



March 2025

Course Number Change

Aerospace Engineering

AEROENG

Autumn 2025 Semester

5775.01 Hypersonic Flow

Previous Number: 5775

U G 3

Introduction to hypersonic inviscid and viscous flows, Newtonian theory, high-temperature effects and heat transfer.

Prereq: 3570, or Grad standing in AeroEng. Not open to students in the PMAPE-MAA program or to students with credit for 5775.02.

Autumn 2025 Semester

6645.01 Introduction to Structural Dynamics and Aeroelasticity of Aerospace Vehicles

Previous Number: 6645

G 4

Fundamental Concepts of Structural Dynamics, Unsteady Aerodynamics, and Aeroelasticity of Aerospace Vehicles.

Prereq: Grad standing, or permission of instructor. Not open to students in the PMAPE-MAA program. Not open to students with credit for 6645.02.

Autumn 2025 Semester

7721.01 Advanced Flight Mechanics

Previous Number: 7721

G 3

Advanced elements of flight mechanics across the entire Mach range including access-to-space and atmospheric reentry.

Prereq: Grad standing in Aerospace or Mechanical Engineering; or permission of instructor. Not open to students in the PMAPE-MAA program. Not open to students with credit for 7721.02.

Art Education

ARTEDUC

Autumn 2025 Semester

5222 Arts Careers: Career Exploration & Development in the Arts

Previous Number: 2222

U G 1

Students will be introduced to a wide range of professions that involve the Arts. Students will analyze and reflect upon their personal traits and size-up the work experiences and daily routines of arts organizations, their structures, and various arts professionals. Students will explore ways for identifying and obtaining work experiences in the arts, as well as the details of job seeking.

Business Admin: Marketing & Logistics

BUSML

Autumn 2025 Semester

3245H The Strategy and Tactics of Software Marketing

Previous Number: 4242H

U 3

This course provides an overview of the economics and marketing strategies essential for success in the software industry. Students will gain an understanding of the unique economic factors influencing software products, including pricing models, market competition, and the impact of network effects.

Prereq: Honors standing, Engr 1282.04H, and enrollment in the Integrated Business and Engineering (IBE) program; or permission of instructor.

Comparative Studies

COMPSTD

Autumn 2025 Semester**4645 Cultures of Medicine**
U 4*Previous Number: 3645*
Campus: COL LMA
MNS MRN NWK WST

Humanistic, scientific, and clinical perspectives on medical issues; literary uses of medical themes; medicine as art and science.

Prereq: English 1110.xx or equivalent; or GE foundation writing and info literacy course. Not open to students with credit for 3645 or 3645H. GE cultures and ideas and diversity global studies course. GE theme health and well-being course, High-Impact Practice Research and Creative Inquiry.

Mechanical Engineering**MECHENG****Autumn 2025 Semester****6501.01 Gas Dynamics**
G 3*Previous Number: 6501*

A study of one-dimensional and two-dimensional steady and one-dimensional unsteady compressible flows.

Prereq: Grad standing in AeroEng Or MechEng; or permission of instructor. Not open to students in the PMAPE-MAA program or to students with credit for 6501.02.

Autumn 2025 Semester**6510.01 Intermediate Heat Transfer**
G 3*Previous Number: 6510*

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 enrolled in the PMAPE-MAA program or to students with credit for 6510.02.

Autumn 2025 Semester**7250.01 Vibration of Discrete Systems**
G 3*Previous Number: 7250*

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: Grad standing in Mechanical, Aerospace or Nuclear Engineering. Not open to students in the PMAPE-MAA program or to students with credit for 7250.02.

Autumn 2025 Semester**7255.01 Turbomachinery Dynamics**
G 3*Previous Number: 7255*

This course focuses on modeling the dynamics of rotating cyclic structures found in turbomachinery. The methods discussed in this class include traditional analysis methods such as cyclic analysis and small mistuning, and recent developments in modeling large mistuning, multi-stage systems, and friction damping.

Prereq: Grad standing in Engr. Not open to student in the PMAPE-MAA program.

Autumn 2025 Semester**7527.01 Jet Propulsion**
G 3*Previous Number: 7527*

Characteristics and performance of air breathing flight vehicle power plants and their components (inlets, compressors, combustors, turbines, and nozzles).

Prereq: Grad standing in Mechanical or Aerospace Engineering. Not open to students in the PMAPE-MAA program, or to students with credit for 7527.02 or AeroEng 8851.

Sociology**SOCIOL****Autumn 2025 Semester****4615 Control and Prevention of Crime and Delinquency**
U 3*Previous Number: 4615S*

Analysis of the operational effectiveness of special measures and programs pointed toward the control and prevention of crime and delinquency.

Prereq: Jr or Sr standing; or permission of instructor, or department.

Course Subject Change

Kinesiology: Sport, Fitness, and Health Program

KNSFHP

Autumn 2025 Semester

Previous Subject: KINESIO

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.

Teaching and Learning Critical and Transformative

TLCTE

Autumn 2025 Semester

Previous Subject: EDUTL

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 EduTL 8635.

Teaching and Learning Education

TLED

Autumn 2025 Semester

Previous Subject: EDUTL

6050 Multiple Perspectives on Teaching and Learning: MA G 3 - 4

Investigates diverse ways of conceptualizing cognitive development and its relationship to learning and teaching and examine specific factors such as the development of memory, attention, problem solving, and specific academic skills.

Prereq: Not open to students with credit for EduTL 6050.

Autumn 2025 Semester

Previous Subject: EDUTL

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 EduTL 7010.

Autumn 2025 Semester

Previous Subject: EDUTL

8001 Discourse Analysis and Educational Research I G 4

Introduction to discourse analysis in educational research, theories, field work, data collection, analytic procedures including video and audio analysis, and ethics. First course of two course sequence.

Prereq: Permission of instructor. 8001 and 8002 must be taken in the same academic year. Not open to students with credit for EduTL 8001. Repeatable to a maximum of 8 cr hrs. This course is progress graded.

Autumn 2025 Semester

Previous Subject: EDUTL

8002 Discourse Analysis and Educational Research II G 4

An in-depth exploration and application of discourse analysis theories and procedures for the analysis and interpretation of video, audio, and textual data collected in field-based educational research. This is the second course of two courses

Prereq: Permission of instructor. 8001 and 8002 must be taken in the same academic year. Not open to students with credit for EduTL 8002. Repeatable to a maximum of 8 cr hrs.

Teaching and Learning Intercultural English Language

TLIELP

Autumn 2025 Semester

Previous Subject: EDUTL

5050 Classroom English for International Graduate Teaching Associates U G 3

Designed to improve the classroom communication skills of non-native English speaking TAs. With a focus on teaching, linguistic and discourse competence are developed for success in the cultural context of the American university.

Prereq: Placement test; and permission of instructor. Not open to students with credit for EduTL 5050. This course is graded S/U.

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***5055 Teaching Workshop for International Graduate Teaching Associates****U G 2**

Addresses the particular issues of non-native English speaking graduate students as TAs. Involves discussion of teaching issues, classroom observations, and extensive teaching practice and feedback in both class and tutorials.

Prereq: Permission of instructor. Not open to students with credit for EduTL 5055. Repeatable to a maximum of 12 cr hrs. This course is graded S/U.

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***5060 Special Topics: Spoken English for International Graduate Students****U G 1**

Focuses on areas of language acquisition challenges for students needing extra work in a specific aspect of language development to progress through completion and certification in a timely manner.

Prereq: Placement test required or permission of English as a Second Language department. Not open to students with credit for EduTL 5060. Repeatable to a maximum of 18 cr hrs. This course is graded S/U.

