Diseases, Food Animal Production Systems, and Food Safety
Overview of how the food chain for the most common products of animal origin works, with special emphasis in pre-harvest safety, describes most common food-borne bacterial and viral diseases, antimicrobial resistance, HACCP.
Prereq: Grad standing or enrollment in Veterinary Medicine Program. Not open to students with credit for 722.

7723 Biosecurity, Environmental Health, and Other Veterinary Public Topics
Overview of biosecurity (bioterrorism, preparedness, management of zoonotic outbreaks), environmental health issues related to human and animal interactions, and other topics concerning veterinary public health.
Prereq: 1st (second semester), 2nd, or 3rd yr standing in Veterinary Medicine program, or Grad standing. Not open to students with credit for 723.

7724 Contemporary Issues in Animal Welfare
Give students the opportunity to explore current issues in animal welfare through reading, presentations and discussion.
Prereq: Not open to students with credit for 724.01.

7725 Veterinary Epidemiology
Provides students with an understanding of the basic approaches and philosophies that serve as the foundation for the science of epidemiology as it is applied in veterinary medicine and veterinary public health.
Prereq: PubHEpi 6410 or 6430 (710), and PubHBio 6210 (701).

7730 Emerging Zoonotic Diseases in a Global Context
Overview of the most important emerging zoonotic diseases in different geographical regions of the world, focusing on their local epidemiology, recent outbreaks, prevention, and potential impact in the United States.
Prereq: 1st (second semester), 2nd, or 3rd yr standing in Veterinary Medicine program; or Grad standing. Not open to students with credit for 730.

7735 Veterinary Practice Management
Provides business skills, knowledge, and information necessary to successfully operate a veterinary practice.
Prereq: Enrollment in DVM program. Not open to students with credit for 750.

7745 Basic Exotic Animal Medicine -- Non Mammalian
Provide a basic background for a new graduate veterinarian regarding exotic species commonly treated in a companion animal setting. Non-mammalian species will be covered (fish, amphibians, reptiles).
Prereq: 1st (second semester), 2nd, or 3rd yr standing in Veterinary Medicine program, or Grad standing. Not open to students with credit for VMColl 608.

7760 Opportunities in Global Veterinary Medicine and Public Health
This elective course is designed as a preparatory course for veterinary professional (DVM) curriculum and Masters of Public Health, MPH-VPH students who plan to engage in international and non-traditional veterinary medicine and public health. This course is graded S/U.

7770 Zoo and Wildlife Medicine I
General concepts and principles related to zoo and wildlife medicine. Allows Veterinary students to increase their exposure to non-traditional fields of practice.
Prereq: Grad or professional standing in Veterinary Medicine program. Not open to students with credit for 770. This course is graded S/U.

7771 Zoo and Wildlife Medicine II
Intended for students who have an interest in advancing their clinical and practical knowledge of zoo and wildlife medicine.
Prereq: 7770, and 1st (second semester), 2nd, 3rd, or 4th yr standing in Veterinary Medicine program; or Grad standing. Not open to students with credit for 771.

7772 Wildlife Disease Ecology
Overview of the role of wildlife disease in ecological interactions. Discussion of disease detection and diagnosis, as well as management of major classes of wildlife diseases.
Prereq: 1st (second semester), 2nd, 3rd, or 4th yr standing in Veterinary Medicine program; or Grad standing. Not open to students with credit for 797.

7773 Bovine Palpation
Laboratory and lecture based course designed to familiarize the student with the techniques of bovine reproductive examination, rectal palpation, ultrasound, pregnancy diagnosis and management.
Prereq: VetClin 7746 and VMColl 6605, and 3rd yr standing in Veterinary Medicine program, and a Food Animal, Mixed Animal, or Individualized Career Area of Emphasis, and permission of instructor.
Not open to students with credit for 796.17.

7774 Bovine Theriogenology
Physiology of the estrous cycle and synchronization strategies in the bovine. Techniques such as artificial insemination and embryo transfer, causes for embryonic loss, obstetric procedures, transition period, and bull fertility will be covered.
Prereq: 3rd yr standing in Veterinary Medicine program, or DVM or equiv; or permission of instructor.
Not open to students with credit for 796.18.

7775 Interactive Experiences in Laboratory Animal Medicine
Provides students with an opportunity to obtain practical and clinical experience with traditional laboratory animals and pocket pet species. Coursework is primarily hands-on with supplemental online and didactic material.
Prereq: Professional standing in Veterinary Medicine program.

7776 Dairy Herd Management and Preventive Medicine
Applications of preventive medicine practices at the dairy herd level (small or large). Herd health programs, transition period, and laboratory practices in mastitis control will be covered.
Prereq: 2nd or 3rd yr standing in Veterinary Medicine program; or Grad standing. Not open to students with credit for 796.06.

7777 Prevention, Control and Eradication of Communicable Diseases
Prevention, control, and eradication of important endemic, foreign, and emerging diseases occurring in animal populations. Examples of both zoonotic and non-zoonotic diseases will be presented.
Prereq: 2nd or 3rd yr standing in Veterinary Medicine program; or Grad standing. Not open to students with credit for 796.02.

7778 Topics in Dairy Production Medicine
Expose students to leaders in the dairy industry and production medicine as well as to ideas that they may not be exposed to anywhere else in the veterinary professional curriculum.
Prereq: Grad or professional standing in Veterinary Medicine Program. Not open to students with credit for 796.16. This course is graded S/U.

7779 Diseases of Swine
In this course some of the most commonly diagnosed swine diseases and conditions will be discussed. Emphasis is placed on disease etiology, epidemiology, pathogenesis, treatment, prevention and control from the practitioner's perspective.
Prereq: Professional standing in Veterinary Medicine Program. Not open to students with credit for 796.08.

7780 Veterinary Forensics
Covers forensic examination of living and deceased victims as well as proper evidence collection and presentation to aid in the conviction of animal abusers.
Prereq: Professional standing in Veterinary Medicine program.

7785 Seminar in Veterinary Preventive Medicine
Critical review of the literature related to topics in veterinary preventive medicine for veterinary medicine and graduate students. Primary emphasis is placed on experimental design, methods, and conclusions.
Prereq: Grad or professional standing in Veterinary Medicine. Repeatable to a maximum of 9 cr hrs. This course is graded S/U.

7785.01 Current Topics in Laboratory Animal Medicine
This journal club is directed at laboratory animal residents, graduate students and veterinary medicine students interested in current topics in laboratory animal medicine. Emphasis is placed on the three most recent years of selected journals.
Prereq: Grad standing. Second semester of first-year, or second-year standing in the Veterinary Medicine Program. Repeatable to a maximum of 9 or hrs. This course is graded S/U.

7785.02 Literature of Production Medicine
Introduces students to critical reading of scientific literature related to production medicine.
During class sessions, selected scientific articles related to production medicine will be discussed and critically reviewed.
Prereq: Professional standing in Veterinary Medicine Program. Not open to students with credit for 769.12. Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

7785.03 Literature of Production Medicine
Introduces students to critical reading of scientific literature. During class sessions, selected scientific articles related to production medicine and veterinary public health will be discussed and critically reviewed.
Prereq: Grad or professional standing in Veterinary Medicine Program. Not open to students with credit for 769.12. Repeatable to a maximum of 2 cr hrs.

7786 Veterinary Disaster Response
This course is delivered online in an asynchronous format. Students will be expected to complete relevant Federal Emergency Management Agency courses online designed to familiarize students with the Incident Command Structure and animal disaster response.
Prereq: Current standing in CVM. This course is graded S/U.

7786.01 Current Topics in Veterinary Public Health
The final project for the veterinary MPH degree that can be a research report, program evaluation, or grant proposal.
Prereq: Enrollment in the MPH degree program, and permission of advisor or director of VPH program. Repeatable to a maximum of 6 or hrs or 6 completions. This course is graded S/U.

