

# January 2024

## Course Number Change

### American Sign Language

ASL

#### Summer 2024 Term

##### 1101.01 Elementary American Sign Language I

U 4

Previous Number: 1101

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, or those with EM credit, or to students with 2 or more years of study in high school.

Prereq: Not open to students with credit for 1101 or 1101.02. This course is available for EM credit. GE for lang course. GE world languages course.

#### Summer 2024 Term

##### 1102.01 Elementary American Sign Language II

U 4

Previous Number: 1102

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 or ASL.

Prereq: 1101, 1101.01, or 1101.02. Not open to students with credit for 1102 or 1102.02. This course is available for EM credit. GE for lang course. GE world languages course.

#### Summer 2024 Term

##### 1103.01 Intermediate American Sign Language

U 4

Previous Number: 1103

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, 1102.01, or 1102.02. Not open to students with credit for 1103, or 1103.02. This course is available for EM credit. GE for lang course. GE world languages course.

### Comparative Studies

COMPSTD

#### Autumn 2024 Semester

##### 2242 Introduction to Latinx Studies

U 3

Previous Number: 2322

Introduction to Latinx studies; history, politics, and cultural production of Latinx communities in the U.S. and its borderlands.

Prereq: GE foundation writing and info literacy course, or permission of instructor. Not open to students with credit for Spanish 2242, or EthnStd 2242. GE cultures and ideas and diversity soc div in the US course. GE foundation historical and cultural studies and race, ethnicity and gender div course. Cross-listed in Spanish and EthnStd.

### Educational Studies

EDUCST

#### Autumn 2024 Semester

##### 7765 Grant Writing

G 3

Previous Number: 5765

Provides an overview of the grant writing process. Repeatable to a maximum of 6 cr hrs.

### Educational Studies: Qualitative Research in Educ

ESQUAL

Summer 2024 Term

**8289**      **Digital Tools in Qualitative Research**  
**G**            **3**

Previous Number: 6269

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 8280, or permission of instructor.

**French and Italian**

**FRIT**

Autumn 2024 Semester

**7600**      **Teaching World Languages at the College Level**  
**G**            **3**

Previous Number: 7301

This course examines theory & research that underlie contemporary approaches to communicative language teaching & includes work with the development of materials & activities for the classroom. We will consider & discuss a range of aspects of second language acquisition (SLA) theory & research that have implications for the L2 classroom. It will provide a theoretical & practical foundation to you.

Prereq: Graduate teaching associate in the Department of French and Italian, or permission of instructor. Not open to students with credit for German 6600, German 7600, French 7301, Italian 7301, or FRIT 7301. Cross-listed in German.

**Geography**

**GEOG**

Autumn 2024 Semester

**3900.01**    **Global Climate Change: Causes and Consequences**  
**U**            **3**

Previous Number: 3900

Campus: COL LMA  
MNS MRN NWK WST

An advanced overview of how Earth's climate changes over time and engage the consequences currently facing our planet. Fundamentals of climate dynamics and broader political, economic, and legal dimensions are explained. Students will explore links between climate and society's energy usage, then critically evaluate scale-specific strategies for mitigation and adaptation.

Prereq: Not open to students with credit for 3900, 3900.02, 3901H, GE nat sci phys course. GE theme sustainability course.

**German**

**GERMAN**

Autumn 2024 Semester

**7600**      **Teaching World Languages at the College Level**  
**G**            **3**

Previous Number: 6600

This course examines theory & research that underlie contemporary approaches to communicative language teaching & includes work with the development of materials & activities for the classroom. We will consider & discuss a range of aspects of second language acquisition (SLA) theory & research that have implications for the L2 classroom. It will provide a theoretical & practical foundation to you.

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 German 6600, French 7301, Italian 7301, Frit 7301, or FRIT 7600. Cross-listed in Frit.

**Sociology**

**SOCIOL**

Autumn 2024 Semester

**4629**      **Health Disparities in Social Context**  
**U**            **4**

Previous Number: 5629

Campus: COL LMA  
MNS MRN NWK WST  
Components: LEC LAB

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: Soph standing or above, or permission of instructor or department. Not open to students with credit for 5629. GE theme health and well-being course.

**New Course**

**Agricultural Communication, Education & Leadership**

**ACEL**

**Autumn 2024 Semester****7999 Research in ACEL, MS****G 1 - 12**

Research for thesis or MS project purposes only. Research may take place in on or off-campus locations at The Ohio State University in Columbus or other associated research areas as determined by student and instructor. Research may include quantitative, qualitative, mixed methods, experimental, or other social science studies that contributes to the discipline of ACEL.

Prereq: MS Grad standing in ACEL. Repeatable to a maximum of 20 cr hrs or 12 completions. This course is graded S/U.

**Aviation****AVIATN****Autumn 2024 Semester****2150 Intro Flight Ops****U 3**

An introduction to the study of flight operations through regulations, flight fundamentals, instrument navigation through weather, and instrument approaches.

**Business Admin: Management & Human Rsrcs****BUSMHR****Autumn 2024 Semester****2400H IBE Competitive Analysis Seminar****U 1**

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.