Teaching and Learning Literacies, Literature and L**TLLLL****Autumn 2025 Semester***Previous Subject: [EDUTL](#)***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 method in the major areas of language arts: listening, speaking, reading, writing, viewing, and constructing images.

Prereq: Not open to students with credit for EduTL 7316.

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***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 EduTL 7322.

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***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 EduTL 7324.

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***7343 Literature in Middle Childhood Education****G 3**

Analysis and study of fiction and nonfiction for children age 8-14; emphasis on literary quality, strategies for classroom use and relevant issues.

Prereq: Not open to students with credit for EduTL 7343.

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***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 EduTL 7356.

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***7361 Literature in Early Childhood Education****G 3**

Analysis and study of fiction and nonfiction for children age 2-8; 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 EduTL 7361.

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***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 EduTL 7428.](#)

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***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 EduTL 8307.](#)

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***8313 Research and Theory in Written Composition****G 3**

Considers writing in 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 EduTL 8313.](#)

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***8427 Learning and Teaching Reading Comprehension****G 3**

Designed to provide doctoral students knowledge of the research on reading comprehension.

Prereq: [Not open to students with credit for EduTL 8427.](#)

Teaching and Learning Teacher Education**TLTED****Autumn 2025 Semester***Previous Subject: [EDUTL](#)***5101 Teaching and Learning with Drama: Introduction****U G 3**

Introduction to the use of drama and social imagination in education.

Prereq: Jr or Sr standing with some field experience, or experienced teacher. [Not open to students with credit for EduTL 5101.](#) Repeatable to a maximum of 6 cr hrs.

Autumn 2025 Semester*Previous Subject: [EDUTL](#)***5120 Arts-Based Integrated Learning****U G 3**

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 EduTL 5120.](#)

New Course

Aerospace Engineering**AEROENG****Autumn 2025 Semester****5775.02 Hypersonic Flow****U G 3**

Introduction to hypersonic inviscid and viscous flows, Newtonian theory, high-temperature effects and heat transfer.

Prereq: Enrollment in the Professional Master in Applied Aeronautics program. Not open to students with credit for 5775.01.

Autumn 2025 Semester**6645.02 Introduction to Structural Dynamics and Aeroelasticity of Aerospace Vehicles****G 4**

Fundamental Concepts of Structural Dynamics, Unsteady Aerodynamics, and Aeroelasticity of Aerospace Vehicles.

Prereq: Enrollment in the Professional Master in Applied Aeronautics program. Not open to students with credit for 6645.01.

Autumn 2025 Semester**7721.02 Advanced Flight Mechanics****G 3**

Advanced elements of flight mechanics across the entire Mach range including access-to-space and atmospheric reentry.

Prereq: Enrollment in the Professional Master's in Applied Aeronautics program. Not open to students with credit for 7721.01.

Autumn 2025 Semester**8900.01 Aerospace Engineering Experiential Learning Masters Project****G 3**

Experiential capstone project in aerospace engineering allowing students to apply theoretical concepts to solve real aerospace challenges.

Prereq: Grad standing in Aerospace Engineering; or permission of instructor. Not open to students with credit for AeroEng 8900.02. This course is progress graded (S/U).

Autumn 2025 Semester**8900.02 Applied Aeronautics Experiential Learning Masters Project****G 3**

Independent capstone project in applied aeronautics focused on industry best practices with analytical estimations, data collection and analysis, and technical documentation.

Prereq: Enrollment in the Master of Applied Aeronautics program; or permission of instructor. Not open to students with credit for 8900.01. This course is progress graded (S/U).

African American and African Studies**AFAMAST****Autumn 2025 Semester****2295 Resisting Slavery in the Americas****U 3**

This class examines the history of slave uprisings in the Americas to explore how slavery was experienced, imagined, & contested by the enslaved. We use primary & secondary written sources to delve deeper into the ideologies, tactics, & meanings of slave resistance. We explore how race, gender, ethnicity & class as well as their intersectionality shaped the contours of slavery in the America.

GE foundation race, ethnicity and gender div course.

Anatomy**ANATOMY****Autumn 2025 Semester****2150 Pop Culture Anatomy and Physiology****U 3**

Pop culture includes icons from movies, TV shows, books, & comics. Often, pop culture showcases anatomy and medicine through inaccurate depictions or anatomical modifications are justified as "fantasy elements" and not explained using current anatomic knowledge. The Pop Culture Anatomy course is a 3 CH course that teaches systemic human anatomy and physiology using characters from pop culture.

Prereq: Three credits in biological sciences. GE theme health and well-being course.

Arts and Sciences**ARTSSCI****Autumn 2025 Semester****3120 Information, Citizenship, and Social Justice****U 3**

An exploration of the intersections of citizenship and justice through the lens of information; how the creation of and access to information impacts the ability to act as a global, national and digital citizen and is an issue of justice.

GE theme citizenship for div and just wrld course.

Autumn 2025 Semester**2901 Air Traffic Control Fundamentals Lab****U 1**

This course is an ATC lab course designed to allow the students to integrate and apply the theoretical concepts learned in Aviation 2900. Students will practice phraseology and basic aircraft separation in both a radar and non radar environment, explore and practice developing solutions to air traffic problems, and work together to simulate flight communication in the National Airspace System.

Prereq: 2900.

Biomedical Engineering**Autumn 2025 Semester****5983 Ethics for Medical Product Development****U G 2**

An examination of contemporary issues in engineering ethics related to medical product development in the context of major ethical theories. Material covers the regulatory and compliance responsibilities and requirements of biomedical product developers.

Prereq: Graduate Standing in Biomedical Engineering; Concur: BiomedE 5901; or permission of instructor.

Business Admin: Finance**Autumn 2025 Semester****4238 Intro to Debt Valuation and Strategy****U 3**

This course focuses on a basic introduction to the Global Bond Market. Will include various classes of bonds (government, corporate, mortgage, and money market), their structures, as well as the pricing of embedded options. The principle of discounted cash flow and security pricing will also be covered in some detail. Ratings, relative value, and market participants.

Prereq: 4211 and 4221.

Autumn 2025 Semester**4417 Leading Real Estate Transactions****U 3**

This course explores how to analyze, structure, and execute multiple types of commercial transactions within the real estate industry. The curriculum is designed to present an indicative life cycle of a typical real estate transaction, from inception through resolution.

Prereq: Grade of C+ or above in BusFin 3400. Prereq or concur: BusFin 4412; and demonstrated proficiency in the use of Microsoft Excel.

Business Admin: Management & Human Rsrcs**Autumn 2025 Semester****8050 Seminar in National Culture****G 1½**

The seminar introduces students to culture as a force in strategy and international business. We define and explain culture, list and review its classifications and dimensions, assess its role in theory and practice, and discuss theoretical, conceptual, methodological, empirical and practical issues relating to its measurement and application, including advances such as cultural neuroscience.

Prereq: Enrollment in Fisher College of Business PhD program; or permission of instructor. Repeatable to a maximum of 3 cr hrs.

Autumn 2025 Semester**8060 Philosophy of Science in Business****G 1½**

The seminar deals with the fundamentals of the scientific process. While broad in scope, covering general scientific principles, it is designed for PhD students in strategy and international business. We review the scientific role of theory, addressing what a theory is, why a 'view' is not a theory, and how theories may be embedded in time, place, context, and discipline.

Prereq: Enrollment in Fisher College of Business PhD program; or permission of instructor. Repeatable to a maximum of 3 cr hrs.

Autumn 2025 Semester**2124 Intermediate Python Programming****U 3**

A second course in Python programming covering topics such as object-oriented programming, recursive programming, searching and sorting, and basic data structures such as linked lists.