8613 Preventing Metabolic Diseases and Records Analysis for Dairy Cattle
Feeding management of dairy cattle for the prevention of metabolic diseases and analysis of dairy records for production medicine decisions.
Prereq: 8796.06 or AnimSci 3130 or equiv; and third or fourth-year standing in professional program in Veterinary Medicine, Grad standing, or permission of instructor.
Not open to students with credit for 796.13, or in same term as AnimSci 6303.
# Veterinary Preventive Medicine

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Units</th>
<th>Prerequisites</th>
<th>Corequisites</th>
</tr>
</thead>
<tbody>
<tr>
<td>8700</td>
<td>Molecular Epidemiology of Infectious Diseases</td>
<td>G V 3</td>
<td>Not open to students with credit for 700.</td>
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</tr>
<tr>
<td>8724</td>
<td>Advanced Concepts in Biodefense and Emerging Infectious Diseases</td>
<td>G V 2</td>
<td>Provides an overview understanding of the most important biodefense and emerging infectious agents, their epidemiology, pathogenesis, animal models, and medical/environmental countermeasures with reference to regulatory requirements. Lectures will focus on the &quot;One Health-One Medicine&quot; concept which links human medicine, veterinary medicine, and environmental science.</td>
<td>Prereq: Open only for Grad and professional students.</td>
</tr>
<tr>
<td>8782</td>
<td>Veterinary Clinical Epidemiology</td>
<td>G 1</td>
<td>Intended for clinical residents and veterinary graduate students with a strong interest in the application of epidemiology concepts to the clinical practice of veterinary medicine.</td>
<td>Prereq: DVM or equiv; or permission of instructor. Not open to students with credit for 820.</td>
</tr>
<tr>
<td>8810</td>
<td>Principles of Epidemiologic Theory</td>
<td>G 2</td>
<td>Focuses on principal theories and issues related to epidemiology. The goal of this course is to help the student to develop an understanding of important concepts and philosophical debates relevant to scientific investigation.</td>
<td>Prereq: Not open to students with credit for 810.</td>
</tr>
<tr>
<td>8830</td>
<td>Modeling Transmission Processes and Control of Infectious Diseases in Humans and Animals</td>
<td>G V 3</td>
<td>Intensive course that provides an introduction to computer models of infectious diseases and their applications. Includes lecture and laboratory and focuses on applications rather than mathematical theory.</td>
<td>Prereq: 1st (second semester), 2nd, 3rd, or 4th yr standing in Veterinary Medicine Program, or Grad standing.</td>
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<tr>
<td>8851</td>
<td>Laboratory Animal Medicine 1</td>
<td>G 2</td>
<td>A series of courses providing the student with a comprehensive view of lab animal medicine practice. Includes diseases, preventive medicine, effective management of an animal care program, performance of research, and facility design.</td>
<td>Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.01.</td>
</tr>
<tr>
<td>8852</td>
<td>Laboratory Animal Medicine 2</td>
<td>G 2</td>
<td>Second in a series of courses to provide students with a comprehensive view of the lab animal medicine practice. Includes diseases, preventive medicine, effective management of an animal care program, performance of research and facility design.</td>
<td>Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.02.</td>
</tr>
<tr>
<td>8853</td>
<td>Laboratory Animal Medicine 3</td>
<td>G 2</td>
<td>Third in a series of courses providing the student with a comprehensive view of lab animal medicine practice. Includes diseases, preventive medicine, effective management of an animal care program, performance of research and facility design.</td>
<td>Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.03.</td>
</tr>
<tr>
<td>8854</td>
<td>Laboratory Animal Medicine 4</td>
<td>G 2</td>
<td>Fourth in a series of courses providing students with a comprehensive view of lab animal medicine practice. Includes diseases, preventive medicine, effective management of an animal care program, performance of research and facility design.</td>
<td>Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.04.</td>
</tr>
<tr>
<td>8855</td>
<td>Laboratory Animal Medicine 5</td>
<td>G 2</td>
<td>Fifth in a series of courses providing students with a comprehensive view of lab animal medicine practice. Includes diseases, preventive medicine, effective management of an animal care program, performance of research and facility design.</td>
<td>Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.05.</td>
</tr>
<tr>
<td>8856</td>
<td>Laboratory Animal Medicine 6</td>
<td>G 2</td>
<td>Sixth in a series of courses providing students with a comprehensive view of lab animal medicine practice. Includes diseases, preventive medicine, and effective management of an animal care program, performance of research and facility design.</td>
<td>Prereq: Grad standing in Veterinary Medicine program. Not open to students with credit for 793.06, 793.07, and 793.08.</td>
</tr>
<tr>
<td>8891</td>
<td>Seminar in Veterinary Preventive Medicine</td>
<td>G 1</td>
<td>Presentation of new scientific knowledge in seminars by faculty, residents, and graduate students.</td>
<td>Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8895.01</td>
<td>Responsible Research Practices and Group Discussion of Cutting Edge Research</td>
<td>G V 1</td>
<td>Group discussions on various topics concerning ethics, rights, permissions, scientific publications, authorship, credit, citations, fundamental issues, values, norms, conduct, plagiarism, and cutting-edge research.</td>
<td>Prereq: Grad or Professional standing in Veterinary Medicine Program. Not open to students with credit for 851. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8896</td>
<td>Advanced Topics in Veterinary Preventive Medicine</td>
<td>G 1</td>
<td>Critical review of the literature related to veterinary preventive medicine with emphasis on study design, methodology, and data interpretation.</td>
<td>Prereq: Grad or Professional standing in Veterinary Medicine Program. Not open to students with credit for 851. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.</td>
</tr>
<tr>
<td>8899</td>
<td>Research in Veterinary Preventive Medicine</td>
<td>G 1 - 10</td>
<td>Research for dissertation purposes only. Repeatable to a maximum of 60 cr hrs or 60 completions. This course is graded S/U.</td>
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## Vision Science

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<thead>
<tr>
<th>Course Code</th>
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</thead>
<tbody>
<tr>
<td>5500</td>
<td>Global Issues in Eye Care</td>
<td>U G 1½</td>
<td>Designed for students with diverse backgrounds in healthcare. This course will provide an overview of the common causes of vision impairment and eye disease. Means to eliminate avoidable blindness will also be discussed.</td>
<td>Prereq: Not open to students with credit for 781.</td>
</tr>
<tr>
<td>5598</td>
<td>Individual Studies in Vision Research</td>
<td>U G 1 - 8</td>
<td>Individual investigation of a research problem related to vision and/or the eye.</td>
<td>Prereq: Permission of instructor, and permission of Graduate Studies Committee Chair. Not open to students enrolled concurrently in 8999. Repeatable to a maximum of 10 cr hrs or 10 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>6100</td>
<td>General and Histological Anatomy</td>
<td>O 4</td>
<td>Gross and microscopic anatomy of the body with emphasis on head and neck anatomy and organ systems.</td>
<td>Prereq: 1st yr standing in Optom.</td>
</tr>
<tr>
<td>6110</td>
<td>General and Visual Neuroanatomy</td>
<td>G O 4</td>
<td>Anatomy of the central and peripheral nervous system with special emphasis on autonomic system and anatomy of the visual system.</td>
<td>Prereq: 1st yr standing in Optom. Not open to students with credit for 531 or 508.</td>
</tr>
<tr>
<td>6130</td>
<td>Pathophysiology I</td>
<td>O 5</td>
<td>Provides a comprehensive introduction to pathology, including: inflammation, genetic disease, and necrosis. Pathophysiology of blood, GI, endocrine, and respiratory systems will be examined in detail.</td>
<td>Prereq: 1st yr standing in Optom.</td>
</tr>
<tr>
<td>6140</td>
<td>Pathophysiology II</td>
<td>O 5</td>
<td>The pathophysiology of the nervous system, muscle systems, cardiovascular, renal, and immune systems. Students will integrate information from VisSci 6130.</td>
<td>Prereq: 1st yr standing in Optom.</td>
</tr>
<tr>
<td>6160</td>
<td>Biochemistry for Optometry</td>
<td>O 1</td>
<td>This course is designed to help optometry students integrate biochemistry with concepts related to ocular pathology, and therapeutic treatment.</td>
<td>Prereq: 1st yr standing in Optom. This course is graded S/U.</td>
</tr>
<tr>
<td>6170</td>
<td>Microbiology for Optometry</td>
<td>O 1</td>
<td>This course is designed to help optometry students integrate microbiology with concepts related to ocular pathology, and therapeutic treatment.</td>
<td>Prereq: 1st yr standing in Optom. Not open to students with credit for 508. This course is graded S/U.</td>
</tr>
<tr>
<td>6300</td>
<td>Visual Neurophysiology and Perception</td>
<td>G O 5</td>
<td>Spatial, temporal and chromatic aspects of visual sensation by retina, lateral geniculate, cortex and other brain centers; psychophysics of visual perception; disorders affecting visual pathway.</td>
<td>Prereq: 2nd yr standing in Optom.</td>
</tr>
<tr>
<td>6320</td>
<td>Eye Movements and Binocular Vision</td>
<td>G O 5</td>
<td>Characteristics of and clinical evaluation of monocular and binocular eye movements.</td>
<td>Prereq: 2nd yr standing in Optom.</td>
</tr>
<tr>
<td>6500</td>
<td>Geometric Optics</td>
<td>G O 5</td>
<td>Vergence, ray tracing and image formation. Refracting and reflecting surfaces, lenses, prisms, model-eyes. Magnification, apertures and stops, astigmatism, prismatic effects of lenses, aberrations.</td>
<td>Prereq: 1st yr standing in Optom.</td>
</tr>
<tr>
<td>5520</td>
<td>Optics of the Eye</td>
<td>G O 4</td>
<td>Optics of ametropias and their correction, classification and etiology of refractive errors, schematic eyes, retinal image size, optics of clinical instruments, optics of accommodation, aberrations of the eye.</td>
<td>Prereq: 1st yr standing in Optom.</td>
</tr>
</tbody>
</table>
6540 Physical Optics and Photometry G O 3
Principles of photometry and colorimetry; light sources; diffraction, polarization, interference, electromagnetic waves, quantum optics, lasers. Prereq: 1st yr standing in Optom.