**Autumn 2024 Semester****3400H IBE Innovation Management Seminar****U 1**

Provides students the opportunity to apply basic competitive analysis theories/tools to analyze "real-world" firms.

Prereq: 2400H.

**Business Admin: Marketing & Logistics****BUSML****Summer 2024 Term****8255 Marketing Research Methods****G 1½ - 4**

Provide students with exposure to leading marketing scholars and their most current research and methods used and give them an opportunity to critically evaluate it.

Prereq: Doct standing in BusAdm, or permission of instructor. Repeatable to a maximum of 9 cr hrs or 6 completions. This course is graded S/U.

**Business Admin: Operations and Business Analytics****BUSOBA****Summer 2024 Term****7234 Purchasing Strategy****G 3**

As organizations look to develop a more effective and efficient purchasing function, purchasing managers are integral to the design and execution of purchasing, in accordance with business strategy. This course will focus on the key purchasing management strategies, objectives, processes, tools, and techniques required to address certain purchasing challenges and opportunities.

Prereq: Enrollment in Fisher College of Business Grad program, or permission of instructor.

**Summer 2024 Term****7397 MSCM Mid-Program Experience****G 1**

2-day on-campus experience will include a mini-course (8 instructional hours) on negotiations, a company visit (4 hours) to include a facility tour and executive presentation discussion of the program's capstone project (2 hours) and an executive panel (2 hours). It will also provide an opportunity for the students to interact and network with each other, the faculty and the staff involved.

## Chemical and Biomolecular Engineering

CBE

### Autumn 2024 Semester

#### 5745 Responsive Soft Matter in Chemical Engineering

U G 3

This course will first introduce the fundamental intermolecular and surface forces and thermodynamics, and then discuss their roles in determining the properties of simple systems such as gases, liquids, solids and complex soft matter phases and systems. Next, we will discuss representative examples of responsive soft matter, including smart surfaces, liquid crystals and shape changing polymers.

Prereq: 3508, or Chem 4300, or equivalent; or Grad Standing in Engineering, Chemistry, or Physics.

## Classics

CLAS

### Summer 2024 Term

#### 3700 Pompeii

U 3

This course investigates the cities and sites destroyed by Vesuvius, including the urban fabric of Pompeii and Herculaneum. We will look at Pompeii's urban design, public and private spheres and their decoration, and at the wider cultural, geographical and historical contexts of the art produced by and for its residents.

Prereq: English 1110.xx, or GE foundation writing and info literacy course, or permission of instructor. GE theme lived environments course.

## Earth Science

EARTHSC

### Autumn 2024 Semester

#### 5757 Artificial Intelligence in Earth Sciences

U G 3

Develop an understanding of the current state-of-the-art in Artificial Intelligence (AI), Machine/Deep Learning (ML/DL) as applied in the Earth Sciences and Geodesy; code ML problems in Python, using Jupyter notebooks. Undergrad Prereq: Math 1152 and 2568; EarthSc 2245, or Stat 2450, or 4620, or EarthSc 5641; CSE 1224; undergraduate major in Earth Sciences, Geography, Civil Environmental and Geodetic Engineering, Astronomy, or Physics; or permission of instructor. Grad Prereq: Grad standing; or permission of instructor.

## Evolution, Ecology and Organismal Biology

EEOB

### Summer 2024 Term

#### 2511 Human Anatomy

U 4

This introductory course in human anatomy introduces students to the principles of vertebrate anatomy with emphasis on human systems. Weekly laboratory meetings provide students with experience dissecting a small mammal as a model for human organ systems.

Prereq: 3 sem cr hrs in Biological Sciences. GE nat sci bio course. GE foundation natural sci course.

## Engineering Technology

ENGTECH

### Spring 2025 Semester

#### 2062T Feed Technology, Formulation, and Safety

U 3

Technical knowledge in feed manufacturing operations, feed regulations, and materials handling and storage; emphasis on how feed processing affects animal nutrition and performance.

Prereq: 2061T.

### Spring 2025 Semester

#### 2189T Feed Mill Practicum

U 1

Supervised practical experience in the operation of a feed mill, such as the Feedstock Processing Research Facility. Emphasis on developing competencies related to employability and problem solving.

Prereq: 2061T or 2062T.

## Ethnic Studies

ETHNSTD

### Autumn 2024 Semester

#### 2242 Introduction to Latinx Studies

U 3

Introduction to Latinx studies; history, politics, and cultural production of Latinx communities in the U.S. and its borderlands.

Prereq: GE foundation writing and info literacy course, or permission of instructor. Not open to students with credit for Spanish 2242 or Comparative Studies 2242, or 2322. Cross-listed in Comparative Studies and Spanish. GE cultures and ideas and diversity soc div in the US course. GE foundation historical and cultural studies course and race, ethnicity and gender div course.

## Geography

GEOG

### Autumn 2024 Semester

#### 3900.02 Global Climate Change: Causes & Consequences

U 4

An advanced overview of causes and consequences of Earth's changing climate. It engages the fundamentals of climate dynamics and broader political, economic and legal dimensions. Student research investigates the nature and extent of a particular climate change consequence for society and critically evaluates strategies for mitigation and adaptation.