Prereq: 1224.

Dentistry**DENT****Summer 2025 Term****5798.01 Exploring Global Oral Health****U D 1**

This elective course prepares dental and dental hygiene students for a global service-learning experience focused on understanding global oral health and cultural competencies. Students will explore global oral health challenges, ethical considerations, and civic responsibility, gaining essential skills for clinical and community outreach work in resource-limited settings.

Prereq: Dental students and/or Dental Hygiene students in good academic standing. Dental Program and Academic year eligibility is based on specific program requirements. This course is graded S/U.

Summer 2025 Term**5798.02 Global Oral Health Field Experience****U D 1/2**

This elective course provides dental and dental hygiene students with a global service-learning field experience focused on understanding global oral health and cultural competencies. Combining community-based education with structured reflection, this course integrates global health perspectives and cultural competencies through study and/or practice abroad, as well as reflective exercises.

Prereq: Dental students and/or Dental Hygiene students in good academic standing. Dental Program and Academic year eligibility is based on specific program requirements. Prereq or Concur: Dent 5798.01.

Repeatable to a maximum of 2 cr hrs. This course is graded S/U.

Engineering Technology**ENGTECH****Autumn 2025 Semester****2604T Introduction to Power Units****U 3**

An introduction to off-road machinery industries, exploring their past and future, and the application of engineering principles to the power equipment industry. Recommended prereq: EngTech 2611T. Credit available by exam.

Autumn 2025 Semester**2606T Power Units and Components****U 3**

A study of the principles, operation, and service of diesel engine systems with emphasis on fuel systems and electronic engine controls. A grade of C or better required to meet graduation requirements for Power Equipment and Hydraulic Motion Control majors.

Prereq: 2611T, and 2603T and 2609T. Credit available by exam.

Autumn 2025 Semester**2608T Applied Computer Aided Design****U 3**

This course will equip students with the essential skills used in Computer-Aided Design (CAD) for practical applications in power equipment and fluid power technologies. This course will emphasize reading, understanding, drafting, and applying designs (2D and 3D) to diverse types of equipment commonly found in mechanical industries.

Course available by exam.

Autumn 2025 Semester**2611T Small Engine Basics****U 3**

A study of the theory of operation, service, maintenance and repair of small off-road gasoline and compact diesel engines.

Credit available by exam.

Autumn 2025 Semester**2612T Fundamentals of Fluid Power and Components****U 3**

An introduction to the fluid power industry and the principles of fluid power system operation. Characteristics of operation and performance are investigated for pumps, motors, and valves.
Credit available by exam.

Autumn 2025 Semester**2613T Electrohydraulics and System Design****U 3**

A study of the interface and design applications of electricity and electronics with fluid power components integrated into a complete system, including performance characteristics and energy efficiency. A grade of C or better required to meet graduation requirements for Power Equipment and Hydraulic Motion Control majors.
Prereq: 2612T. Credit available by exam.

History**HISTORY****Summer 2025 Term****2003 American Civics through History****U 3**

This course introduces students to the complex history of American democratic civic traditions through close analysis of some of the most important texts and concepts in U.S. political history from the colonial era to the present.

Autumn 2025 Semester**2272 Reacting to the Past: Citizenship in Historical Context****U 3**

Study the history of citizenship through a series of role-playing games! Students will explore the history of Ancient Athens, Renaissance Italy, and Revolutionary France by taking on an assigned persona and working in teams to respond to historical documents and events. Be prepared to work individually in reading primary documents and writing preparation, and in teams during class sessions.
GE theme citizenship for div and just wrld course.

Autumn 2025 Semester**3190 Career Development for History Majors****U 2**

This course is designed to help history majors prepare for their careers. We'll examine the unique skills and values that the formal study of history develops and discuss their applicability to various types of work and their usefulness in career advancement. Students will also become familiar with the career preparation services that the University provides.

Law**LAW****Autumn 2025 Semester****7225 Financial Regulation: Law and Policy****L 2**

This course introduces students to basic functions of the financial sector and provides an overview of the services and regulation of the industry. Topics covered include charters, insured depository institutions, the Consumer Financial Protection Bureau, insurance, mutual funds, and regulation of investment advisers, broker/dealers, and retirement savings.

Linguistics**LING****Summer 2025 Term****3804 AI Models of Language****U 3**

This non-programming course introduces students to AI language models like ChatGPT, explains how they work and what kinds of things they can do, and contrasts them with models of human language and mind.

Master of Business Administration**MBA**

Autumn 2025 Semester**6294 Responsible Business for Competitive Advantage****G** 1½

Students will gain knowledge of how responsible business can drive growth and competitive advantage through strategic business practices while positioning themselves at the forefront of today's changing business world.
Prereq: Enrollment in fulltime MBA program (MBA-MB or SMBA-MB).

Mechanical Engineering**MECHENG****Autumn 2025 Semester****6501.02 Gas Dynamics****G** 3

A study of one-dimensional and two-dimensional steady and one-dimensional unsteady compressible flows.
Prereq: Enrollment in the Professional Master in Applied Aeronautics program. Not open to students with credit for 6501.01.

Autumn 2025 Semester**6510.02 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: Enrollment in the Professional Master in Applied Aeronautics program. Not open to students with credit for 6510.01.

Autumn 2025 Semester**7527.02 Jet Propulsion****G** 3

Characteristics and performance of air breathing flight vehicle power plants and their components (inlets, compressors, combustors, turbines, and nozzles).
Prereq: Enrollment in the Professional Master in Applied Aeronautics program. Not open to students with credit for 7527.01.

Microbial Infection and Immunity**MEDMCIM****Autumn 2025 Semester****8200 Current Topics in Immune Informatics****G** 3

This workshop-format class focuses on the analysis of immunology sequence data (e.g., single-cell, bulk transcriptomic, antigen receptor repertoire, etc.). Prior to class, students review assigned materials, covering informatics as it relates to immunology. For class, students complete related assignments using published or preliminary datasets, submitting written summaries to demonstrate mastery.
Prereq: BMI 5750 and MedMclm 7010; or permission of instructor. Repeatable to a maximum of 6 cr hrs.

Microbiology**MICRBIO****Autumn 2025 Semester****5130 Biology by the Numbers****U G** 3

Introduction to quantitative reasoning about biological systems through a survey of the important quantities relevant to a range of biological processes.
Prereq: Biology 1113 and 1114; and Chem 1210 and 1220; and Stat 1450, 2450, or 2480; or by permission of instructor.

Music**MUSIC****Autumn 2025 Semester****3402.35 Applied Lessons - Guitar****U** 4

Applied one-on-one instruction in classical guitar. Students receive weekly lessons and participate in studio instruction.
Prereq: Music major. Repeatable to a maximum of 12 cr hrs.

Autumn 2025 Semester**4501.35 Applied Lessons - Guitar****U 2**

Applied one-on-one instruction in classical guitar. Students receive weekly lessons and participate in studio instruction.

Prereq: Music major. Repeatable to a maximum of 6 cr hrs.

Autumn 2025 Semester**4502.35 Applied Lessons - Guitar****U 4**

Applied one-on-one instruction in classical guitar. Students receive weekly lessons and participate in studio instruction.

Prereq: Music major. Repeatable to a maximum of 12 cr hrs.

Autumn 2025 Semester**4602.35 Applied Lessons - Guitar****U 4**

Applied one-on-one instruction in classical guitar. Students receive weekly lessons and participate in studio instruction.

Prereq: Music major. Repeatable to a maximum of 12 cr hrs.

