College of Arts and Sciences

Wilson Hall, College Green

Benjamin Ogles
Interim Dean

Howard Dewald
Associate Dean

Maureen Weissenrieder
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http://www.cas.ohiou.edu/

The College of Arts and Sciences offers the Master of Arts or Master of Science degree through 16 departments. Multidepartmental and special discipline master's degrees are offered in social work, social sciences, environmental studies, public administration, and molecular and cellular biology. Doctor of Philosophy degrees are offered in biological sciences, chemistry and biochemistry, English, environmental and plant biology, history, mathematics, physics and astronomy, and psychology. More than one area of emphasis is available at both degree levels in several of these departments.

Each department will provide upon request a brochure describing specific degree requirements, specialized graduate facilities, and any other information that prospective students might need. For more information, please visit our Web site (http://www.cas.ohiou.edu/).

Facilities

Among the college's graduate facilities and equipment are a Tandem van de Graaff nuclear accelerator, several modern nuclear magnetic resonance spectrometers, a nitride MOCVD facility, the Keck Thin-film Analysis Facility, a scanning tunneling microscope with molecular beam expitaxy growth chamber, several chemical spectrometers, several electron microscopes, a scanning confocal microscopy facility, a photomicroscopy laboratory, and a mammalian recombinant genetics laboratory. Specialized laboratory facilities include a morphometrics laboratory, an exercise physiology laboratory, and a hybridoma laboratory. A large preserve of remnant primary forest, Wayne National Forest, Ohio Department of Wildlife areas, and a 180-acre land laboratory adjacent to the campus are all available as resources for teaching and research. Ohio University is a member of the Association of Systematic Collections; collections include an herbarium with more than 5,000 plant species, an entomological collection with more than 100,000 insect specimens, a vertebrate collection with more than 10,000 species, a paleobotanical collection with more than 100,000 specimens, and a paleoinvertebrate collection with at least 350,000 specimens. Departments in the social sciences maintain up-to-date computer laboratories, and the Experimental Psychology Research Laboratory and a modern clinical facility serve as resources for training in psychology.

Graduate Degree Programs

Biological Sciences (M.S., Ph.D.)
Chemistry and Biochemistry (M.S., Ph.D.)
Economics (M.A., M.F.E.)
English (M.A., Ph.D.)
Environmental and Plant Biology (M.S., Ph.D.)
Environmental Studies (M.S.)
Geography (M.A.)
Geological Sciences (M.S.)
History (M.A., Ph.D.)
Linguistics (M.A.)
Mathematics (M.S., Ph.D.)
Modern Languages: French, Spanish (M.A.)
Molecular and Cellular Biology (M.S., Ph.D.)
Philosophy (M.A.)
Physics and Astronomy (M.A., M.S., Ph.D.)
Political Science (M.A.)
Public Administration (M.P.A.)
Psychology (M.S., Ph.D.)
Social Sciences (M.S.S.)
Social Work (M.S.W.)
Sociology (M.A.)

Graduate Certificate Programs

Conservation Biology
Contemporary History
Geographic Information Science
Women's Studies

Curricula and Courses

African American Studies

http://www.ohiou.edu/aas/

The Department of African American studies does not offer an academic program leading to a graduate degree. It does, however, offer several graduate courses that enable students to earn a minor concentration in African World Studies. The courses provide a broad interdisciplinary approach to the black experience and include the social sciences, communication, education, psychology, and the arts and humanities. Several courses contribute to degree programs in African and Latin American studies. Graduate students pursuing a degree in communication, education, international studies, health sciences, sociology, history, political science, or philosophy will find a minor emphasis in the African world experience to be useful.