Prereq: Not open to students with credit for 3900, 3900.01, 3901H. GE theme sustainability course.

## Horticulture and Crop Science

HCS

### Autumn 2024 Semester

#### 4200 Experiential Learning in Controlled Environment Agriculture (Capstone)

U 3

This experiential course offers an opportunity for advance study of a particular topic or research problem in controlled environment agriculture to produce various crops (food, ornamental, and industrial crops). The student will integrate theory, previous literature, analytical tools, and current research methodology to study a specific topic or question of their interest.

Prereq: Jr standing, and permission of instructor.

## Health and Rehabilitation Sciences

HTHRHSC

### Summer 2024 Term

#### 3797 Education at a Global Institution

U 1 - 15

An opportunity for students to study at a global (non U.S.) institution and receive Ohio State credit for that work. Students will pay Ohio State fees in excess of Ohio State tuition, as well as travel and subsistence costs.

Prereq: Permission of department. Repeatable to a maximum of 15 cr hrs or 2 completions.

## Kinesiology: Sport Industry, Sport Management

KNSISM

### Autumn 2024 Semester

#### 2250 Name, Image, and Likeness in Intercollegiate Athletes

U 3

Students will be introduced to the everchanging world of name, image, and likeness (NIL) in intercollegiate athletics. In providing a history of the NCAA's control over athletes? NIL, students will study the effectiveness of NIL policies and the advantages/disadvantages for various stakeholders. Topics include NIL collectives, athletics boosters and third-party management of NIL platforms.

## Neuroscience Department

NEUROSC

### Autumn 2024 Semester

#### 4500 Introduction to Neuroimmunology

U 3

This course will explore the interactions between the nervous and immune systems and their consequences for neural function and behavior. We will consider the research and clinical applications of inflammatory processes within the central nervous system, from neurodegeneration, neurotrauma, and psychopathologies, to stress and autoimmune disorders.

Prereq: Grade of C or above in NeuroSc 3000.

**Summer 2024 Term****7382.01 Nurse Anesthesia Clinical Practice I****G 5**

This series of clinical practice courses will introduce the nurse anesthesia student to the clinical environment through precepted clinical experiences that will grow progressively more independent over time. Clinical Practice IV, V, VI will incorporate clinical anesthesia specialty practice. Regular seminar sessions will integrate theory and clinical practice.

Prereq: 7380, 7445, 7446, 7455.02, 7475, and enrollment in the DNP program nurse anesthesia track. This course is graded S/U.

**Summer 2024 Term****7382.02 Nurse Anesthesia Clinical Practice II****G 5**

This series of clinical practice courses will introduce the nurse anesthesia student to the clinical environment through precepted clinical experiences that will grow progressively more independent over time. Regular seminar sessions will integrate theory and clinical practice.

Prereq: 7381.01, 7382.01, and enrollment in the DNP program nurse anesthesia track. This course is graded S/U.

**Summer 2024 Term****7382.03 Nurse Anesthesia Clinical Practice III****G 5**

This series of clinical practice courses will introduce the nurse anesthesia student to the clinical environment through precepted clinical experiences that will grow progressively more independent over time. Regular seminar sessions will integrate theory and clinical practice.

Prereq: 7381.02, and 7382.02, and enrollment in the DNP program nurse anesthesia track. Prereq: 7381.02, 7382.02, and enrollment in the DNP program nurse anesthesia track. This course is graded S/U.

**Summer 2024 Term****7382.04 Nurse Anesthesia Clinical Practice IV****G 5**

This series of clinical practice courses will introduce the nurse anesthesia student to the clinical environment through precepted clinical experiences that will grow progressively more independent over time. Regular seminar sessions will integrate theory and clinical practice.

Prereq: 7382.02, and Enrollment in the DNP program nurse anesthesia track. This course is graded S/U.

**Summer 2024 Term****7382.05 Nurse Anesthesia Clinical Practice V****G 5**

This series of clinical practice courses will introduce the nurse anesthesia student to the clinical environment through precepted clinical experiences that will grow progressively more independent over time. Regular seminar sessions will integrate theory and clinical practice.

Prereq: 7382.04, and enrollment in the DNP program nurse anesthesia track. This course is graded S/U.

**Summer 2024 Term****7382.06 Nurse Anesthesia Clinical Practice VI****G 5**

This series of clinical practice courses will introduce the nurse anesthesia student to the clinical environment through precepted clinical experiences that will grow progressively more independent over time. Regular seminar sessions will integrate theory and clinical practice.

Prereq: 7382.05, and enrollment in the DNP program nurse anesthesia track. This course is graded S/U.

**Autumn 2024 Semester****6010 Advanced Plant Pathology Lab: Bacteriology****G ½**

This course will prepare students to implement techniques used by bacteriologists, both in applied diagnostics and research settings. It will provide foundational training in principles and methods applied to the study of plant bacteriology, with a focus on bacterial life in plants.

Prereq: 3001 and 3002; or 6001; or permission of the instructor. Prereq or Concur: 5010; or permission of the instructor.