Autumn 2025 Semester**6850 Individual Mentored Teaching Experience****G 2**

This course fulfills the requirement for mentored teaching experience in Music as outlined in the guidelines for the Graduate Certificate in College and University Teaching. Students enrolled in this course will develop their teaching within their chosen area under close faculty mentorship and make progress toward their professional goals.

Prereq: Grad standing in Music; and permission of instructor. This course is graded S/U.

Optometry**OPTOM****Summer 2025 Term****7450.08 Binocular Vision****O 1 - 12**

Clinical experience in specialized phases of eyecare: binocular vision. This clinical experience will expose optometry interns to the diagnosis and treatment of a wide range of binocular vision conditions inpatient of all ages.

Prereq: 4th yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 4 completions.

Russian**RUSSIAN****Autumn 2025 Semester****5250.05 The Russian Writer: Lev Tolstoy****U G 3**

Lev Tolstoy (1828-1910) is a truly magnificent, iconic writer from the Russian nobility whose influence on literature, philosophy, and social-justice movements has been transnational and profound. Many of Tolstoy's ideas and positions are worthy of a critical eye and engaged debate - which is what we will do in our class.

Sociology**SOCIOL****Autumn 2025 Semester****2111 Mobility, Inequality, and First-Generation College Students****U 3**

In this course, students draw on contemporary sociological research regarding first-generation college students to explore what makes their educational experiences unique, note the vulnerabilities they experience, and interrogate help-seeking behaviors that arguably lead to resilience and eventual completion of a four-year degree.

Theatre**THEATRE**

Autumn 2025 Semester**4500 Costumes on Screen: Storytelling through Clothing****U 4**

This course is an introduction to costume as it relates to the creation and interpretation of lived environments in film, television, and other media through storytelling and the visual and embodied communication of clothing. GE theme lived environments course, High-Impact Practice Research and Creative Inquiry.

Vision Science**VISSCI****Summer 2025 Term****7193 Independent Study in Teaching in Clinical Vision Care Education****G 1 - 4**

This course will provide administrative and regulatory guidance and instruction on effective attributes to be a successful clinical attending in an academic optometry clinic.

Prereq: Enrollment in Residency or MS program in Vision Science; and permission of instructor. Repeatable to a maximum of 4 cr hrs or 4 completions. The course is graded S/U.

Place in Limbo

Public Affairs, John Glenn College**PUBAFRS****Summer 2025 Term****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 PubPolM 880.06.

Remove from Limbo

Comparative Studies**COMPSTD****Autumn 2025 Semester****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.

Dance**DANCE****Autumn 2025 Semester****2171 Pilates Mat I****U 1 - 3**

Introduction to Pilates mat 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.

Autumn 2025 Semester**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 cr hrs or 2 completions. VSP Admis Cond course.

Food, Agricultural, and Biological Engineering**FABENG**

Autumn 2025 Semester**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.

Law**LAW****Autumn 2025 Semester****6575 Civil Rights Lawyering****L 2**

This course will help develop skills necessary to become effective civil rights lawyers, from creating a case and writing the complaint to building the record and working as part of a team.

This course is graded S/U.

Autumn 2025 Semester**7113 Dispute Resolution in Employment****L 2**

This course offers skills and strategies for effective negotiation and mediation of employment disputes in non-union work environments.

Mechanical Engineering**MECHENG****Autumn 2025 Semester****5241 Engineering Acoustics****U G 3**

Acoustics applications survey. Wave propagation phenomena. Introduction to human hearing. Mathematics review. Acoustic wave equation, propagation, and metrics. Instrumentation for and evaluation of acoustic measurements. Understanding acoustic sources and sound radiation characteristics. Introductory architectural acoustics, engineering noise control, and psychoacoustics.

Prereq: 3260, or Grad standing, or permission of instructor.

Music**MUSIC****Autumn 2025 Semester****3403.91 Applied Music - Principal - Harp****U 2**

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.

Remove from Withdrawal**Music****MUSIC****Autumn 2025 Semester****2200.35 Applied Music (Secondary): Guitar****U 1 - 2**

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.

Autumn 2025 Semester**2216.35 Applied Music (Non Major): Guitar****U 2**

Course provides fundamental studio instruction classical guitar for non majors and minors.

Prereq: Permission of instructor. Not open to Music majors. Repeatable to a maximum of 16 cr hrs.

Sociology**SOCIOL**

Autumn 2025 Semester**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.

Update Course

Accounting and Management Information Systems

ACCTMIS

Autumn 2025 Semester**4640 Accounting Data and Analytics****U 3**

Course prepares students to think critically, ask the right accounting questions, know where to access enterprise data and analyze data; Consistently references Bloom's taxonomy and the AMPS model. Course emphasizes four types of data analytics - descriptive, diagnostic, predictive, and prescriptive - and how each can be used to address accounting questions.

Prereq: AcctMIS 3200 or 3200H.

Summer 2025 Term**4660 Electronic Commerce****U 3**

Examination of technical, managerial, and strategic issues that surround the emergence of electronic commerce on the internet.

Prereq: 3620 or CSE 3241; and BusOBA 2320, 2321 and BusMHR 2292.

Summer 2025 Term**4780 Accounting Research and Practice****U 3**

Researching accounting concepts and standards underlying corporate and non-corporate financial statements including consideration of typical accounting problems.

Prereq: BusMHR 2292. Prereq or concur: AcctMIS 3201.

Aerospace Engineering

AEROENG

Autumn 2025 Semester**2200 Introduction to Aerospace Engineering I****U 4**

An introduction to fundamental concepts leading to aircraft design, with an emphasis on aerodynamics and aircraft performance.

Prereq: Physics 1250 or 1260; and Math 1152, 1161.xx, 1172 or 1181H. Prereq or concur: Math 2173, 2153 or 2162.xx; and CHEM 1250 or 1210.

Autumn 2025 Semester**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: Physics 1250 or 1260; and Math 1152, 1161.xx, 1172 or 1181H. Prereq or concur: Math 2173, 2153 or 2162.xx, and Chem 1250 or 1210.

Autumn 2025 Semester**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: 2200 and MechEng 2030 and 2040, or 2200 and MechEng 2010 and 2020 and 2030; and enrollment as AeroEng-BS student.

Autumn 2025 Semester**3560 Fundamentals of Aerodynamics****U 3**

Fundamentals of viscous and inviscid flow encountered in aircraft aerodynamics.

Prereq: 2200 and 2405; and Math 2174, or 2568 and 2415; and enrollment as AeroEng-BS student. Prereq or concur: ECE 2300.**Autumn 2025 Semester****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 and 2415; and enrollment as AeroEng-BS student.**Autumn 2025 Semester****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 and 3570; enrollment as AeroEng-BS student; and GenEd 1201 or 2601.**Autumn 2025 Semester****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, 3570, 3521, 3581, 3580 and ECE 2300; and enrollment as AeroEng-BS student. Prereq or concur: 4550.**Autumn 2025 Semester****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, 3543, 3570, 3581, 3580 and ECE 2300; and enrollment as AeroEng-BS student. Prereq or concur: AeroEng 4550.**Autumn 2025 Semester****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; and enrollment as AeroEng-BS student.**African American and African Studies****AFAMAST****Autumn 2025 Semester****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: Not open to students with credit for History 3080. GE historical study course. Cross-listed in History. GE theme traditions, cultures, and transformations course.*Campus: COL LMA
MNS MRN NWK WST***Anatomy****ANATOMY****Summer 2025 Term****3050 Undergraduate Neuroanatomy Laboratory****U 2**

Exploration of human neuroanatomy through hands-on laboratory experiences that utilize cadaveric materials, histological cross sections, and imaging.