6700 Ocular Anatomy G O 4
Human gross anatomy of the head and neck with special emphasis on the eye and orbit; histology and embryology of the eye and associated structures. Prereq: 1st yr standing in Optom.

6720 Ocular Physiology G O 3
Functions and organic processes of the components of the eye and surrounding structures. Prereq: 1st yr standing in Optom.

7620 Public Health and Environmental Vision G O 4
Public health/community aspects of providing vision care, health care organizations and policies, vision standards, environmental vision, eye hazards and eye protection. Prereq: 3rd yr standing in Optom.

7940 Oral Presentation of Scientific Research G 1 - 3
Student gives a talk based on his/her research or scholarship and improves his/her speaking skills. Prereq: Grad standing in VisSci. Repeatable to a maximum of 10 cr hrs or 10 completions.

7950 Seminar in Vision Science G ½ - 1
Series of seminars dealing with new developments in the various areas of vision science. Prereq: Grad standing in VisSci. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

7960 Ethics in Biomedical Research G 2
Provides a general understanding of the issues surrounding the ethical conduct of science including issues related to research involving human subjects, scientific misconduct, and authorship of scientific papers. Real-life case studies will be used.

7970 Grantmanship G 2
The structure of the National Institutes of Health, the principles of good grantmanship, and description of the grant review process. Emphasis focused on Mentored Clinical Scientist Development Award (K23) and Research Project Grant (R01). Prereq: Grad standing in VisSci. Repeatable to a maximum of 4 cr hrs.

7980 Statistics in Clinical Research G 2
Introduction to the basic concepts and methods of statistical analysis of clinical research data. Statistical software packages will be demonstrated along with interpretation of output. Prereq: Grad standing in VisSci. Repeatable to a maximum of 4 cr hrs or 2 completions.

7990 Assessing the Literature G O ½ - 2
In-depth discussion of scientific papers. Prereq: Grad standing in VisSci. Not open to students with credit for 799. Repeatable to a maximum of 20 cr hrs or 8 completions. This course is graded S/U.

8010 Optics of the Eye and Specification of the Visual Stimulus G 4

8020 Ocular Motility and Binocular Vision G 4
Advanced topics on eye movements, ocular motility, and sensorimotor aspects of visual perception and binocular vision. Prereq: Grad standing in VisSci.

8030 Visual Neurophysiology, Biophysics, and Psychophysics G 4
Neuropsychology of the retina, the ascending visual pathway, and the brain, and their functional significance. Prereq: Grad standing in VisSci. Not open to students with credit for 803.

8040 Anatomy and Physiology of the Eye G 4
Advanced gross anatomy and vegetative physiology and molecular biology of the eye. Prereq: Grad standing in VisSci.

8100 Advanced Topics in Vision Science G 1 - 5
Advanced studies on special problems in vision science. Prereq: Grad standing in VisSci. Repeatable to a maximum of 60 cr hrs or 15 completions.

8110 Laboratory Skills in Vision Science G 1 - 3
Laboratory techniques in vision science, for example, behavioral measurement of psychophysical responses, cell culture, imaging, immunocytochemistry, electrophysiological recordings. Course must not be used when 8999 is more appropriate. Prereq: Grad standing in Vision Science program. Repeatable to a maximum of 9 cr hrs or 3 completions.

8999 Research for Dissertation or Thesis G 1 - 15
Research on thesis or dissertation project only. Prereq: Grad standing in VisSci. Repeatable to a maximum of 90 cr hrs or 15 completions. This course is graded S/U.

3001 Survey of Welding Engineering U 3
Study of the principles of welding engineering, including processes, design, weldability of materials, codes and standards, and quality assurance. Prereq: WeldEng major, Physics 1251 (132, 133), and MatSciEn 2010 (205); or permission of instructor. Not open to students with credit for 300.

3193.01 Individual Studies in Welding Engineering U ½ - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions. This course is graded S/U.

3193.02 Individual Studies in Welding Engineering U ½ - 6
Investigations in areas of advanced non-thesis research. Library and/or research investigations under the directions of instructors. Comprehensive report required. Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 12 completions.

3601 Introductory Arc Welding Laboratory U 1
Basic skills required for manual and semiautomatic arc welding processes. Prereq: Chem 1250 or 1210; and Math 1151 or 1161; and Physics 1250 or 1260; and enrollment as WeldEng-BS major or pre-major student; or permission of instructor. Not open to students with credit for 350 or 351.

4001 Physical Principles in Welding Processes I U 4
Study of the application of physical principles in engineering of arc welding processes and equipment. Prereq: 3001, and enrollment as WeldEng-BS major. Prereq or concour: ECE 2300; or permission of instructor. Not open to students with credit for 500, 550, or 600.

4002 Physical Principles in Welding Processes II U 4
Study of the application of physical principles in engineering of non-arc welding processes and equipment. Prereq: 4001, and enrollment in the WeldEng-BS major or MatSciEn-BS major; or permission of instructor. Not open to students with credit for 600, 601, and 651.

4003 Principles of Welding Process Control U 3
Study of principles and practical application of control systems and control elements of welding processes. Prereq: 4001, and enrollment in the WeldEng-BS or MatSciEn-BS major; or permission of instructor. Not open to students with credit for 605.

4012 Resistance Welding Processes U 3
Addresses the fundamentals, theory, and application of Resistance Welding processes, with emphasis on processes, equipment, materials, and quality control. Prereq: 4002, and enrollment as WeldEng-BS major; or permission of instructor. Not open to students with credit for 602 or 702.

4021 Solid-State Welding/Joining U 3
The welding and joining of materials in the solid state with emphasis on physical processes and metallurgical principles. Prereq: 4001 and 4102, and enrollment in the WeldEng-BS or MatSciEn-BS major; or permission of instructor. Not open to students with credit for 701.

4023 Brazing and Soldering U 3
Brazing and soldering processes with emphasis on physical and metallurgical principles, materials, design and application considerations. Prereq: 4101, and enrollment in the WeldEng-BS or MatSciEn-BS major; or permission of instructor. Not open to students with credit for 703.

4024 High Energy Density Welding Processes U 2
Theory and practice of laser, electron beam, and other high energy density welding processes. Prereq: 4001, and enrollment as a WeldEng-BS or MatSciEn-BS major; or permission of instructor. Not open to students with credit for 704.

4025 Robotic Welding Systems U 3
Theory, methods, economics and applications of robotic welding systems and processes. Prereq: 3001, and enrollment in the WeldEng-BS or MatSciEn-BS major; or permission of instructor. Not open to students with credit for 705.

4101 Welding Metallurgy I U 3
Application of physical metallurgy principles to nonequilibrium thermo-mechanical conditions associated with welding in structural alloys and focus on carbon steels. Prereq: MatSciEn 2251 and 3141, and enrollment as WeldEng-BS or MatSciEn-BS major. Concur: 4511; or permission of instructor. Not open to students with credit for 610.