**Summer 2024 Term****4558 Caribbean Narratives Now****U 3**

Critical analysis of narratives and cultural productions from Cuba, Puerto Rico, & Dominican Republic. Students will work to rethink race, class, and gender in the islands-nations-regions through examination of representations of nations and space of the Caribbean diaspora in the United States, and the (dis)connections with the Caribbean archipelago.

Prereq: 3450, or 3450H, or permission of instructor.

## Place in Limbo

**Autumn 2024 Semester****7754 Introduction to Demography****G 3**

An exposition of census data and vital statistics, demographic rates, life tables, cohort analysis, and similar elementary techniques and data sources in demography.

Prereq: One course in Stat. Not open to students with credit for 754.

## Remove from Limbo

**Autumn 2024 Semester****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.

**Autumn 2024 Semester****8871 Behaviorism: Schedules and Translational Research****G 3**

Focuses on schedules of reinforcement and specialized areas of basic research that have influenced application with persons with developmental disabilities.

Prereq: 8861 or EduPAES 8861 (861), and major in Special Education; or permission of instructor. Not open to students with credit for EduPAES 861.

**Autumn 2024 Semester****8823.01 20th Century Tone Structures: Sets and Series****G 3**

Fundamental approaches to the analysis of post-tonal music, focusing on aspects of pitch, including Babbitt's serial theory, Forte's set theory, and elements of Lewin's transformational theory.

Prereq: 5613 (613), or permission of instructor. Not open to students with credit for 823.

### Spring 2024 Semester

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.

## Portuguese

PORTGSE

### Autumn 2024 Semester

4510 Portuguese Translation

U 3

Advanced practice in Portuguese-to-English translation based primarily on the contemporary written Portuguese of Brazil and Portugal; emphasis on formal grammar and style.

Prereq: Portgse 3401 (Portgese 401), or permission of instructor. Not open to students with credit for Portgese 510.

# Update Course

## Agricultural Communication, Education & Leadership

ACEL

### Autumn 2024 Semester

8193 Individual Studies

G 1 - 5

Planning, conducting, and reporting a special study appropriate to the needs of the individual student.

Prereq: Permission of instructor. Repeatable to a maximum of 5 cr hrs or 5 completions. This course is progress graded (S/U).

### Autumn 2024 Semester

8998 Research in ACEL, PhD Pre-Candidacy

G 1 - 12

Research for completed on special projects or as part of the dissertation, pre-candidacy. Research may take place in on or off-campus locations at The Ohio State University in Columbus or other associated research areas as determined by student and instructor. Research may include quantitative, qualitative, mixed methods, experimental, or other social science studies that contributes to ACEL.

Prereq: PhD Grad standing in ACEL. Repeatable to a maximum of 20 cr hrs or 12 completions. This course is graded S/U.

### Autumn 2024 Semester

8999 Research in ACEL, PhD Post-Candidacy

G 1 - 12

Research for dissertation purposes only. Research may take place in on or off-campus locations at The Ohio State University in Columbus or other associated research areas as determined by student and instructor. Research may include quantitative, qualitative, mixed methods, experimental, or other social science studies that contributes to the discipline of ACEL. Candidacy exam completion required.

Prereq: PhD Grad standing in ACEL. Repeatable to a maximum of 20 cr hrs or 12 completions. This course is progress graded (S/U).

## Animal Sciences Technology

ANMLTEC

### Spring 2025 Semester

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 1101, or 1113; Math 1050, or GenMath 1141T, or GenMath 1145T, or Math placement level S or higher. This course is available for EM credit.

## Anthropology

ANTHROP



**Summer 2024 Term**

**2200H Introduction to Biological Anthropology**

**U 4**

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, or permission of department or instructor. Not open to students with credit for 2200. GE nat sci bio course. GE foundation natural sci course.

**Summer 2024 Term**

**5193.01 Individual Studies: Theory**

**U G 1 - 10**

Theory.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

**Summer 2024 Term**

**5193.05 Individual Studies: Prehistory**

**U G 1 - 10**

Prehistory.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

**Summer 2024 Term**

**5193.06 Individual Studies: Ethnography**

**U G 1 - 10**

Ethnography.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

**Summer 2024 Term**

**5193.07 Individual Studies: Physical Anthropology**

**U G 1 - 10**

Physical Anthropology.

Prereq: Permission of instructor. Repeatable to a maximum of 30 cr hrs or 10 completions. This course is graded S/U.

**Summer 2024 Term**

**8193.01 Individual Studies: Theory**

**G 1 - 10**

Theory.

Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 15 completions. This course is graded S/U.

**Summer 2024 Term**

**8193.05 Individual Studies: Prehistory**

**G 1 - 10**

Prehistory.

Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 15 completions. This course is graded S/U.

**Summer 2024 Term**

**8193.06 Individual Studies: Ethnology**

**G 1 - 10**

Ethnology.

Prereq: Permission of instructor. Repeatable to a maximum of 40 cr hrs or 15 completions. This course is graded S/U.