Prereq: 2100.xx, 2300, 2300.xx or 3300.xx; or permission of instructor.

Animal Sciences Technology

ANMLTEC

Autumn 2025 Semester

3140T Animal Anatomy and Physiology

U 4

This course will introduce the principles of animal body structure (anatomy) and function (physiology) as relevant to students of animal sciences and technology. This includes an introduction to anatomical nomenclature, cells and tissues and body systems.

Prereq or concur: AnimSci 2200.01, or Biology 1101, or 1113.xx or 1114.xx. This course is available for EM credit.

Anthropology

ANTHROP

Autumn 2025 Semester

5607 Human Osteology

U G 3

Human osteology is the study of the human skeleton. This course serves as an intensive examination of the human skeleton as well as commonly encountered nonhuman skeletal elements. Students are expected to learn how to identify and side complete and fragmentary skeletal elements using bony morphology, features, and landmarks.

Prereq: 2200; or permission of instructor.

Autumn 2025 Semester

5644 Forensic Anthropology

U G 3

This course focuses on the theoretical concepts and practical applications of forensic anthropological laboratory methods, primarily those associated with the estimation of the biological profile. Practical training in this course will include students analyzing mock forensic anthropology cases and writing reports based on those analyses.

Prereq: 3305 and 5607.

Art

ART

Autumn 2025 Semester

5009 Film/Video III

U G 3

Students explore in depth one technology or strategy related to experimental film and video art. Topics have included 16mm film, expanded cinema, and cameraless filmmaking.

Prereq: 3009 or Mnnglmg 2201; or permission of instructor. Repeatable to a maximum of 9 cr hrs.

Autumn 2025 Semester

5019 Film/Video IV

U G 3

Students explore thematic issues within experimental film and video art or in the relationship of those fields to other art forms or modes of filmmaking.

Prereq: 3009 or Mnnglmg 2201; or permission of instructor. Repeatable to a maximum of 9 cr hrs.

Art Education

ARTEDUC

Autumn 2025 Semester

2700 Understanding Television

U 3

Understanding and critical written analysis and discussion of television, through viewing, discussing, reading, and writing. Students will focus on the ways in which racial, ethnic, and gender diversity issues are represented on television and media.

Prereq: EduTL 1902, or 1902.04, or IELP WRITE score of 80, or English Placement Level 4. Not open to students with credit for 2367.03, Theatre 2367.03, or 2700. GE writing and comm course: level 2 and diversity soc div in the US course. GE foundation writing and info literacy and race, ethnicity and gender div course. Cross-listed in Theatre.

American Sign Language

ASL

Autumn 2025 Semester

4450 ASL Teaching Methods

U 3

This course is a requirement to complete the American Sign Language (ASL) Teacher Training Certificate. This course examines methodologies of full-immersion teaching, purposeful interactive communicative language teaching, task-based and content-based instructional teaching techniques as they pertain to teaching American Sign Language (ASL).

Prereq: 4250 with a grade of C- or above, and enrolled in the ASL Elementary-Level Teaching Certificate, or permission of instructor.

Aviation

AVIATN

Autumn 2025 Semester

2200 Aviation Organization Analysis and Writing

U 3

This course critically examines aviation organizations, how they manage communication with various stakeholder groups, and implement new policy. Through reading, writing, and critical reflection, students will have a greater understanding of how communication affects the operations of an aviation organization. This is an RATP approved course.

Autumn 2025 Semester

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: 4000; Sr standing; and Aviation Management major.

Autumn 2025 Semester

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. This is an RATP approved course.

Prereq: B- or above in 4101; or instructor permission.

Autumn 2025 Semester

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. This is an RATP approved course.

Prereq: B- or above in 5100; B- or above in 4102; CPHR of 2.0 or above; FAA pilot medical third class or higher; and permission of instructor.

Autumn 2025 Semester

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 ASEEL certificate. This is an RATP approved course.

Prereq: B- or above in 4301; B- or above in 5101; B- or above in 5201; CPHR of 2.0 or above; FAA pilot medical third class or higher; and permission of instructor.

Autumn 2025 Semester

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 cr hrs or 2 completions.

Autumn 2025 Semester

5200 Instrument Flight Instructor Methodology

U G 2

Teaching methods and evaluation procedures for a course of study leading to an Instrument Instructor rating. This is an RATP approved course.

Prereq: B- or above in 5101; CPHR of 2.0 or above; FAA pilot medical third class or higher; and permission of instructor.

Autumn 2025 Semester**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. This is an RATP approved course.

Prereq: B- or above in Aviatn 5101; CPHR of 2.0 or above; FAA pilot medical third class or higher; and instructor permission.

Autumn 2025 Semester**5400 Access and Retention in Aviation and STEM Workforces****U G 3**

This course is an analysis of what it takes to create and sustain a diverse and inclusive workforce in STEM based industries by engaging with guest speakers and readings to understand how diversity, inclusion, and equity are defined. Aviation and other STEM based fields encounter shortages and struggle to recruit a retain minoritized groups. This course seeks to understand that challenge.

Prereq: Jr, Sr or Grad standing.

Bioethics**BIOETHC****Autumn 2025 Semester****7895 Bioethical Issues in Genetic Counseling****G 3**

The course aims to give students the ethical background to lead in an ongoing national dialogue about the ethical, legal, and social implications of advances in genomic technology, reproductive health and the professional responsibility of counseling.

Business Admin: Finance**BUSFIN****Autumn 2025 Semester****1250 Careers in Finance Exploration****U 2**

There is a broad range of opportunities, in a broad range of industries available to students with a Finance degree. This course is designed to explore these opportunities, in an in-depth manner. The goal of this course is to give the student a 'real world' perspective.

Prereq: Soph standing, and Finance specialization. This course is graded S/U.

Autumn 2025 Semester**6225 Professional Development****G 1½**

This course provides training in professional development skills. Topics include professional communications, networking, presentation skills, effective teamwork, & project management. The course also provides introductions to main career paths in finance to help students decide on their area of specialization. To enhance student learning, the course will include speaker presentations and company.

Prereq: Enrollment in SMB-Finance program.

Autumn 2025 Semester**7218 Debt Valuation Strategy****G 1½**

An introduction to the mathematics and evaluation of US Dollar denominated fixed income instruments. Students will learn the underlying terms and conditions used in the fixed income markets and apply traditional bond math to evaluate the pricing, yield, risk, and return attributes in the market.

Prereq: MBA 6223, concur: BusFin 7210, 7220, or 7230; or enrollment in SMB-Finance program.

Autumn 2025 Semester**7222 Advanced Debt Valuation Strategy****G 1½**

An advanced survey of the structured products and options-based securities utilized in the bond market. Students will learn about synthetic instruments, derivative cash flow, and the discipline to manage assets using complex strategies and asset-liability matching protocols used by traditional asset managers as well as leveraged players in the global bond markets.

Prereq: MBA 6223. Prereq or concur: BusFin 7210, 7220, or 7230; or enrollment in SMB-Finance program.

Business Admin: Management & Human Rsrcs**BUSMHR**

Autumn 2025 Semester**3100 Foundations of Management and Human Resources****U 3**

The study of human behavior in organizational settings.

Prereq: Math 1130 or 1148 or Math Placement M/L; and Econ 2001.01. Not open to students enrolled in the Fisher College of Business.

Business Admin: Marketing & Logistics**BUSML****Autumn 2025 Semester****7391 Strategic Supply Chain Management****G 3**

Overview of the key components of managing and operating a supply chain, including the strategic role of supply chain management in determining both the firm's financial performance and the customer experience.