African American Studies Courses (AAS)

501A Images of Blacks (4)
Examines the sources and the effects of the dominant negative images of blacks that have pervaded American culture—bucks, coons, buffoons, improvident, children, devoted Christians, etc.—with a view to showing how they relate to slavery and the subsequent exclusion of blacks from the mainstream of American life. Also examines alternative images. Materials are drawn from a variety of areas—literature, sciences, pseudosciences, media, and visual arts. *Rose.*

530 Social Theories of Underdevelopment (5)
Systematic review of problems of social change in developing areas from multidisciplinary point of view. Attention to problems of agrarian reforms, urbanization as social process, and regional disparities within framework of single nation state, among others. Comparative analysis of problems of social development undertaken typologically. *Rhodes.*

531 Third World Ethnic Politics (5)
Review of various theories of race. Critique of diverse definitions of ethnic groups. Attention to problem of ethnicity in international arena. Cross-national comparisons made of ethnic processes in developing countries vis-à-vis ethnic processes in the U.S. and Western and Eastern Europe. *Rhodes.*

532 Third World National Movements (5)
Comparative study of varieties of national oppression. Questions of ethno-nationalism, clerical nationalism, and other forms of response to oppression reviewed. Due attention to various notions of Pan Africanism and Black Nationalism in the U.S., Africa, and Latin America. *Rhodes.*

540 The Black Child (5)
In-depth study of black child—impact and effects of growing up in America. Specifically, deals with effects and role of school and family in creative adjustment of black child in predominantly white society. *Childs.*

582 The Black Family (5)
Black family in America and its important role in development of ethnic differences, strengths, and strategies. *Childs.*

691 Professional Seminar (1–15)
Class involving contact hours, discussion, and required assignments. If you enroll in an upper-division undergraduate course under this course number, you are required to complete assignments beyond those required of undergraduates and to write papers to present to class for discussion.

697 Independent Research (1–15)
For students desiring to pursue independent research projects under supervision of a faculty member and resulting in term paper or equivalent. Usually a sequel to previous subject-matter course.

Anthropology

http://www.cas.ohiou.edu/socanth/

No graduate degree in anthropology is offered, but some graduate courses are offered each quarter. These contribute particularly to degree programs in Asian studies, African studies, Latin American studies, environmental studies, and sociology, as well as other programs such as communication, comparative arts, creative writing, dance, ecology, economics, education, film, food and nutrition, geography, linguistics, philosophy, and political science.

Anthropology Courses (ANTH)

501 Anthropology and Film (5)
Prereq: 101. The use of film as a medium for recording cultural information; as a technique for observation, analysis, and interpretation of cultural information; and as a means for presenting information about cultures, human adaptation, human evolution, and anthropological research itself.

545 Gender in Cross-Cultural Perspective (5)
A cross-cultural comparative inquiry into the way different non-Western cultures define femininity and masculinity. Taking the view that gender is a cultural construction, the course examines the relationships between gender ideas and such features of social systems as kinship and political hierarchy. Ethnographic fieldwork materials are explored in light of current gender theories.

546 Introduction to Human Osteology (5)
This course focuses on the identification, study and analysis of the human skeleton. Students will learn the micro-anatomy and macro-anatomy of human bone and how skeletal remains are analyzed.

547 Forensic Anthropology (5)
Forensic anthropology deals with the identification of human remains in situations which generally result in litigation. The recovery and analysis of remains unrecognizable by conventional methods is covered.

548 Blood, Bones and Violence (5)
The identification, study and analysis of trauma and how it affects the human skeleton.

550 Economic Anthropology (5)
Survey of economic arrangements found in various types of cultural systems with emphasis on application of anthropological theory and method for understanding particular systems.

551 Political Anthropology (5)
Cross-cultural survey of political arrangements with emphasis on application of anthropological method and theory to political problems.

552 Archaeological Anthropology (5)
Introduction to contemporary archaeology in which goals, theory, and method are directed toward reconstruction of extinct sociocultural systems rather than toward time-space distribution of archaeological materials.