4102 Welding Metallurgy II U 3
Addresses the welding metallurgy and weldability principles associated with stainless steels, nickel-base, aluminum-base, and titanium-base alloys and other nonferrous alloys. Prereq: 4101, and enrollment as WeldEng-BS major. Prereq or concour: 4612; or permission of instructor. Not open to students with credit for 612.
### Welding Engineering

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>4111</td>
<td>Welding Metallurgy</td>
<td>U 2</td>
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<tr>
<td></td>
<td>Application of physical metallurgy principles to nonequilibrium thermo-mechanical conditions associated with welding in structural steels. Pre-req: MatScEn 2251 and 3141, and WeldEng-Bs or MatScEn-Bs major; or permission of instructor. Not open to students with credit for 611.</td>
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<tr>
<td>4112</td>
<td>Weldability</td>
<td>U 3</td>
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<td>Teaches the basic concepts of weldability and focuses on failure mechanisms in welded construction. Failure phenomena that occur during fabrication, repair, and during service are discussed. Pre-req: 4101, and WeldEng-Bs major; or permission of instructor. Not open to students with credit for 714 or 715.</td>
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<tr>
<td>4113</td>
<td>Joining of Specialty Materials</td>
<td>U 2</td>
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<td></td>
<td>Welding metallurgy and weldability of specialty structural materials, including reactive and refractory materials, composites, and nanostructured materials. Pre-req: 4101, and enrollment in the WeldEng-Bs or MatScEn-Bs major; or permission of instructor. Not open to students with credit for 713.</td>
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<tr>
<td>4115</td>
<td>Computational Analysis of Welding Processes and Welded Materials</td>
<td>U 3</td>
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<td>Fundamental understanding of temperature, stress, deformation, microstructure and property evolutions in welds using an integrated computational modeling approach. Pre-req: 4101 and 4002, and enrollment in the WeldEng-Bs or MatScEn-Bs major; or permission of instructor. Not open to students with credit for 715.</td>
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<tr>
<td>4121</td>
<td>Computational Thermodynamics and Kinetics</td>
<td>U 2</td>
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<td></td>
<td>Comprehensive background on computational thermodynamics and kinetics. Includes focus on CALPHAD (Calculation of Phase Diagram) methodology. Pre-req: MatScEn 2251 and 3151, or equivalents; or grad standing in MatScEn or WeldEng, or permission of instructor. Not open to students with credit for 7121. Cross-listed in MatScEn 5321.</td>
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<tr>
<td>4189</td>
<td>Industrial Experience</td>
<td>U 1</td>
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<td>Experience in an industrial organization and the submitting of an acceptable report on the work done. Pre-req: 4002 and 4202, and enrollment as a WeldEng-Bs major; or permission of instructor. Not open to students with credit for 489.</td>
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<tr>
<td>4193.01</td>
<td>Individual Studies in Welding Engineering</td>
<td>U 1 - 6</td>
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<td></td>
<td>Non-thesis research investigations under the directions of instructors. Comprehensive report required. Pre-req: Enrollment as a WeldEng-Bs major or MatScEn-Bs major; or permission of instructor. Repeatable to a maximum of 12 cr or hrs or 12 completions. This course is graded S/U.</td>
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<tr>
<td>4193.02</td>
<td>Individual Studies in Welding Engineering</td>
<td>U 1 - 6</td>
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<td></td>
<td>Non-thesis research investigations under the directions of instructors. Comprehensive report required. Pre-req: Enrollment as a WeldEng-Bs major or MatScEn-Bs major; or permission of instructor. Repeatable to a maximum of 12 cr or hrs or 12 completions.</td>
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<tr>
<td>4194</td>
<td>Group Studies in Welding Engineering</td>
<td>U 1 - 4</td>
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<td></td>
<td>Special topics in Welding Engineering. Topic, credit hours, and instructor will be announced in the preceding semester. Repeatable to a maximum of 12 cr or hrs or 6 completions.</td>
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<tr>
<td>4201</td>
<td>Engineering Analysis for Design and Simulation</td>
<td>U 4</td>
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<td></td>
<td>Fundamentals of engineering analysis of heat flow, thermal and residual stresses, and fracture and fatigue with applications to design and simulation in welding and manufacturing. Pre-req: 3001, and Math 2177, 2255, 2415, or 2174; and MechEng 2040 or 2020; and enrollment in WeldEng major; or permission of instructor. Not open to students with credit for 620 or 621.</td>
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<tr>
<td>4202</td>
<td>Welding Design</td>
<td>U 3</td>
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<td>Fundamentals of design and application of codes and standards for welded structures. Pre-req: 4201, and enrollment as a WeldEng-Bs major; or permission of instructor. Not open to students with credit for 621 or 641.</td>
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<tr>
<td>4223</td>
<td>Analysis of Welding Systems</td>
<td>U 2</td>
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<td></td>
<td>Development of an analytical and empirical base for the selection of optimum parameters in the design and fabrication of welded structures. Pre-req: 4201, and enrollment as a WeldEng-Bs major; or permission of instructor. Not open to students with credit for 723.</td>
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<tr>
<td>4240</td>
<td>Fitness-for-Service of Welded Structures</td>
<td>U 2</td>
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<td>The interrelationship of design, fabrication, nondestructive evaluation, fracture mechanics, and reliability concepts in establishing the overall fitness-for-purpose of welded structures. Pre-req: 4201, and enrollment as a WeldEng-Bs major; or permission of instructor. Not open to students with credit for 740.</td>
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<tr>
<td>4301</td>
<td>Nondestructive Evaluation</td>
<td>U 3</td>
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<td></td>
<td>Main concepts of Nondestructive Evaluation of materials as applied to inspections of joints and structures; principles of conventional methods and their capabilities and limitations. Pre-req: 4201, and enrollment as a WeldEng-Bs major; or permission of instructor. Not open to students with credit for 631.</td>
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<tr>
<td>4302</td>
<td>Industrial Radiography</td>
<td>U 3</td>
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<td>Basic elements of industrial radiography, characterization of a radiographic system as a linear system, quality of radiographs, real-time radiography, microradiography, and computerized tomography. Pre-req: 4301, and enrollment as a WeldEng-Bs major; or permission of instructor. Not open to students with credit for 635.</td>
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<tr>
<td>4303</td>
<td>Ultrasonic Nondestructive Testing</td>
<td>U 3</td>
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<td>Principles of ultrasonic wave generation, interaction of ultrasonic waves with material structures with emphasis on characterization of material properties, and quantitative ultrasonic evaluation of material discontinuities. Pre-req: 4193, and enrollment as WeldEng-Bs major; or permission of instructor. Not open to students with credit for 732.</td>
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<tr>
<td>4406</td>
<td>Welding of Plastics and Composites</td>
<td>U 3</td>
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<td></td>
<td>Theory and practice in welding of plastics and polymeric composites, including theory and analysis of welding processes, part and joint design, and process selection. Pre-req: 4201, and enrollment as a WeldEng-Bs major; or permission of instructor. Not open to students with credit for 708.</td>
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<tr>
<td>4407</td>
<td>Adhesive Bonding and Mechanical Joining of Plastics</td>
<td>U 2</td>
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<td></td>
<td>Fundamentals of adhesive bonding science and technology and methods for mechanical joining of plastics including fasteners, snap-fits, press-fits, swaging, and staking. Pre-req: 4201, and enrollment as a WeldEng-Bs major; or permission of instructor. Not open to students with credit for 707.</td>
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<tr>
<td>4595</td>
<td>Topics in Welding Engineering</td>
<td>U 2</td>
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<td></td>
<td>Theory and application of novel and hybrid welding processes. Pre-req: 4002, and enrollment as a WeldEng-Bs major; or permission of instructor. Not open to students with credit for 695.</td>
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<tr>
<td>4606</td>
<td>Welding Robot Programming and Operations</td>
<td>U 1</td>
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<td></td>
<td>Laboratory experience programming and operation of robotic welding systems. Pre-req: 3001, and enrollment as a WeldEng-Bs major; or permission of instructor. Not open to students with credit for 656.</td>
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<tr>
<td>4611</td>
<td>Welding Metallurgy Laboratory I</td>
<td>U 1</td>
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<td></td>
<td>Fundamental understanding of microstructure evolution in alloys and steels during heat treatment, as well as welding through various characterization techniques. Pre-req: MatScEn 3141, and enrollment as a WeldEng-Bs or MatScEn-Bs major. Concur: WeldEng 4101; or permission of instructor. Not open to students with credit for 661.</td>
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<tr>
<td>4612</td>
<td>Welding Metallurgy Laboratory II</td>
<td>U 1</td>
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<td></td>
<td>Offered in conjunction with WeldEng 4102: Welding Metallurgy 2. The course demonstrates microstructure evolution and weldability principles in stainless steels and nonferrous alloys. Pre-req or concur: 4102, and enrollment in WeldEng-Bs major; or permission of instructor. Not open to students with credit for 692.</td>
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<tr>
<td>4691</td>
<td>Capstone Welding Design I</td>
<td>U 2</td>
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<td></td>
<td>Group design projects building on all aspects of Welding Engineering. Pre-req: Sr standing in WeldEng-Bs major, or permission of instructor. Not open to students with credit for 690 and 691.</td>
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<tr>
<td>4692</td>
<td>Capstone Welding Design II</td>
<td>U 3</td>
</tr>
<tr>
<td></td>
<td>Group design projects building on all aspects of Welding Engineering. Pre-req: 4901, and enrollment as a WeldEng-Bs major; or permission of instructor. Not open to students with credit for 692.</td>
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<tr>
<td>4998</td>
<td>Undergraduate Research in Welding Engineering</td>
<td>U 1 - 3</td>
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<td></td>
<td>Opportunity for supervised undergraduate research in Welding Engineering. Pre-req: Enrollment as a WeldEng-Bs major; and permission of instructor. Repeatable to a maximum of 6 cr or hrs or 6 completions.</td>
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<td>4999H</td>
<td>Undergraduate Honors Research in Welding Engineering</td>
<td>U 1 - 3</td>
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<td>Honor program students are offered the opportunity for supervised undergraduate research in Welding Engineering. Student presentation and thesis writing included. Pre-req: Honors standing, enrollment as a WeldEng-Bs major, and permission of instructor. Repeatable to a maximum of 6 cr or hrs or 6 completions.</td>
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<td>5038</td>
<td>Introduction to Ultrasonics - With Applications</td>
<td>U G 3</td>
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<td>The fundamental principles of ultrasonics will be covered, followed by the interaction of ultrasonic with materials, and concluding with investigations of the major industrial applications. Pre-req: Math 2177, 2255, or 2415, and MechEng 2040; or permission of instructor. Not open to students with credit for 638 or MechEng 638.</td>
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<td>5040</td>
<td>Welding Production</td>
<td>U G 2</td>
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<td>Addresses the industrial engineering aspects of Welding Engineering. This includes process selection, manufacturing floor layout, economics, quality assurance, and personnel issues. Pre-req: 4001 and 4002, or permission of instructor. Not open to students with credit for 640.</td>
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<td>6194</td>
<td>Group Studies in Welding Engineering</td>
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<td></td>
<td>Special topics in Welding Engineering. Topic, credit hours, and instructor will be announced in the preceding semester. Pre-req: Permission of instructor. Repeatable to a maximum of 12 cr or hrs or 8 completions.</td>
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<tr>
<td>Course Code</td>
<td>Course Title</td>
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<td>6601</td>
<td>Physical Principles in Welding Processes Laboratory I</td>
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<tr>
<td>6602</td>
<td>Physical Principles in Welding Processes Laboratory II</td>
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<td>6999</td>
<td>Graduate Research in Welding Engineering</td>
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<td>7001</td>
<td>Physical Principles in Welding Processes I</td>
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<td>7002</td>
<td>Physical Principles in Welding Processes II</td>
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<td>7003</td>
<td>Principles of Welding Process Control</td>
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<td>7012</td>
<td>Resistance Welding Processes</td>
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<td>Solid-State Welding/Joining</td>
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<td>7023</td>
<td>Brazing and Soldering</td>
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<td>High Energy Density Welding Processes</td>
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<td>7025</td>
<td>Robotic Welding Systems</td>
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<td>Welding Metallurgy I</td>
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<tr>
<td>7102</td>
<td>Welding Metallurgy II</td>
<td>3</td>
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<tr>
<td>7111</td>
<td>Welding Metallurgy</td>
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<tr>
<td>7115</td>
<td>Computational Analysis of Welding Processes and Welded Materials</td>
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<tr>
<td>7121</td>
<td>Computational Thermodynamics and Kinetics</td>
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<td>7193.01</td>
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<td>7193.02</td>
<td>Individual Studies in Welding Engineering</td>
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<td>Group Studies in Welding Engineering</td>
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<td>7223</td>
<td>Analysis of Welding Systems</td>
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<td>Fitness-for-Service of Welded Structures</td>
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<td>7301</td>
<td>Nondestructive Evaluation</td>
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<td>7302</td>
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<td>Ultrasonic Nondestructive Testing</td>
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<td>7406</td>
<td>Welding of Plasmas and Composites</td>
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</table>
494  Welding Engineering