Business Admin: Operations and Business Analytics**BUSOBA****Autumn 2025 Semester****4242 Business Sports Analytics****U 3**

Analytical techniques and quantitative methods are on the rise in many areas of industry, and, of late, have made their foray into the sports realm. Skills such as critical thinking, mathematical modeling, statistical analysis, predictive analytics and optimization are crucial in the data-centric realm. The class seeks to develop and refine these skills in the business application area of sports.

Prereq: Stat 3202 or BusOBA 2320.

Classics**CLAS****Autumn 2025 Semester****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: English 1110.xx, or GE foundation writing and info literacy course, or permission of instructor. Not open to students with credit for History 3223. GE historical study course. GE theme traditions, cultures, and transformations course. Cross-listed in History.

*Components: LEC REC***Comparative Studies****COMPSTD****Summer 2025 Term****2343 Slavery, Gender, and Race in the Atlantic World****U 3***Campus: COL LMA
MNS MRN NWK WST*

An examination of slavery in Atlantic Africa and the Western Hemisphere with particular focus on how conceptions of race and gender shaped patterns of forced labor, the slave trade, and the development of European colonial societies in the Americas.

Prereq: English 1110, or equiv. GE cultures and ideas and diversity global studies course. GE foundation race, ethnicity and gender div course.

Computer Science and Engineering**CSE****Autumn 2025 Semester****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; and enrollment in CSE, CIS, ECE, or Data Analytics major, or Information Security or CS minor.

Autumn 2025 Semester**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: 3541 or 5541; and 2501, Philos 1338, or 2338; and CSE 3901, 3902, or 3903; and GenEd 1201 or 2601; and GE writing and comm course: level 2 or GE foundation writing and info literacy course; or Grad standing.

Consumer Sciences: Fashion and Retail Studies**CSFRST****Autumn 2025 Semester****3474 Fashion Forecasting****U 3**

Analysis and application of trend forecasting practices in all aspects of the fashion industry.

Prereq: C- or above in 2370, and 2373.

Dance**DANCE****Summer 2025 Term****2301 Analysis for Minors****U 1 - 3**

*Campus: COL LMA
MNS MRN NWK WST*

Foundational level of analysis of movement for Dance Minors and elective students utilizing Laban's theories and concepts including Laban Movement Analysis (Effort/Shape), Motif Description, and Labanotation, focused in studio-based practice with elementary topics in notation, topical readings, and performance of scores.

Dentistry**DENT****Autumn 2025 Semester****6540.02 Restorative Dentistry I Laboratory****D 1**

Introduction to principles of conservative tooth preparations, acquiring the skills to prepare different types of cavities.

Dental Hygiene**DENTHYG****Autumn 2024 Semester****3860 Critical Appraisal and Analysis of Evidence****U 3**

This course covers the application of evidence-based practice and foundational research concepts. Includes the identification of various types of research, research problems, literature analysis, and research methodology.

Prerequisites include admission to the BDCP. This course will contain asynchronous class sessions.

Prereq: Admission to the RDH-BS degree completion program (DNHBDCP-BS).

Summer 2025 Term**3870 Current Concepts in Dental Care Delivery Models****U 3**

Expand the dental hygienists' knowledge in the development of management skills in the evolving dental care delivery model.

Prereq: Admission to the RDH-BS degree completion program (DNHBDCP-BS).

Summer 2025 Term**3880 Principles of Interprofessional Practice in Dental Care Delivery Systems****U 3**

Provides an in-depth exploration of the principles and practices of interprofessional collaboration of dental healthcare.

Prereq: Admission to the RDH-BS degree completion program (DNHBDCP-BS).

Summer 2025 Term**4860 Advanced Dental Hygiene Science****U 3**

This course covers the application of evidence-based dental hygiene practice. Content will focus on evidence based clinical care and associated technologies and advancements in dental hygiene.

Prereq: Admission to the RDH-BS degree completion program (DNHBDCP-BS).

Summer 2025 Term**4870 Leadership in Profession of Dental Hygiene****U 3**

This course will cover the fundamental skills required for effective leadership in a dental healthcare setting. The course explores leadership skills and styles, relationship building, conflict resolution, personal accountability and leadership through change. Students discuss the core theory and concepts of leadership and the principles of organizational change.

Prereq: Admission to the RDH-BS degree completion program (DNHBDCP-BS).

Electrical and Computer Engineering**ECE****Autumn 2025 Semester****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 and Stat 3470; or Graduate standing in Engineering, Math, or Physical Sciences.

Economics**ECON****Autumn 2025 Semester****3048 Ethics and Social Responsibility in Economic Life****U 3**

*Campus: COL LMA
MNS MRN NWK WST*

Examines the role of ethical norms and social constraints in determining economic outcomes. GE Individuals and Groups course. ECON 1100.01, 1100.02, 2001.01, 2001.03H, 2002.01 or 2002.03H is recommended.

GE soc sci indivs and groups course. GE theme citizenship for div and just wrld course.

Evolution, Ecology and Organismal Biology**EEOB****Autumn 2025 Semester****3310.22 Evolution (Laboratory)****U 1**

Campus: COL MRN

This course surveys the many processes that underlie biological evolution and illustrates the patterns they generate, with a focus on adaptation, types of selection, population genetics, species interactions and biodiversity. This course is a laboratory course intended to be taken concurrently with EEOB 3310.20 or by students with credit in EEOB 3310.20.

Prereq or concur: 3310.01 or 3310.20. Not open to students with credit for 3310.02.

Engineering Technology (BS)**ENGRTEC****Autumn 2025 Semester****3800 Project Management for Engineering Technology****U 3**

Project Management is a course that focuses on waterfall (PMBOK) and Agile methodologies for managing projects in the manufacturing industry. Emphasis is placed on project initiation, planning, executing, monitoring & controlling, and closing processes. This course will provide students with an overview of leadership roles and responsibilities, as well as interpersonal skills, conflict resolution.

Prereq: ISE 2040, or permission of instructor. Not open to students with credit for ISE 3800.

Autumn 2025 Semester

4400 Leadership and Change Management

U 3

In-depth evaluation of the concepts and principles of effective leadership, the characteristics of leaders and followers, and the principles of change management. Course work will emphasize written and verbal communication skills, in addition to presentation skills and exposure to real-world case examples.

Prereq: Jr or Sr standing; or permission of instructor.

Autumn 2025 Semester

4500 Intelligent Manufacturing and Automation

U 3

Intelligent Manufacturing and Automation is a 3-credit course in advanced robotics and automation designed to teach students complex integrated manufacturing systems to solve industry-related issues. Along the way, this course will provide you with opportunities to work individually as well as in teams to accomplish tasks using the Connected Smart Manufacturing system cell.

Prereq: 2100 and 4200. Concur: 3600.

Educational Studies: Philo & Hist of Education

ESPHE

Summer 2025 Term

4245 Education and the Art of Living: Philosophical Perspectives on Meaning, Well-being, and Learning

U 3

Campus: COL LMA
MNS MRN NWK WST

This course dives into the intriguing relationship between education and well-being through a variety of philosophical lenses. We'll explore how your educational experiences can impact your physical, mental, emotional, and intellectual well-being. Through critical and logical thinking, you'll connect what you learn in class to your life outside of it.

GE theme health and well-being course.

Food Science and Technology

FDSCTE

Summer 2025 Term

1200 The Science of Cooking

U 4

The Science of Cooking covers the scientific method, sanitation, hygiene, and safety in the kitchen and laboratory; food components; weights and measurements; heat and heat transfer; cooking methods; food preservation, and tasting and evaluation of foods. Students taking the online-only version will need access to a kitchen.