555 Medical Anthropology (5)
Non-western medical systems and theories of health and disease causation; social basis for diagnosis and cure; curing rituals; symbolism of health and illness. Ecological factors in health and nonhealth; systematic connections between health or illness and both way of life and environmental situation.

556 Seminar in Methodology and Field Research (5)
A graduate seminar in anthropological field methods, designed to present the basic methodology literature and prepare students to conduct anthropological field research. Since anthropology has subfields (cultural anthropology, archaeology, physical anthropology), the methodological literature and techniques presented vary by instructor's specialty. When taught by a cultural anthropologist, the focus will often be on ethnographic methods.

557 Anthropology of Religion (5)
Survey of various aspects of religion in their cultural setting with emphasis on the use of anthropological theories for an objective understanding of religion.

560 Kinship (5)
Theoretical framework and ethnographic work on kinship systems of various world cultures; non-western family systems; kinship terminology; social change in kinship systems.

561 North American Prehistory (5)
Analysis and interpretation of the cultural evolution of indigenous North American Indian cultures. Emphasis on cultures from Ohio and the Midwest.

563 Gender in Prehistory (5)
Examines the application of gender studies as an analytic tool for archaeological reconstructions. Considers evolving gender roles within a wide range of past cultural settings.

564 Near East Prehistory (5)
Scrutiny of the archaeological data and consequent reconstruction of the evolutionary process affecting cultures in the Near East. Analysis begins with the earliest occupation of the region and ends with the establishment of various state systems.

565 Field School in Ohio Archaeology (5–10)
Prereq: perm. Actual archaeological investigation of prehistoric Indian sites in Ohio. Involves survey, excavation, and laboratory analysis of materials, as well as lectures on anthropological archaeology as it pertains to Ohio.

566 Cultures of the Americas (5)
Survey of cultural diversity present in South, North, or Mesoamerica with emphasis on application of anthropological method and theory to understanding of particular sociocultural systems.

567 South American Prehistory (5)
Reconstruction, analysis, and interpretation of the process of cultural evolution as expressed by the ancient societies of South America.

570 Mexican/Central American Prehistory (5)
Reconstruction, analysis, and interpretation of the process of cultural evolution as expressed by the ancient societies of Mexico and Central America (Mesoamerica).

571 Ethnology (5)
Cross-cultural analysis of structure, process, and adaptation in various cultural systems; includes kinship, ideology, economics, politics, and environmental relationships.

572 History of Anthropological Thought (5)
In-depth examination of schools of anthropology as they have developed within various subfields at different times and places.

575 Culture and Personality (5)
Interrelations between personality systems and cultural systems.

576 Culture Contact and Change (5)
Impacts of cultures upon one another: immediate and subsequent cultural adaptations. Emphasis on southeast Asia, Latin America, Africa.

577 Peasant Communities (5)
Focuses upon folk component of state societies.

578 Human Ecology (5)
Analysis of mutual and reciprocal relations between sociocultural systems and other systems in their environment; ecosystems and biotic communities in which human populations are included.

581 Cultures of Sub-Saharan Africa (5)
Survey of cultural diversity in sub-Saharan Africa with emphasis on application of anthropological theory and method to understanding of particular sociocultural systems.

585 Cultures of Southeast Asia (5)
Survey of cultural systems of island and mainland Southeast Asia.

586 Problems in Southeast Asia Anthropology (5)
Selected topics of current theoretical concern relating to southeast Asia.

587 Pacific Island Cultures (5)
Anthropological survey of Melanesia, Polynesia, and Micronesia.

591 Primate Social Organization (5)
Introduction to primate ethnology, with reference to development of human cultural behavior.

592 Human Evolution (5)
In-depth examination of evidence for biological macroevolution of humans. Topics include fossil record for hominoid and hominid forms, speciation, interpretation of fossil record, evolution of crucial anatomical areas, and fit between paleontological and immunological approaches to evolution.