**Bioethics**

**BIOETHC**

## Summer 2024 Term

### 8010 Bioethics Non-Thesis

G 3

Alongside the MA Thesis Project, the MA Non-Thesis Project is one of two possible capstone projects in the MA program. Having selected the Non-Thesis option, students develop their project in collaboration with a faculty supervisor. Projects contain a substantial writing component and are presented for oral defense.  
Prereq: BioEthc 6000-level course. This course is graded S/U.

## Biology

## BIOLGY

### Autumn 2024 Semester

#### 1114.02 **Biological Sciences: Form, Function, Diversity, and Ecology PLTL**

U 5

Exploration of biology and biological principles; evolution and speciation, diversity in structure, function, behavior, and ecology among prokaryotes and eukaryotes. This course includes a required Peer-Led Team Learning (PLTL) component.

Prereq: Math 1120, 1130, 1148, or 1150 or above, or Math Placement Level L or M. Prereq or concur: Chem 1110, 1208, 1210, 1610, or 1910H, or permission of course coordinator. Not open to students with credit for 1114 or 1114.01. GE nat sci bio course. GE foundation natural sci course.

### Autumn 2024 Semester

#### 1114E **Biological Sciences: Form, Function, Diversity, and Ecology**

U 4

Exploration of biology and biological principles; evolution and speciation, diversity in structure, function, behavior, and ecology among prokaryotes and eukaryotes. A broad introduction to biology comprises both Biology 1113E and 1114E.

Prereq: Honors standing; and Math 1149, 1150, or above, or Math Placement Level L. Prereq or concur: Chem 1208, 1210, 1610, or 1910H, or permission of course coordinator. GE nat sci bio course. GE foundation natural sci course.

### Autumn 2024 Semester

#### 1114H **Biological Sciences: Form, Function, Diversity, and Ecology**

U 4

Exploration of biology and biological principles; evolution and speciation, 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. Prereq or concur: Chem 1208, 1210, 1610, or 1910H, or permission of course coordinator. GE nat sci bio course. GE foundation natural sci course.

## Biomedical Engineering

## BIOMEDE

### Autumn 2024 Semester

#### 2001 **Professional Development**

U 1

Development of professional skills; engineering economy; project planning; ethics, best business practices.

Prereq: Enrollment in BIOMEDE major.

### Autumn 2024 Semester

#### 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, and enrollment in BiomedE major, or permission of instructor. Concur: Math 2174, or permission of instructor.

### Autumn 2024 Semester

#### 2800 **Anatomy for Engineers**

U 3

This course investigates the basic anatomical structure and physiological function of the human body with a biomechanical emphasis.

Prereq: Enrollment in BiomedE pre-major or major; or permission of instructor. Concur: Physics 1250, or permission of instructor. Not open to students with credit for Anatomy 2220.

**Autumn 2024 Semester****7560 Clinical Trials I: Design and Regulation****G 3**

This course provides a fundamental overview of clinical trial design, methods, and regulation with an emphasis on medical product development, clinical trial protocols, preclinical research requirements, and the appraisal of published clinical trials.

Prereq: Enrollment in the MS Pharmacology program, or permission of instructor. Not open to students with credit for Nursing 7770, Phr 7770, or MCR 7770. Cross-listed in Nursing and Phr.

**Business Admin: Management & Human Rsrcs****Autumn 2024 Semester****3501.01 Buckeye Leaders Expedition****U 1**

Skill-building exercises specifically designed to extend and test the concepts introduced in MHR 3500. This class involves journeys and exploration, where we actually practice the techniques in unique, challenging, and beautiful environments. In this particular expedition, we expand our scope by first visiting a local climbing venue, and then several climbing areas throughout Ohio.

Prereq: 3500. Repeatable to a maximum of 99 cr hrs.

**Autumn 2024 Semester****3501.02 Seneca Leaders Expedition****U 1**

This course applies a model of leadership we have developed and to which students are introduced to in MHR 3500. The expedition is a blend of climbing activities, whitewater rafting, biking. The climbing portion of the expedition involves locations at the New River Gorge National River and Seneca Rocks National Park.

Prereq: 3500. Repeatable to a maximum of 99 cr hrs.

**Autumn 2024 Semester****3501.03 Rocky Mountains Leaders Expedition****U 1**

Skill-building exercises designed to extend & test the concepts introduced in MHR 3500. This class is a blend of mountaineering and technical climbing. The mountaineering portion involves climbing 4 of Colorado's highest peaks including Long's Peak. The technical climbing portion involves climbing 3 of the most iconic climbing venues in the US.

Prereq: 3500. Repeatable to a maximum of 99 cr hrs.

**Business Admin: Marketing & Logistics****Summer 2024 Term****4224 Strategic Sales Leadership****U 3**

This course provides an overview of sales management and its managerial hierarchy using real-world Fortune 100 company examples as well as practical, experiential application through case work and guest panelists. Principles covered include enterprise BSB sales strategy and structure, sales leadership, value-based sales methodology and practice, sales force design, development, and management, sales forecasting, CRM and sales technologies, salesperson performance, behavior, motivation, exploration of career-pathing in sales and sales leadership, recruitment and selection of salespeople, training salespeople, compensation.