GE foundation natural sci course.

Geography

GEOG

Autumn 2025 Semester

3801 Political Ecology

U 3

Understand today's socio-ecological problems and find new pathways to environmental and social well-being. Political Ecology provides a unique and robust approach to sustainability that addresses the power dynamics of influence and advantage that shape nature-society interactions.

GE theme sustainability course.

Human Development And Family Science

HDFS

Summer 2025 Term

2101 LIVES AND RELATIONSHIPS: An Introduction to Human Development and Family Science

U 3

This course provides a comprehensive overview of human development across the lifespan within the context of family systems, introducing students to key theories, research methods, and practical applications in the interdisciplinary field of Human Development and Family Science (HDFS), preparing them for further study and careers that support individuals and families in diverse settings.

History of Art

HISTART

Autumn 2025 Semester

4541 17th-Century Art of Italy and Spain

U 3

17th century Italian and Spanish art and architecture: focuses on major artists and various functions of art and architecture.

Autumn 2025 Semester

4620 Twentieth-Century European Art

U 3

Historical/Conceptual survey of European art of the twentieth century.

History

HISTORY

Summer 2025 Term

2202 Medieval History: Late Rome to the Early Renaissance

U 3

Medieval history from the late Roman Empire to the early Renaissance. Primary emphasis will be on cultures in Medieval Europe, but students also will be introduced to the Medieval societies and cultures throughout other regions such as the eastern Mediterranean, the Near East and North Africa.

Prereq: Not open to students with credit for 1211. GE historical study and diversity global studies course. GE theme traditions, cultures, and transformations course.

Autumn 2025 Semester

2220 History of Christianity

U 3

The history of how the messianic beliefs of a small group of Jews transformed into a worldwide religion of amazing diversity. Our approach will be historical and contextual: How have Christian beliefs, practices and institutions changed over time and adapted to and changed different cultures? Some topics include developments in theology, spirituality, modes of authority, social structures.

GE historical study and diversity global studies course. GE theme traditions, cultures, and transformations course.

Autumn 2025 Semester

2231 The Crusades

U 3

In this deconstruction of the crusades, students examine the many cultures of the western Afro-Eurasian world engaged in crusading activity from the 8th century to the early modern era. They will consider how the crusades impacted cultures, traditions, economies, religious ideology and military practice; and ultimately how these events transformed the medieval world.

GE historical study and diversity global studies course. GE theme traditions, cultures, and transformations course.

Autumn 2025 Semester

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: Not open to students with credit for AfAmASt 3080. GE historical study course. GE theme traditions, cultures, and transformations course. Cross-listed in AfAmASt.

Campus: COL LMA
MNS MRN NWK WST

Autumn 2025 Semester

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: English 1110.xx, GE foundation writing and info literacy course, or permission of instructor. Not open to students with credit for Clas 3223. GE historical study course. GE theme traditions, cultures, and transformations course. Cross-listed in Clas.

Components: LEC REC

Summer 2025 Term

3301 History of Modern West Africa, post 1800
U 3

Campus: COL LMA
MNS MRN NWK WST

History of Modern West Africa since 1800; examines West African history from the era of European conquests to the present.

GE historical study and diversity global studies course.

Summer 2025 Term

3306 History of African Christianity
U 3

Campus: COL LMA
MNS MRN NWK WST

The development of Christianity in Africa from antiquity to the present; Christianity's interaction with Islam and indigenous religions; Mission Christianity and its aftermath.

GE historical study and diversity global studies course.

Industrial and Systems Engineering	ISE
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Autumn 2025 Semester

5830 Decision Analysis
U G 3

Introduction to decision analysis, modern utility theory and risk modeling, Bayesian inference, value of information, multiattribute decision modeling, and application to engineering decisions under uncertainty.

Prereq: 2040.01 or 2040.02; and Stat 3470.xx; or Grad standing.

Italian	ITALIAN
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Autumn 2025 Semester

2057 Modern Italian Migrations
U 3

This course addresses how belonging in contemporary Italy - juridical, social, economic - is intrinsically defined by race. Students interrogate Italian-ness as a racialized identity, as well as how gender and ethnicity contribute to the construction of racial identity. This course is an exploration of intersectionality, an important tool for thinking about immigration, discrimination and culture.

GE foundation race, ethnicity and gender div course.

Law	LAW
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Summer 2025 Term

8535 Introduction to Tech and IP Transactions
G 2 - 3

This course provides an overview of the types of tech and IP contracts, including basics on copyright, patents, trademark, trade secrets in these contracts, tech and IP issues in mergers and acquisitions, and important contract provisions for the procurement and provision of technology.

Summer 2025 Term

8796 Study at a Foreign Institution: University of Oxford
L 1 - 10

An opportunity for students to study at a foreign institution and receive Ohio State credit for that work.

Prereq: Written permission of the Dean. Repeatable to a maximum of 30 cr hrs or 4 completions.

Autumn 2025 Semester

8896.77 Presidential Power in the 21st Century
L 2

The seminar will focus on the evolution of presidential power, with a focus on the 21st century.

Mechanical Engineering	MECHENG
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Autumn 2025 Semester**2010 Statics****U 2**

Vector concepts of static equilibrium for isolated and connected bodies, centroids, inertia, truss, frame and machine analysis, and friction.

Prereq: Engr 1181 or 1187 or 1281H, and Physics 1250 or 1260, and Math 1151, 1140 or 1161. Not open to students with credit for 2010H or 2040.

Autumn 2025 Semester**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.

Prereq: Honors standing, and Engr 1181 or 1187 or 1281H, and Physics 1250 or 1260, and Math 1151, 1140 or 1161. Not open to students with credit for 2010 or 2040.

Autumn 2025 Semester**2850.01 Numerical Methods in Mechanical Engineering****U 3**

Numerical solutions of nonlinear equations, systems of linear equations, interpolation, curve-fitting, ordinary differential equations.

Prereq: 2010 or 2040; and enrollment as MechEng-BS student; Prereq or concur: Math 2174, 2568, or 2415 or equiv.; or permission of department.

Autumn 2025 Semester**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 and Physics 1251; and enrollment as MechEng-BS student; Prereq or concur: MatScEn 2010; or permission of department.

Autumn 2025 Semester**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.xx and 2030; and enrollment as MechEng-BS student; Prereq or concur: 2900; and ECE 2300 or 2300.01; or permission of department.

Autumn 2025 Semester**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: Chem 1210 or 1250; and enrollment as MechEng-BS student; Prereq or concur: 2850.xx; or permission of department.

Autumn 2025 Semester**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 GE Foundation Writing and Information Literacy course; and enrollment as MechEng-BS student; Prereq or concur: 3503 and 2900; or permission of the department.

Autumn 2025 Semester**4901.01 ME Capstone Design I: General Projects****U 2½**

First course of 2-semester capstone sequence. Students work on design problems proposed by faculty. Emphasis on problem definition, requirements, and design proposal.

Prereq: 3360, 3671, 3503 and 3870. Prereq or concur: 4510, and GenEd 1201 or GenEd 2601, and enrollment as a MechEng-BS Student, or permission of instructor.

Autumn 2025 Semester

4902.01 ME Capstone Design I: Student Design Competitions

U 2½

First 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.

Prereq: 3360, 3671, 3503, and 3870; and GenEd 1201 or 2601. Prereq or concur: 4510; and enrollment as a MechEng-BS Student; or permission of instructor.

Autumn 2025 Semester

4906.01 ME Capstone Design I: Product Design

U 2½

First course of two-semester senior capstone series. Students begin to work on their design project. Emphasis on problem definition, requirements, design proposal.