594 Seminar in Anthropology (4–6)
Selected topics.

599 Readings in Anthropology (1–3, max 8)
Supervised readings in all areas of anthropology. Make individual arrangements with particular faculty member in advance.

Bacteriology

See Biological Sciences.

Black Studies

See African American Studies.

Biological Sciences

http://www.biosci.ohiou.edu/

Admission to graduate study in biological sciences requires a bachelor's degree with a strong background in the biological and physical sciences, including calculus, organic chemistry, and physics. Results of verbal, analytical, and quantitative tests of the Graduate Record Examination (GRE) are required of all applicants; you must score in at least the 50th percentile to apply. The GRE advanced subject test in biology or a physical science is recommended but not required. GRE scores; the application; transcripts; a short essay concerning prior training, research interest, and career goals; a list of faculty members with whom you are interested in working; and three letters of recommendation should be received by January 15 for you to be considered for financial support during the following academic year. Applicants whose native language is not English also must submit the results of the Test of English as a Foreign Language (TOEFL) or its equivalent; a score of at least 620 is required for admission.

Master's students must complete 45 quarter hours, with at least 30 hours in formal courses and seminars. A nonthesis master's program is available for secondary school and junior college teachers. Doctoral students must complete 135 quarter hours beyond the bachelor's degree, with at least 45 quarter hours in formal courses and seminars. At least one quarterof supervised teaching within the department is required of all master's students, and two quarters are required of doctoral students.

Areas of Emphasis

Graduate education in the Department of Biological Sciences is conducted in three broad programmatic areas: cell, developmental and microbiology; integrative biology; and ecology and evolutionary biology.

The **cell, developmental and microbiology** program employs molecular and cellular approaches to study biological function. The cell group examines intracellular and intercellular interactions amongst a wide variety of cells. The developmental group studies how multicellualr complexity is established and mainatined over time. The microbiology group addresses questions concerning the role of microorganisms in environmental processes and in disease and immune responses.

The **ecology and evolutionary biology** program integrates research in functional morphology, phylogeny, genetics, population, and community ecology to understand the causes and consequences of biological diversity. Faculty use lab and field based research on model organisms and natural populations to study ecological and evolutionary patterns, processes, and mechanisms.

The **integrative biology** program includes research groups in muscle and exercise physiology; metabolic and comparative physiology; and neuroscience. The muscle and exercise physiology group focuses on the effects of exercise, nutrition, gender, and aging on human performance, as well as skeletal muscle histology, physiology, metabolism, injury, and healing. The neuroscience group addresses areas of research including computational biology; developmental neurobiology, emphasizing trophic interactions in the development of sensory systems; control of movement; central pattern generation; muscle biology; musculoskeletal mechanics; visual, auditory, and vestibular neurobiology; neuronal cytoskeleton and axonal transport; heavy metals and neurodegeneration; neuroendocrine control of development; and neural and neuroendocrine control of the autonomic nervous system.

The metabolic and comparative physiology group is actively conducting research in the following areas: insect physiology, cellular metabolism and ion transport, adaptational physiology and biochemistry, exercise and female reproduction, renal transplantation and diabetic cardiovascular and kidney disease.

The department also offers interdisciplinary studies in two areas:

Conservation biology—a plan of study leading to a graduate certificate in conservation biology, offered in conjunction with the Departments of Economics, Environmental and Plant Biology, Geography, Geological Sciences, and Political Science. (See "Conservation Biology.")

Molecular and cellular biology—

M.S. and Ph.D. programs offered in conjunction with the Departments of Chemistry and Environmental and Plant Biology. (See "Molecular and Cellular Biology.")