Prereq: 4201, 4202, and BusMHR 2292, or equiv. Not open to students with credit for 4220 or 4221.

**Spring 2024 Semester****8254 Selective topics in Quantitative Marketing****G 4**

This course is required for all marketing PhD students. In this course, students will delve into understanding consumer and firm behaviors, enabling them to provide insights to support managerial decision-making in various areas like market structure, market demand, pricing, advertising, product design, and distribution.

Prereq: Doct standing in BusAdm, or permission of instructor. Repeatable to a maximum of 8 cr hrs or 4 completions. This course is progress graded.

**Business Admin: Operations and Business Analytics**

## Summer 2024 Term

### 3230 Introduction to Operations Management: Improving Competitiveness in Organizations

U 3

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: Econ 2001.01, and 2002.01, and Stat 1430, or equiv.; or Math 1151 or 1154, and enrollment in BSET program. Not open to students with credit for 3130, or to students enrolled in UExp or PreBSBA-PR.

## Chemical and Biomolecular Engineering

CBE

### Autumn 2024 Semester

#### 5210 Petroleum Reservoir Engineering

U G 3

Determination of reserves; material balance methods; aquifer models; fractional flow and frontal advance; displacement, pattern, and vertical sweep efficiencies in waterfloods; enhanced oil recovery processes; design of optimal recovery processes. Systematic theoretical and laboratory study of physical properties of petroleum reservoir rocks.

Undergrad Prereq: Junior standing or above in Engineering or Earth Sciences. Grad Prereq: graduate standing.

## Chemistry

CHEM

### Summer 2024 Term

#### 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, or 1910H, and Math Placement Level L or M; or a grade of C- or above in Math 1120, 1130, 1131, 1148, or 1150, or above; or credit for both Chem 1206 and 1208. Not open to students with credit for 1620, 1920H, 2310, 2510, 2610, or 2910H. This course is available for EM credit. GE nat sci phys course. GE foundation natural sci course.

## Civil Engineering

CIVILEN

### Autumn 2024 Semester

#### 5750 Instrumentation, Signals, and Control in Transportation Applications

U G 3

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, or Grad standing in Engineering or Science, or permission of instructor. Not open to students with credit for ECE 5400.

## Classics

CLAS

### Autumn 2024 Semester

#### 3203 War and Displacement in Ancient Greek and Roman Literature

U 3

This courses focuses on 1) war and displacement in ancient Greek and Roman literature and 2) current scholarship on migration, mobility, and immobility in the ancient world. We investigate whether and how ancient literary texts (typically produced by elite men) can be used to study broader phenomena in the experience of ancient peoples, such as displacement, exile, and captivity.

Prereq: English 1110.xx, GE foundation writing and info literacy course, or permission of instructor. GE lit course. GE theme migration, mobility, and immobility course.

## Electrical and Computer Engineering

ECE

### Autumn 2024 Semester

#### 3551 Introduction to Feedback Control Systems

U 3

Provides fundamental concepts in feedback control systems design and analysis.

Prereq: 3050.

## Autumn 2024 Semester

### 5023 **Fundamentals of Integrated Data Converters**

U G 3

This course focuses on the fundamentals of Nyquist-rate and oversampled (Delta-Sigma) integrated data converters, including system and circuit architectures, performance metrics and characterization, practical implementations, and design considerations in advanced semiconductor processes. Nyquist-rate ADC architectures covered include flash, two-step, pipelined, SAR, and integrating architectures.

Prereq: 4021, or Grad standing in Engr or Physics.

## Autumn 2024 Semester

### 5033 **Surfaces and Interfaces of Electronic Materials**

U G 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, or MatScEn 3271; or Grad standing in Engineering, Biological Science, or Math and Physical Sciences.

## Autumn 2024 Semester

### 5131 **Lasers**

U G 3

Atomic interaction with radiation, cavities with gain, optical processes in semiconductors, strain in laser design, diode lasers, and advanced semiconductor lasers.

Prereq: 3010 and 3030, or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences.

## Autumn 2024 Semester

### 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 filtering, time-frequency analysis, and wavelets.

Prereq: 3050, and Stat 3470 or Math 4530; or Grad standing.

## Autumn 2024 Semester

### 5400 **Instrumentation, Signals, and Control in Transportation Applications**

U G 3

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: 2020 and 2050, and Math 2415; or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences, or permission of instructor. Not open to students with credit for CivilEn 4750 or 6750. Cross-listed in CivilEn 5750.

## Autumn 2024 Semester

### 5500 **Nonlinear and Dynamic Programming for ECE**

U G 3

Introduction to Optimization, including unconstrained optimization, gradient descent, Newton's method, convexity, constrained optimization, KKT, duality, dynamic programming, basic reinforcement learning, and applications of optimization in ECE.

Prereq: Math 2568 and 2415; or Grad standing in Engineering or Math and Physical Sciences. Not open to students with credit for 5759.

## Autumn 2024 Semester

### 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, or Grad standing in Engineering, Biological Sciences, or Math and Physical Sciences.