7407  Adhesive Bonding and Mechanical Joining of Plastics  G  2
Fundamentals of adhesive bonding science and technology and methods for mechanical joining of plastics including fasteners, snap-fits, press-fits, swaging, and staking.
Prereq: 4201 (620), and Grad standing; or permission of instructor. Not open to students with credit for 4407 (707).

7595  Topics in Welding Engineering  G  2
Theory and application of novel and hybrid welding processes.
Prereq: 4032 or 7002, and Grad standing; or permission of instructor. Not open to students with credit for 4595 (695).

7611  Welding Metallurgy Laboratory I  G  1
Fundamental understanding of microstructure evolution in alloys and steels during heat treatment, as well as welding through various characterization techniques.
Prereq: Grad standing. Concur: 4101 or 7101, or permission of instructor. Not open to students with credit for 4611 (681).

7612  Welding Metallurgy Laboratory II  G  1
Offered in conjunction with 7102 - Welding Metallurgy II. The course demonstrates microstructure evolution and weldability principles in stainless steels and nonferrous alloys.
Prereq or concur: 7102, and Grad standing; or permission of instructor. Not open to students with credit for 4612 (662).

7895  Graduate Seminar  G  1
Presentations and discussion by graduate students and involved outside speakers on thesis research and current problems in Welding Engineering.
Prereq: Grad standing in WeldEng. Repeatable to a maximum of 20 cr hrs. This course is graded SU.

8001  Welding Arc Physics  G  2
Physics of arc welding processes.
Prereq: 4001 or 7001, and Grad standing; or permission of instructor. Not open to students with credit for 801.

8004  Theory of Laser Welding  G  2
Theory of high energy density laser welding processes.
Prereq: 4024 or 7024, and Grad standing; or permission of instructor. Not open to students with credit for 804.

8194  Group Studies in Welding Engineering  G  1 - 4
Special topics in Welding Engineering. Topic, credit hours, and instructor will be announced in the preceding semester.
Prereq: Permission of instructor. Repeatable to a maximum of 12 cr hrs or 8 completions.

8221  Residual Stresses and Distortion in Weldments  G  2
A study of the formation mechanisms of residual stresses and distortions; mathematical formulations and experimental analysis methods for distortion control.
Prereq: 4223 (723) or 7223, and Grad standing; or permission of instructor. Not open to students with credit for 821.

8406  Advanced Welding of Plastics and Composites  G  3
Theoretical study of welding of thermoplastics and composites, including analysis of the basic welding steps and modeling, optimization and control of welding processes.
Prereq: 4406 (706) or 7406, and Grad standing; or permission of instructor. Not open to students with credit for 806.

8895  Graduate Seminar  G  1
Presentations and discussion by graduate students and involved outside speakers on thesis research and current problems in Welding Engineering.
Prereq: Doct standing in WeldEng. Repeatable to a maximum of 20 cr hrs. This course is graded SU.

8999  Graduate Research in Welding Engineering  G  ½ - 18
Research for dissertation purposes only.
Repeatable to a maximum of 60 cr hrs or 20 completions. This course is graded SU.

Women's, Gender, and Sexuality Studies

1110  Gender, Sex and Power  U  3
Introduces students to the study of gender, sex, and power. We will draw on a variety of literatures to analyze gender, race, sexuality, and other identities. We will place the study of US women in broader transnational context.
Prereq: Not open to students with credit for 110, 110H, WomSnds 101, 101H, 110, or 110H. GE cultures and ideas and soc sci indvcs and groups and diversity soc div in the US course.

1110H  Gender, Sex and Power  U  3
Introduces students to the study of gender, sex, and power. We will draw on a variety of literatures to analyze gender, race, sexuality, and other identities. We will place the study of US women in broader transnational context.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 110, 110H, WomSnds 101, 101H, 110, or 110H. GE cultures and ideas and soc sci indvcs and groups and diversity soc div in the US course.

2194  Group Studies  U  3
Special studies not otherwise offered. Repeatable to a maximum of 6 cr hrs.
Women's, Gender, and Sexuality Studies 495