Biological Sciences Courses (BIOS)

503 Comparative Vertebrate Anatomy (6)
Comparative study of the anatomy of vertebrates. Structure, function, and evolution of the vertebrate body forms and organ systems are compared. Extensive lab work covers each of the major classes of vertebrates. 3 lec, 6 lab. *Carr, Reilly; W, Sp; Y.*

505 Quantitative Approaches in Comparative Biology (6)
Quantitative methodologies and analytical techniques used in modern comparative biology are explored through lectures, technical demonstrations, and by using the techniques to collect, analyze, and present data. 3 lec, 6 lab. *Reilly; W; Y.*

507 Developmental Biology (4)
Mechanisms of animal development at tissue, cellular, and molecular levels of organization, with emphasis on experimental approaches. 4 lec. *Tanda; W; Y.*

513 Human Neuroscience (4)
Study of human brain anatomy with functional and clinical considerations. Students will do a complete brain dissection. Students will be assessed by means of a lab practical and two written exams. 3 lec, 2 lab. *DiCaprio, Peterson, Rowe; F; Y.*

514 Molecular and Cellular Neuroscience (5)
Introduction to the molecular and cellular basis of the functioning of the nervous system. Topics to be covered include cell morphology, excitable properties of neurons, molecular biology of ion channels, mathematical modeling, synaptic function, neuropharmacology and signal transduction control of gene epression, learning and memory, and development of the nervous system. 5 lec. *Colvin; F; Y.*

515 Neural Basis of Sensation and Movement (4)
Prereq: 514 or perm. Sensory system function and the neural control of movement in vertebrates: how molecules, cells and circuits of nervous systems give rise to sensation (vision, hearing, touch, smell, etc.) and to basic behaviors (locomotion, posture, orientation of head and eyes toward sensory stimuli, etc.). In each class, students hear a lecture and discuss assigned articles from the research literature. A major goal of the course is to train students in critical analysis of primary journal articles. Assessment is based on two essay exams. *Peterson, Rowe; W; A.*

516 Biogeography (4)
Examination of historical, environmental, and biotic influences that shape spatial patterns of plant and animal distributions and community structure in the contemporary landscape. Dual listed with GEOG 516. *Dyer; F; Y.*

517 Cognitive Neuroscience (4)
Prereq: 515 or perm. Neural basis of higher-order processes in vertebrates: learning and memory, perception, attention, emotion, consciousness. Topics are considered at behavioral, cellular, and molecular levels. Students are encouraged to understand cognitive processes by integrating research results from multiple levels. In each class, students discuss original journal articles and recent scholarly reviews of topics in cognitive neuroscience. A major goal of the course is to train students in effective presentation of research literature and leadership of group discussions. Assessment is based on two essay exams. *Peterson, Rowe; Sp; A.*

518 Methods in Computational Neuroscience (4)
Prereq: 514 recommended. Lecture, discussion, and computer lab. Introduction to mathematical and computational techniques for modeling single neurons and networks of neurons. Cable theory; Rall's model; compartmental models; introduction to available software for simulating neurons and networks of neurons; modeling of action potentials, Hodkin-Huxley equations, synaptic conductances, and voltage-dependent conductances; Hebbian synapses; synaptic modification rules; quantal analysis; neural networks. Students are expected to complete simulation project using one of the available software packages. 3 lec, 2 lab. *Holmes; W; A.*

520 Comparative Vertebrate Biomechanics (4)
Describes basic mechanical, behavioral, and ecological aspects of animal locomotion and feeding. Some background in anatomy and basic physics (vectors, levers) is recommended. *Biknevicius; Sp; A.*

521 General Microbiology (5)
Properties of microorganisms and their importance in our environment. Lab training in common microbiological methods. 3 lec, 4 lab. *Cunningham, La Pierre; F, W, Su.*

522 Microbiological Techniques (5)
Prereq: 521. Semi-independent course gives extensive experience in use of bacteriological techniques and equipment; media preparation, bacterial identification procedures, eukaryotic tissue culture, anaerobic methods, protein and DNA isolation and quantitation; all with applied emphasis. 2 lec, 6 lab. *Cunningham; W, Y.*