## Autumn 2024 Semester

### 5553 **Autonomy in Vehicles**

U G 3

First course on automated driving vehicles and their sub-systems: automated driving history and architectures; car following control; steering control for path tracking, lane keeping; collision mitigation and avoidance; localization and situational awareness; lower and higher-level decision making including deep learning; connected vehicle technologies; evaluation of autonomous driving function.

Prereq: 3551, 5551, or Grad standing in Engineering.

**Autumn 2024 Semester**

**5555 Securing Autonomous Systems**

**U G 3**

The course covers different security measures for safeguarding against cyberattacks, detecting cyberattacks, and mitigating the effects of cyberattacks on autonomous control systems.  
Prereq: 3050 and 3551; or Grad standing in Engineering, Math, or Statistics.

**Environment and Natural Resources** ENR

**Autumn 2024 Semester**

**5510 Interdisciplinary Team Science**

**U G 3**

This course aims to teach students the necessary skills to lead or participate in scientific or interdisciplinary teams.  
Prereq: Sr standing, and permission of instructor; or Grad standing. Not open to students with credit for Anthrop 5510, EEOB 5510, or VetPrev 5510. Cross-listed in Anthrop, EEOB, and VetPrev.

**Environmental Engineering** ENVENG

**Autumn 2024 Semester**

**6020 Foundations of Data-Driven Sustainable Energy Systems**

**G 3**

Introduction to issues impacting sustainable energy systems across technology, law and policy, business models, resilience, data, geospatial, and decision sciences.  
Prereq: Not open to students with credit for AEDEcon 6500, FABEng 6020, Geog 6020, ISE 6020, or PubAfrs 6020. Cross-listed in AEDEcon 6500, FABEng 6020, Geog 6020, ISE 6020, and PubAfrs 6020.

**Human Development And Family Science** HDFS

**Autumn 2024 Semester**

**3450 Positive Guidance of Young Children in Group Contexts**

**U 3**

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

**History** HISTORY

**Spring 2024 Semester**

**3642 Women in Modern Europe, from the 18th century to the Present**

**U 3**

*Campus: COL LMA  
MNS MRN NWK WST*

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.  
GE historical study course.

**Autumn 2024 Semester**

**7900 Colloquium in Historiography and Critical Theory**

**G 3**

Colloquium on the principles of historical thought, historiography, critical theory, and methods of historical research.  
Prereq: Grad standing.

**Health and Rehabilitation Sciences** HTHRHSC

### Summer 2024 Term

#### 4001 General Education Reflection Seminar in Health and Rehabilitation Sciences

U 1

This closing "Reflection" seminar specific to Health and Rehabilitation Sciences provides opportunities for students to document and reflect on their academic and personal growth and allows for synthesis of the interests, interactions, and skills they've attained throughout their professional training course work as well as the GE. Completion of required GE curricula within the two semesters prior to graduation. Final GE coursework can be taken concurrently.

Prereq: Enrolled in an HRS undergraduate program, and Sr standing, and completion of GenEd 1201. This course is graded S/U. GE bookend reflection seminar course.

## Industrial and Systems Engineering

ISE

### Autumn 2024 Semester

#### 6020 Foundations of Data-Driven Sustainable Energy Systems

G 3

Introduction to issues impacting sustainable energy systems across technology, law and policy, business models, resilience, data, geospatial, and decision sciences.

Prereq: Not open to students with credit for AEDEcon 6500, EnvEng 6020, FABEng 6020, Geog 6020, or PubAfrs 6020. Cross-listed in AEDEcon 6500, EnvEng 6020, FABEng 6020, Geog 6020, and PubAfrs 6020.

## Kinesiology: Health and Exercise Science

KNHES

### Autumn 2024 Semester

#### 5500 Fundamentals of Exercise Physiology - Theory & Application

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 enrolled in BS Exercise Science Education program.

## Nursing

NURSING

### Summer 2024 Term

#### 7381.01 Advanced Principles of Nurse Anesthesia Practice I

G 4

This course will introduce nurse anesthesia practice concepts and skills to prepare the nurse anesthetist to provide safe perioperative and anesthesia care for a variety of surgical subspecialties and anesthetizing locations.

Prereq: 7380, enrollment in the DNP program nurse anesthesia track.

### Summer 2024 Term

#### 7455.01 Advanced Physiology for Nurse Anesthesia Practice I: Respiratory

G 3

This course explores the anatomy, physiology, and pathophysiology of the respiratory system with an emphasis on the anesthetic implications of expected and altered physiologic states of the respiratory system.

Relationships between the pulmonary and cardiovascular systems will be analyzed, building a foundation for a later cardiovascular deep dive.

Prereq: 7450, and enrollment in the DNP program, nurse anesthesia track.

## Philosophy

PHILOS

### Summer 2024 Term

#### 4999H Honors Thesis Research

U 1 - 4

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 with an average of B 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 and 3 completions. This course is graded S/U.

*Campus: COL LMA  
MNS MRN NWK WST*

## Pharmacy

PHR

### Autumn 2024 Semester

#### 4330 Basic Pharmacokinetics

U 2

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 1150 or equivalent, or permission of instructor.