2702 Modern Arabic Literature in Translation U 3
Reading and analysis of representative works of the 19th and 20th centuries by contemporary women authors.
Prereq: English 1110 (110). Not open to students with credit for 2702H (372H), 372, Arabic 2702 (372), or 2702H (372H). GE lit and diversity global studies course. Cross-listed in Arabic.
2702H Modern Arabic Literature in Translation U 3
Reading and analysis of representative works of the 19th and 20th centuries by contemporary women authors. Taught in English.
Prereq: Honors standing, and English 1110 (110); or permission of instructor. Not open to students with credit for 2702 (372), 372H, Arabic 2702 (372), or 2702H (372H). GE lit and diversity global studies course. Cross-listed in Arabic.
2750H Natives and Newcomers: U.S. Immigration and Migration U 3
General survey of (im)migration history in the U.S. from precolonial times to the present. Topics include cultural contact, economic relations, citizenship, politics, family and sexuality.
Prereq: Honors standing, and English 1110; or permission of instructor. Not open to students with credit for 322H, History 2750 (322), 322H, or 2750E. GE historical study and diversity soc div in the US course. Cross-listed in History.
3191 Internship in Women's, Gender and Sexuality Studies U 1 - 3
Supervised practical experience at a departmental approved internship site related to the student's major or minor in Women's, Gender and Sexuality Studies.
Prereq: Permission of instructor. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.
3302 Engendering Peace and Conflict U 3
Analysis of the gendered dimensions of political, ethnic, and economic situations involving armed struggle, security issues, and peace-building worldwide. Topics include terrorism, militarization, refugees, diplomacy, truth commissions, etc.
3306 Gender, Media, and New Technologies U 3
Examines how race, gender, class, sexuality, and physical ability discourses of the real world are or aren't redefined in the virtual world.
3310 Science Fiction: East vs. West U 3
Slavic, American, and British sci-fi on paper and screen as reflection of major cultural concerns: progress, utopia, human perfectibility, limits of science and knowledge, gender, identity. Taught in English.
Prereq: Not open to students with credit for Slavic 3310 or 3320. GE VPA and diversity global studies course. Cross-listed in Slavic.
3317 Hollywood, Women, and Film U 3
A critical survey of the rep. of women in Hollywood cinema, examples drawn from the 1930's to present. Learn how film has functioned in its representation of women and how and why women film makers have created alternative visions of women in film.
Prereq: Not open to students with credit for 317. GE VPA course.
3320 Topics in Women's, Gender and Sexuality Studies U 3
Provides in-depth analyses of specific topics in the areas of difference and diversity, culture and representation, and political contexts and social change.
Prereq: Not open to students with credit for 320. Repeatable to a maximum of 6 cr hrs.
3370 Sexualities and Citizenship U 3
A survey of cultural, social, and political issues related to historical and contemporary lesbian experience in the United States.
Prereq: Not open to students with credit for 370. GE diversity soc div in the US course.
3385 Women in Political Leadership Internship U 3
Offers students opportunities to learn leadership and policy making skills by working with Ohio women lawmakers.
Prereq: Not open to students with credit for 385.
3389S Theory and Practice of Peer Outreach in Women's, Gender and Sexuality Studies U 3
Designed to prepare undergraduate students with the theoretical and practical skills necessary to present women's, gender and sexuality studies topics to middle and high school youth.
Prereq: Not open to students with credit for 389.
3505 Feminist Perspectives on Globalization U 3
Examines how feminist activists and scholars understand and interrogate contemporary globalization.
Prereq: Not open to students with credit for 505.
3530 Women, Environment and Development U 3
Interdisciplinary study of women's roles as environmental stewards and in resource-based development in global context. Attention given to gender differences in environmental and rural practices. Cross-listed in ENR.
4194 Group Studies U 3
Special studies not otherwise offered; topic varies; students should consult department course listing. Repeatable to a maximum of 6 cr hrs. This course is graded S/U.
4375 Women and Visual Culture U 3
Analysis of visual images of women in historical, racial, and class contexts.
Prereq: Not open to students with credit for 375.
4401 Asian American Women: Race, Sex, and Representations U 3
Examines the experiences and cultural representations of Asian American women for insight into race, gender, sexuality, and citizenship in U.S. and Asian societies.
Explores how race and sexuality intersect in all our lives.
4465 Feminist Political Theory U 3
Examines concepts in feminist political theory including the articulation of feminism, the subjects of feminist theory, the relation of race, class and sexuality to gender experience, and the use of feminist theory to transform conceptions of justice.
Prereq: Not open to students with credit for PoliSc 4465. Cross-listed in PoliSc.
4510 American Women's Movements U 3
An interdisciplinary analysis of the American women's movements, including historical, literary, sociological, and theoretical perspectives.
Prereq: Not open to students with credit for 4510H (510H) or 510. GE diversity soc div in the US course.
4510H American Women's Movements U 3
An interdisciplinary analysis of the American women's movements, including historical, literary, sociological, and theoretical perspectives.
Prereq: Honors standing, or permission of instructor. Not open to students with credit for 4510 (510H) or 510H. GE diversity soc div in the US course.
4513 Women, Government and Public Policy U 3
An examination of policymaking on gender-related issues and the impact of women in government.
Prereq: Not open to students with credit for 513 or PoliSc 4175 (513). Cross-listed in PoliSc 4175.
4520 Women of Color and Social Activism U 3
Examination of multiple forms of social activism among women of color from various parts of the world concerning local, national, and international issues.
Prereq: Not open to students with credit for 520. GE diversity soc div in the US course.
4523 Women and Work U 3
The social, cultural, and historical factors that influence women's work and the multiple ways work is gendered.
Prereq: Not open to students with credit for 523.
4527 Studies in Gender and Cinema U 3
Analysis of different film types focused on women to help students understand historical scope, theoretical frameworks, and reading strategies for understanding these films; topics vary.
Prereq: Not open to students with 10 qr cr hrs of 527 or FilmStd 527. Repeatable to a maximum of 5 cr hrs.
4540 Women of Color: Art, Literature and Culture U 3
Interdisciplinary feminist study of selected historical and cultural movements through writing by women of color; topics vary by gene and by era.
Prereq: Not open to students with credit for 540.
4560 Chicana Feminism U 3
Provides a general overview of Chicana feminist theory and practice from the early 1970's to the present.
Prereq: Not open to students with credit for 560.
4575 Women's Studies Senior Seminar U 3
Examination of particular contemporary issues which have crucial implications for feminist inquiry (topics vary).
Prereq: 2300 (300). Not open to students with credit for 575.
4576 Women and Visual Culture in Latin America  U  3
Analysis of Latin American women visual artists of 20th and 21st centuries, with emphasis on contemporary feminist theories of visual culture. Prereq: Not open to students with credit for 576.

4589 Internship in Feminist Theory and Collective Action  U  1 - 3
Field-based learning experience to explore the relationship between feminist theory and collective action; use of field work and class discussion to relate theory to practice. Repeatable to a maximum of 6 cr hrs or 6 completions. This course is graded S/U.

4597 Gender and Democracy in the Contemporary World  U  3
Highlighting perspectives from various contexts across the globe, this course explores issues of gender and democracy in the contemporary world. Prereq: Not open to students with credit for 597 or PolitSc 4597.03 (597.03). GE cross-disciplinary seminar course. Cross-listed in PolitSc 4597.03.

4845 Gender, Sexuality, and Science  U  3
Examination of relations between gender and science; topics include gendering of "science" and "nature," biological theories of sexual inequality, feminist critiques of science and technology. Prereq: One course in CompStd or WGSSt, or Grad standing, or permission of instructor. Not open to students with credit for 535 or CompStd 4485 (535). Cross-listed in CompStd.

4921 Intersections: Approaches to Race, Gender, Class, and U  3
Sexuality
Examines intersections of race, gender, class, and sexuality in various sites within American culture (e.g., legal system, civil rights discourse, social justice movements). Prereq: Not open to students with credit for 545, CompStd 4921 (545), AFAmSt 4921, or 545. Cross-listed in CompStd and AFAmSt.

4998 Capstone Project  U  1 - 5
Open to students completing a capstone project. Should be scheduled in consultation with advisor. Topics vary. This course is graded S/U.

499H Honors Project  U  1 - 5
Open to students to be used for the completion of an honors project. Should be scheduled in consultation with advisor. Topics vary. Prereq: Honors standing. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.

4999 Distinction Thesis  U  1 - 5
Completion of a distinction thesis. Should be scheduled in consultation with advisor. Topics vary. This course is graded S/U.

499H Honors Thesis  U  1 - 5
Completion of an honors thesis. Should be scheduled in consultation with advisor. Topics vary. Prereq: Honors standing. Repeatable to a maximum of 20 cr hrs or 20 completions. This course is graded S/U.

5193 Individual Studies  U  1 - 3
Individual studies in women's, gender and sexuality studies as arranged with an instructor or advisor. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

5620 Topics in Feminist Studies  U  1 - 3
Topics vary by course and instructor. Repeatable to a maximum of 6 cr hrs or 6 completions.

5624 Women and Social Change in Latin America  U  3
Provides an overview of social change initiatives of women in Latin America and the Caribbean through analysis of women's experiences, values, strategies, and goals. Prereq: Not open to students with credit for 624.

5657 Gender and National Identity in Russian Cinema  U  3
Explores changes of Russian national and gender identities during the twentieth century as reflected in Russian cinema. Prereq: Not open to students with credit for 657 or Russian 657.

5998 Undergraduate Research in Women's, Gender and U  1 - 3
Sexuality Studies
Undergraduate research or creative activities in variable topics. This course is graded S/U.

7304 African Women: History and Socioeconomic Change  G  1 - 6
Focuses on African women's experiences: legal and socioeconomic status, religious and political roles, the impact of colonial and post colonial developments, feminism, and representation issues. Prereq: Grad standing. Repeatable to a maximum of 15 cr hrs or 5 completions. Cross-listed in History.