Prereq: 3360, 3671, 3870, and GenEd 1201 or GenEd 2601. Prereq or concur: 4510 and 5682.01, and enrollment as a MechEng-BS Student; or permission of instructor.

Medicine, College of

MEDCOLL

Summer 2025 Term

8764 Clinical Applications

M 3 - 20

Foundational 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: Enrollment in College of Medicine. Repeatable to a maximum of 99 cr hrs or 6 completions. This course is graded S/U.

Summer 2025 Term

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 99 cr hrs or 6 completions. This course is graded S/U.

Music

MUSIC

Autumn 2025 Semester

2021 Music Theory I for Non-Majors

U 3

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 score on the Theory Placement Exam or completion of Music 1111. Not open to music majors.

Nursing

NURSING

Summer 2025 Term

3260 Nursing Care of Children and Their Families

U 4

Nursing knowledge and clinical practice essential to caring for children and their families.

Prereq: 1100 or 5115; and 2200, 2201, 2271, 2272, 2451, 2452 and 2500; and 2781H or 2782; and Micrbio 4000.01, 4000.02 or 4010; and HumnNtr 2200, 2210, 2310 or 2410; and enrollment in BSN traditional program; or enrollment in LPN to BSN Track; or enrollment in aBSN program; or permission of instructor.

Summer 2025 Term

3280 Nursing Care of Women and Families During Reproductive Transitions

U 4

Nursing knowledge and clinical practice essential to caring for women and their families during reproductive transitions.

Prereq: 1100 or 5115; and 2200, 2201, 2271, 2272, 2451, 2452 and 2500; and 2781H or 2782; and Micrbio 4000.01, 4000.02 or 4010; and HumnNtr 2200, 2210, 2310 or 2410; and enrollment in BSN traditional program; or enrollment in LPN to BSN track; or enrollment in aBSN program; or permission of instructor.

Summer 2025 Term**3431 Global Options Nursing Capstone****U 1**

Capstone Global Health project for students in the undergraduate Global Options Nursing program. Students enrolling in this course will need instructor permission to ensure that all other Global Option requirements are completed before enrolling.

Prereq: Enrollment in undergraduate Global Options Nursing program.

Summer 2025 Term**4590 Practicum for the Utilization of Nursing Clinical Judgement****U 6**

The transition to professional nursing practice integrates a full practicum experience in the last year of the nursing program.

Prereq: 3240, 3260, 3271, 3272, 3280, 3460, and 3780, and enrollment in BSN traditional program; or enrollment in LPN to BSN track; or enrollment in aBSN program; or permission of instructor.

Summer 2025 Term**7228.01 Advanced Practice Adult-Gerontology Primary Care Nurse Practitioner Clinical Practicum I****G 2 - 7**

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, 7450, and 7470.

Optometry**OPTOM****Autumn 2025 Semester****6450.03 Introduction to Contact Lenses****O ½ - 6**

Clinical experience in specialized phases of optometric practice: contact lenses.

Prereq: 3rd yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions. This course is graded S/U.

Autumn 2025 Semester**7210 Optometric Business Management****O 3**

It is the over-all aim of this course dive deeper into the business aspects of the profession of optometry. This knowledge is critical to the successful practice of optometry, regardless of your career path. This course is designed to help the students understand and better prepare for their future as an optometrist from a business and financial perspective.

Summer 2025 Term**7450.05 Pediatrics****O 1 - 10**

Clinical experience in specialized phases of optometric practice: pediatrics. This clinical experience will expose optometry interns to special populations within optometric care, children and those with intellectual delays.

Prereq: 4th yr standing in Optom. Repeatable to a maximum of 30 cr hrs or 8 completions.

Philosophy**PHILOS****Autumn 2025 Semester****2367 Contemporary Social and Moral Problems****U 3**

An introductory philosophy course designed to develop fundamental writing and information literacy skills through a careful examination of a contemporary matter of social and moral concern.

Prereq: EduTL 1902, 1902.04, IELP WRITE score of 80, or English Placement Level 4. GE writing and comm course: level 2. GE foundation writing and info literacy course.

Political Science**POLITSC**

Autumn 2025 Semester**4320 Strategies for War and Peace****U 3**

Introduces critical perspectives on the study of `war? and `peace? in International Relations; special interest in how themes of knowledge production, race, gender, and colonialism intersect with and shape our understandings of war and peace.

Public Health: Environmental Health Sciences**PUBHEHS****Summer 2025 Term****4325 Climate Change, Sustainability and Human Health****U 3**

*Campus: COL LMA
MNS MRN NWK WST*

Students taking this course will critically evaluate how international, national, regional, state, and local sustainability goals will work synergistically with climate change policy that is designed to mitigate the public health impacts from the effects of climate change and improve climate change adaptation or reduce community vulnerability and increase community resilience to climate change.

GE theme sustainability course.

Public Health: Health Services Management & Policy**PUBHHMP****Autumn 2025 Semester****7678 Approaches to Health Services Research I****G 3**

Overview of the field of health services research and the role of health services research in improving health care delivery.

Prereq: Grad standing in Public Health, or permission of instructor.

Social Work**SOCWORK****Autumn 2025 Semester****3401 Research & Statistics for Understanding Social Work Problems and Diverse Populations****U 3**

This is the first course in the BSSW program sequence preparing students to effectively work with research evidence and statistics as social work professionals. Students will develop the requisite skills and knowledge for beginning to identify, assess, and apply existing bodies of evidence to answer questions about social work problems and diverse populations.

Prereq or concur: Math 1060, or 1075 or above, or Stat 1350.01, Stat 1350.02, or Stat 1450 or above, or Math Placement Level R or above; and admission to the Social Work major. Not open to students with credit for 3401E.

Speech and Hearing Science**SPHHRNG****Autumn 2025 Semester****3320 Principles of Phonetics****U 3**

Provides articulatory and acoustic descriptions of speech sounds and a comparative study of phonetic transcription systems.

Components: LEC

Autumn 2025 Semester**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, or equiv course in Phonetics; and Biology 1101, 1102, 1113, 1114, 1113H, or 1114H.

Components: LEC

Theatre**THEATRE**

Autumn 2025 Semester

2700 Understanding Television

U 3

Understanding and critical written analysis and discussion of television, through viewing, discussing, reading, and writing. Students will focus on the ways in which racial, ethnic, and gender diversity issues are represented on television.

Prereq: EduTL 1902, 1902.04, IELP WRITE score of 80, English Placement Level 4, or English 1110 or equivalent. Not open to students with credit for 2367.03, ArtEduc 2367.03, or 2700. GE writing and comm course: level 2 and diversity soc div in the US course. GE foundation writing and info literacy and race, ethnicity and gender div course. Cross-listed in ArtEduc.



Council on Academic Affairs Approval

New Program	Proposed By	Status	Date Approved	3/19/2025
Online option for the Human Development and Family Science (HDFS) Major	Department of Human Sciences	Approved by CAA		
		No additional approval necessary		

New Program	Proposed By	Status	Date Approved	3/19/2025
Professional Master of Systems Engineering Degree Program	Department of Integrated Systems Engineering	Approved by CAA		
		Further Approvals Required		

New Program	Proposed By	Status	Date Approved	3/19/2025
Strategic Sales Certificate	Department of Marketing and Logistics	Approved by CAA		
		No additional approval necessary		

New Program	Proposed By	Status	Date Approved	3/19/2025
Combined Bachelor of Arts/Doctor of Audiology (BA/AuD) Degree Program	Department of Speech and Hearing Science	Approved by CAA		
		No additional approval necessary		