## Plant Pathology

PLNTPTH

### Autumn 2024 Semester

#### 5120 Diseases of Ornamental Plants

U G 2

This course is designed to train students in identifying important diseases of ornamental plants, in understanding how pathogens spread and how production practices can influence disease development, and in applying principles of integrated plant health management in the greenhouse and nursery, and urban landscape settings.

Prereq: 3001 or 6001, or permission of instructor.

## Psychology

PSYCH

### Autumn 2024 Semester

#### 4501 Advanced Behavioral Neuroscience

U 3

Advanced discussion of contemporary issues in behavioral neuroscience, including: synaptic pharmacology, drugs, and behavior, neurodegenerative diseases and the biological bases of psychopathology.

Prereq: A grade of C- or above in 2220 and 2300, and a grade of B or above in 3313; or a grade of B or above in 3313 and Neurosc 3000, and Neuroscience major.

## Spanish

SPANISH

### Autumn 2024 Semester

#### 2242 Introduction to Latinx Studies

U 3

Introduction to Latinx studies; history, politics, and cultural production of Latinx communities in the U.S. and its borderlands.

Prereq: GE foundation writing and info literacy course, or permission of instructor. Not open to students with credit for EthnStd 2242, or CompStd 2242, or 2322. GE cultures and ideas and diversity soc div in the US course. GE foundation historical and cultural studies and race, ethnicity and gender div course. Cross-listed EtnStd and CompStd.

### Summer 2024 Term

#### 5660 Seminar in Latin American Literatures and Cultures

U G 3

Intensive study of a major theme, author, literary or cultural problem related to Latin America. Required for students completing the Latin American Concentration of the Spanish major. A maximum of 1 course taught in English may be counted toward the Spanish Major program with a Latin American Literatures & Cultures Concentration.

Prereq: A grade of C- or above in 3450 or 3450H, plus any two of: 4515, 4516, 4555, 4555E, 4556, 4558, 4560, 4560H, 4565H, 4570, 4580, 4595.03, or 5640. Repeatable to a maximum of 9 cr hrs.

### Summer 2024 Term

#### 5670 Seminar in LatinX Literatures and Cultures

U G 3

Intensive study of a major theme, author, literary, or cultural problem related to LatinX languages, literatures and cultures. Required for students completing the LatinX track of the Spanish major. Additional courses may be considered for the Concentration requirement with dept approval. Student is not to exceed 2 total courses taught in English for this Concentration of the Spanish Major.

Prereq: A grade of C- or above in 3450 or 3450H, plus any two of: 4542, 4557.10, 4557.20, 4558, 4570, 4582, 4689S, 5201, 5202, 5203, 5389, 5461, 5620; Anthrop 3419; CompStd 3360, 4804; English 4588; HCS 3380. Repeatable to a maximum of 9 cr hrs.

## Speech and Hearing Science

SPHHRNG



**Autumn 2024 Semester**

**6990 Capstone Experience in Speech-Language Pathology**

**G 1**

This course provides students with an opportunity to consolidate their clinical and theoretical education by applying the principles of evidence-based practice to a clinical case or topic within their specialization. This course is graded S/U.

**Statistics**

**STAT**

**Autumn 2024 Semester**

**6950 Applied Statistics I**

**G 4**

One and two-sample problems, exploratory data analysis, simple and multiple linear regression, diagnostics and model selection. Intended primarily for students in the PhD program in Statistics or Biostatistics. Coreq: Stat 6801, or permission of instructor. Not open to students with credit for 6450.

**Autumn 2024 Semester**

**7301 Advanced Statistical Theory**

**G 3**

Fundamental concepts from mathematical statistics, derivation/classification of estimators, large sample asymptotic analysis, and non-asymptotic analysis of high-dimensional estimation. Intended for Ph.D. students in Statistics or Biostatistics. Prereq: 6802, or permission of instructor.

**Autumn 2024 Semester**

**7410 Linear Models**

**G 3**

Theory of the general linear model, definition, assumptions, estimability, hypothesis testing and multiple comparisons. Modern extensions of the linear model, interpretation, inference, prediction and penalized estimation. Multivariate linear models. Prereq: 6802, 6910, 6950, 6111, and 6112; or permission of instructor.

**Veterinary Biosciences**

**VETBIOS**

**Summer 2024 Term**

**8814 Advanced Systemic Pathology 5**

**G V 1**

Advanced pathology covering the hemic-lymphatic system of domestic animals. Prereq: VetBios students in the Combined Pathology Residency/PhD Program, or DVM students; or permission of team leader. This course is graded S/U.

## Council on Academic Affairs Approval

<b>New Program</b>	<b>Proposed By</b>	<b>Status</b>	<b>Date Approved</b>
Undergraduate Major in Experiential Media Design	Department of Design	Approved by CAA	1/24/2024
		No additional approvals necessary	

<b>New Program</b>	<b>Proposed By</b>	<b>Status</b>	<b>Date Approved</b>
3b Certificate in Qualitative Inquiry in Education	Department of Educational Studies	Approved by CAA	1/24/2024
		No additional approvals necessary	