7702 Feminist Pedagogy  G  3
Assist graduate students in meeting instructional responsibilities and developing necessary skills for college level teaching in women's studies. Prereq: Not open to students with credit for 702.

7710 Theorizing Race, Sexualities, and Social Justice  G  3
Examines theories of difference based on race, ethnicity, nationality, sexuality, and class and the ways difference defines and modifies women's realities. Prereq: Not open to students with credit for 710.

7720 Theorizing Power, Institutions, and Economies  G  3
Examination of feminist theoretical approaches to the material conditions of women's lives and the changing structures of social, economic, and political power. Prereq: Not open to students with credit for 720.

7740 Theorizing Narrative, Culture, and Representation  G  3
Designed to introduce graduate students to the central debates that have characterized feminist theories of representation. Prereq: Not open to students with credit for 740.

7760 Feminist Inquiry: Methods  G  3
An overview of feminist methodological issues and dilemmas and an introduction to a variety of research methods. Prereq: Not open to students with credit for 760.

7780 Theorizing Global and Transnational Feminisms  G  3
Provides a broad comprehension of theoretical aspects of global and transnational feminisms. Prereq: Not open to students with credit for 780.

8193 Individual Studies  G  1 - 9
Students may register for individual directed study in subjects not covered in regular course work. Repeatable to a maximum of 24 cr hrs or 24 completions. This course is graded S/U.

8810 Topics in Race, Sexualities, and Social Justice  G  3
Advanced in depth studies in the theories of race, ethnicity, nationality, sexuality, and class. Repeatable to a maximum of 6 cr hrs or 6 completions.

8820 Topics in Power, Institutions, and Economies  G  3
Advanced study of variable topics relating to gender, power, and change, both theoretical (especially materialist) and practical. Repeatable to a maximum of 6 cr hrs or 6 completions.

8840 Topics in Narrative, Culture, and Representation  G  3
In-depth investigations of topics and genres central to feminist theories of gender representation, including considerations of aesthetics, subjectivity, intersectionality, narrative, and spectatorship. Repeatable to a maximum of 6 cr hrs or 6 completions.

8860 Topics in Feminist Methodology  G  3
Advanced study of variable topics relating to feminist methodology, methods, and research. Repeatable to a maximum of 30 cr hrs or 30 completions.

8880 Topics in Global and Transnational Feminisms  G  3
Various possible offerings on the subject of transnational feminisms. Repeatable to a maximum of 6 cr hrs or 6 completions.

8881 Interdepartmental Seminar  G  3
Two or more departments offer courses on subjects of mutual interest. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

8896.20 Women in Science  G  1
In this seminar course, participants will read key papers concerning the status of women in the STEM disciplines (Science, technology, engineering, and mathematics). Prereq: Grad standing, or permission of instructor. This course is graded S/U. Cross-listed in EEB.

8998 Research in Women's, Gender, and Sexuality Studies  G  1 - 12
Graduate research not directed towards dissertation. Repeatable. This course is graded S/U.
<table>
<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
<th>Type</th>
<th>Prerequisites</th>
<th>Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>8999</td>
<td>Research in Women's, Gender, and Sexuality Studies: Dissertation</td>
<td>G 1 - 3</td>
<td></td>
<td></td>
<td>Repeatable to a maximum of 99 cr hrs or 99 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>1101</td>
<td>Yiddish I</td>
<td>U 4</td>
<td></td>
<td>Development of listening, reading, speaking, and writing skills. Prereq: Not open to students with credit</td>
<td>Research for dissertation purposes only. Repeatable to a maximum of 99 cr hrs or 99 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>1102</td>
<td>Yiddish II</td>
<td>U 4</td>
<td></td>
<td>Development of listening, reading, speaking, and writing skills. Reading of simplified Yiddish texts about</td>
<td>Investigation of problems in various fields of Yiddish and Ashkenazic studies. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
</tr>
<tr>
<td>1103</td>
<td>Yiddish III</td>
<td>U 4</td>
<td></td>
<td>Development of listening, reading, speaking, and writing skills. Reading of Yiddish short stories and poems.</td>
<td>Investigate the problems in various fields of Yiddish and Ashkenazic studies. Prereq: Admission to junior status. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded (S/U).</td>
</tr>
<tr>
<td>2193</td>
<td>Independent Studies</td>
<td>U 1 - 4</td>
<td></td>
<td>Independent studies in Yiddish and Ashkenazic studies. Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions. This course is graded S/U.</td>
<td></td>
</tr>
<tr>
<td>2194</td>
<td>Group Studies</td>
<td>U 1 - 4</td>
<td></td>
<td>Investigation of problems in various fields of Yiddish and Ashkenazic studies. Prereq: Permission of instructor. Repeatable to a maximum of 16 cr hrs or 4 completions. This course is graded S/U.</td>
<td></td>
</tr>
<tr>
<td>2241</td>
<td>Yiddish Culture</td>
<td>U 3</td>
<td></td>
<td>Introductory survey of political, social, ideological, and religious trends as reflected in Yiddish culture, especially folklore and literature. Prereq: Not open to students with credit for 241 or JewishSt 2241. GE credits and ideas and diversity global studies course. Cross-listed in JewishSt.</td>
<td></td>
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<tr>
<td>2367</td>
<td>Jewish-American Voices in U.S. Literature</td>
<td>U 3</td>
<td></td>
<td>Introduction to Jewish-American literature; development of expository writing and argumentation skills through systematic and critical reflection upon their own country from the perspective of an ethnic community. Prereq: English 1110 (110) or equiv. Not open to students with credit for 267 or JewishSt 2367. GE writing and comm: level 2 and cultures and ideas course. Cross-listed in JewishSt.</td>
<td></td>
</tr>
<tr>
<td>3371</td>
<td>Yiddish Literature in Translation</td>
<td>U 3</td>
<td></td>
<td>Reading, analysis, and discussion of representative works and of the development of major movements and genres in Yiddish literature. Prereq: Not open to students with credit for 371 or JewishSt 3371. GE lit and diversity global studies course. Cross-listed in JewishSt.</td>
<td></td>
</tr>
<tr>
<td>3399</td>
<td>Holocaust in Yiddish and Ashkenazian Literature and Film</td>
<td>U 3</td>
<td></td>
<td>Reading and analysis of texts, films and music pertaining to the topic of the Holocaust, the genocide perpetrated by Nazi Germany against European Jewry, and its impact on Ashkenazic-Jewish civilization. Prereq: Not open to students with credit for 399 or German 399. GE lit and diversity global studies course.</td>
<td></td>
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<tr>
<td>4401</td>
<td>Advanced Yiddish I</td>
<td>U 3</td>
<td></td>
<td>Reading in literary and journalistic prose, with practice in conversation and composition. Prereq: 1103 or equiv. Not open to students with credit for 401. This course is available for EM credit.</td>
<td></td>
</tr>
<tr>
<td>4402</td>
<td>Advanced Yiddish II</td>
<td>U 3</td>
<td></td>
<td>Reading in texts from the nineteenth century to the present with emphasis on contemporary prose; practice in conversation and composition. Prereq: 4401 or equiv. Not open to students with credit for 402. This course is available for EM credit.</td>
<td></td>
</tr>
<tr>
<td>4721</td>
<td>Studies in Yiddish Literature</td>
<td>U 3</td>
<td></td>
<td>Advanced study of specific literary periods, figures, and/or topics involving extensive reading and discussion of appropriate primary and secondary source materials. Repeatable to a maximum of 9 cr hrs.</td>
<td></td>
</tr>
<tr>
<td>4998</td>
<td>Undergraduate Research</td>
<td>U 1 - 4</td>
<td></td>
<td>Investigation of problems in various fields of Yiddish and Ashkenazic studies. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
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</tbody>
</table>

### Women’s, Gender, and Sexuality Studies

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<thead>
<tr>
<th>Code</th>
<th>Course Title</th>
<th>Credits</th>
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<th>Prerequisites</th>
<th>Restrictions</th>
</tr>
</thead>
<tbody>
<tr>
<td>4998H</td>
<td>Honors Research</td>
<td>U 1 - 4</td>
<td></td>
<td>Investigation of problems in various fields of Yiddish and Ashkenazic studies. Prereq: Honors standing, and permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
<td></td>
</tr>
<tr>
<td>4999</td>
<td>Undergraduate Research Thesis</td>
<td>U 1 - 4</td>
<td></td>
<td>Research for undergraduate thesis. Prereq: Permission of undergraduate thesis advisor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
<td></td>
</tr>
<tr>
<td>5193</td>
<td>Independent Studies</td>
<td>U G 1 - 4</td>
<td></td>
<td>Independent studies in Yiddish and Ashkenazic studies. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
<td></td>
</tr>
<tr>
<td>5194</td>
<td>Group Studies</td>
<td>U G 1 - 4</td>
<td></td>
<td>Investigation of problems in various fields of Yiddish and Ashkenazic studies. Prereq: Permission of instructor. Repeatable to a maximum of 18 cr hrs or 6 completions.</td>
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<tr>
<td>5603</td>
<td>Advanced Yiddish Conversation and Composition</td>
<td>U G 3</td>
<td></td>
<td>Intensive practice in speaking and writing Yiddish, based on contemporary Yiddish literary usage; conducted entirely in Yiddish. Prereq: 4402 or equiv. Not open to students with credit for 603.</td>
<td></td>
</tr>
<tr>
<td>5611</td>
<td>History of the Yiddish Language</td>
<td>U G 3</td>
<td></td>
<td>Linguistic history of Yiddish; Yiddish dialect formation; analysis of Yiddish documents from 13th century to the present; Yiddish in the context of Jewish interlinguistics. Prereq: Not open to students with credit for 611.</td>
<td></td>
</tr>
<tr>
<td>5641</td>
<td>Places in Ashkenaz</td>
<td>U G 3</td>
<td></td>
<td>Development and description of Yiddish dialect areas; linguistic attasaces and the mapping of Yiddish dialect and Ashkenazic cultural features; dialect networks; development of standard Yiddish. Prereq: Not open to students with credit for 612.</td>
<td></td>
</tr>
<tr>
<td>5651</td>
<td>Modern Yiddish Prose</td>
<td>U G 3</td>
<td></td>
<td>Reading and analysis of short stories and novels representative of major developments and trends in Yiddish prose of the 19th and 20th centuries. Prereq: 4402 or equiv. Not open to students with credit for 651 or JewishSt 5651. Cross-listed in JewishSt.</td>
<td></td>
</tr>
<tr>
<td>5671</td>
<td>Yiddish for Speakers of German</td>
<td>U G 3</td>
<td></td>
<td>Yiddish for Speakers of German; intensive overview of Yiddish grammar; stylistics of academic Yiddish; introduction to bibliography in Yiddish and Ashkenazic studies. Prereq: German 201 or higher, or Grad standing in German. Not open to students with credit for 671.</td>
<td></td>
</tr>
<tr>
<td>5797</td>
<td>Study at a Foreign Institution</td>
<td>U G 1 - 9</td>
<td></td>
<td>An opportunity for students to study at a foreign institution and receive Ohio State credit for that work. Prereq: Permission of Yiddish Program Director. Repeatable to a maximum of 9 cr hrs or 3 completions. This course is graded S/U.</td>
<td></td>
</tr>
<tr>
<td>5798</td>
<td>Study Tour</td>
<td>U G 3 - 9</td>
<td></td>
<td>Travel to a specific site for intensive study related to that site in conjunction with an Ohio State course. Prereq: Permission of Yiddish Program Director. Repeatable to a maximum of 27 cr hrs or 9 completions.</td>
<td></td>
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<tr>
<td>6999</td>
<td>Master’s Thesis</td>
<td>G 1 - 9</td>
<td></td>
<td>Master thesis research. Prereq: Appropriate Grad standing and permission of thesis advisor and Department Chair. Repeatable to a maximum of 12 cr hrs or 4 completions. This course is progress graded (S/U).</td>
<td></td>
</tr>
<tr>
<td>7271</td>
<td>Studies in Yiddish Literature</td>
<td>G 3</td>
<td></td>
<td>Advanced study of specific literary periods, figures, and/or topics involving extensive reading and discussion of appropriate primary and secondary source materials. Repeatable to a maximum of 9 cr hrs. Specific topics not repeatable for credit.</td>
<td>In-depth study of a selected topic or issue in Yiddish literature, linguistics, or intellectual culture. Prereq: Permission of instructor. Repeatable to a maximum of 9 cr hrs. Specific topics not repeatable for credit.</td>
</tr>
</tbody>
</table>
### Yiddish

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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<tbody>
<tr>
<td>8999</td>
<td>Dissertation Thesis</td>
<td>G 1-9</td>
</tr>
<tr>
<td></td>
<td>Research for dissertation purposes only.</td>
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</tr>
<tr>
<td></td>
<td>Prereq: Appropriate Grad standing and permission of thesis advisor and Department Chair.</td>
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<td></td>
<td>Repeatable. This course is progress graded (SU).</td>
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</tbody>
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### Yoruba

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<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
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</thead>
<tbody>
<tr>
<td>1101</td>
<td>Elementary Yoruba I</td>
<td>U 4</td>
</tr>
<tr>
<td></td>
<td>Development of basic language skills of speaking, listening, reading, and writing using competency-based curriculum. Not open to native speakers of the language through regular course enrollment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prereq: Not open to students with credit for 101. This course is available for EM credit. GE for lang course.</td>
<td></td>
</tr>
<tr>
<td>1102</td>
<td>Elementary Yoruba II</td>
<td>U 4</td>
</tr>
<tr>
<td></td>
<td>Development of basic language skills of speaking, listening, reading, and writing using competency-based curriculum. Not open to native speakers of the language through regular course enrollment.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prereq: 1101 (101). Not open to students with credit for 102. This course is available for EM credit. GE for lang course.</td>
<td></td>
</tr>
<tr>
<td>1103</td>
<td>Elementary Yoruba III</td>
<td>U 4</td>
</tr>
<tr>
<td></td>
<td>Further development of basic language skills of speaking, listening, reading, and writing using competency-based curriculum. Not open to native speakers of the language through regular course enrollment.</td>
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</tr>
<tr>
<td></td>
<td>Prereq: 1102 (102). Not open to students with credit for 103 or 104. This course is available for EM credit. GE for lang course.</td>
<td></td>
</tr>
</tbody>
</table>

### Zulu

<table>
<thead>
<tr>
<th>Course Code</th>
<th>Course Title</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>1101</td>
<td>Elementary Zulu I</td>
<td>U 4</td>
</tr>
<tr>
<td></td>
<td>Development of oral proficiency in Zulu through basic listening, speaking, and reading skills using a competency-based curriculum. Not open to native speakers of the language through regular course enrollment or EM credit.</td>
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</tr>
<tr>
<td></td>
<td>Prereq: Not open to students with credit for 101. This course is available for EM credit. GE for lang course.</td>
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</tr>
<tr>
<td>1102</td>
<td>Elementary Zulu II</td>
<td>U 4</td>
</tr>
<tr>
<td></td>
<td>Continuation of 1101; further work on developing oral proficiency in Zulu through basic listening, speaking, and reading skills using a competency-based curriculum.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prereq: 1101. Not open to students with credit for 102. This course is available for EM credit. GE for lang course.</td>
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</tr>
<tr>
<td>1103</td>
<td>Elementary Zulu III</td>
<td>U 4</td>
</tr>
<tr>
<td></td>
<td>Continuation of 1102; further work on developing oral proficiency in Zulu through basic listening, speaking, and reading skills using a competency-based curriculum.</td>
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</tr>
<tr>
<td></td>
<td>Prereq: 1102. Not open to students with credit for 103 or 104. This course is available for EM credit. GE for lang course.</td>
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<tr>
<td>2201</td>
<td>Intermediate Zulu I</td>
<td>U 3</td>
</tr>
<tr>
<td></td>
<td>Instruction and practical experience in reading and translating material selected by the instructor from a wide range of sources.</td>
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<tr>
<td></td>
<td>Prereq: 1103. This course is available for EM credit.</td>
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<tr>
<td>2241</td>
<td>Intermediate Zulu II: Translation</td>
<td>U 3</td>
</tr>
<tr>
<td></td>
<td>Students gain practical experience in reading and translating materials selected from various sources.</td>
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<tr>
<td></td>
<td>Prereq: 2201. This course is available for EM credit.</td>
<td></td>
</tr>
<tr>
<td>3301</td>
<td>Intermediate Zulu III</td>
<td>U 3</td>
</tr>
<tr>
<td></td>
<td>Cultural, historical and literary overview of Zulu heritage.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prereq: 2241. This course is available for EM credit.</td>
<td></td>
</tr>
<tr>
<td>4401</td>
<td>Advanced Zulu I</td>
<td>U 3</td>
</tr>
<tr>
<td></td>
<td>Students work with advanced Zulu literary and grammatical patterns.</td>
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<td></td>
<td>Prereq: 3301.</td>
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</tr>
<tr>
<td>4402</td>
<td>Advanced Zulu II</td>
<td>U 3</td>
</tr>
<tr>
<td></td>
<td>Students explore contemporary issues of a Zulu speaking world.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Prereq: 4401.</td>
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</tbody>
</table>