523A Pathogenic Bacteriology (3)
Microorganisms in relation to disease. Disease manifestations, diagnostic and control methods; some aspects of immunity. 3 lec. *Cunningham; Sp; Y.*

523B Pathogenic Bacteriology Laboratory (2)
Pathogenic and clinical diagnostic bacteriological techniques; complements lecture material in 523A. 4 lab. *Cunningham; Sp; Y.*

524A Virology (3)
Emphasis on the study of those events following virus-cell interaction which are critical to viral replication and pathology. Modern methods of isolation and identification of viruses will also be studied. 3 lec. *La Pierre; F.; Y.*

525 Evolutionary Genetics (4)
Basic concepts of population genetics (mutation, gene flow, natural selection, genetic drift). Rates, patterns, and processes of molecular evolution at the population and species level. 4 lec. *White; F; A.*

526 Molecular Genetics (3)
Topics will emphasize the interaction of microbial genetics with molecular biology, genetics of selected bacteria, their bacteriophage, and yeast; mutations and mutagenesis, mitochondrial genetics and prions, mechanisms of gene transfer and recombination, regulation of gene expression and recombinant DNA. *Holzschu; F; Y.*

527 Mechanisms of Gene Regulation (3)
An in-depth discussion of the molecular events that regulate eukaryotic gene expression. Topics also include gene regulation during differntation and development, aberrant transcription and disease, generation and utility of transgenic animals, and genomics-based analysis of gene expression. 3 lec. *La Pierre; Sp; Y.*

529 Marine Biology (5)
Biological processes in marine and estuarine habitats, and adaptations for life at sea; emphasis on environmental variables affecting distribution, abundance, and dynamics of marine plants and animals. Includes five-day field trip (estimated cost $100 per student) to temperate marine environment late in quarter; limited to 20 students. 5 lec, field trip. *Currie; Sp; Y.*

530 Invertebrate Biology (6)
The marjor taxa of marine and freshwater invertebrates: structure, function, development, evolutionary relationships and ecological adaptations. 4 lec, 4 lab. *Hassett; W; Y.*

531 Limnology (5)
Physical, chemical, and biological processes in lakes (analogous to those of oceanography), with emphasis on the analysis of data; distribution, abundance, and dynamics of plant and animal populations; structure, organization, and productivity of communities. Lab covers both standing and running freshwater habitats, with emphasis on acid mine pollution. 4 lec, 3 lab. *Currie; F; A.*

535 Entomology (6)
Overview of insect biology. Lecture: insect morphology, physiology, behavior, systematics, evolution, and ecology. Lab: emphasis on insect collection and identification. 4 lec, 4 lab. *Johnson; Sp; Y.*

541A Parasitology (3)
Etiology of human parasites, their transmission, diagnosis, and prevention. 3 lec. *Rowland; W; A.*

541B Parasitology Laboratory (2)
Laboratory survey of protozoan and helminth parasites with emphasis on life cycles and identification. 4 lab. *Rowland; W; A.*

542 Principles of Physiology I (3)
Function of animal cells and organs emphasizing the physical and chemical principles underlying physiological processes. Focus on membrane properties of excitable and nonexcitable cells, chemical messengers and regulators, fluid balance, and nutrient balance. 3 lec. *F, W; Y.*

543 Principles of Physiology II (3)
Physiological processes underlying locomotion, sensation, behavior, circulation, gas exchange, and temperature relations. 3 lec. *W, Sp; Y.*

544 Tropical Disease Biology (4)
This team-taught lecture/seminar course is designed to provide an overview of the nature, impact, and management of tropical diseases on our planet and take a holistic approach in the examination of tropical diseases as systems. 4 lec. *Romoser. F; Y.*

545 Physiology of Exercise (4)
Fundamental concepts and application of organ systems' responses to exercise: special reference to skeletal muscle metabolism, energy expenditure, cardiorespiratory regulation, and training and environmental adaptations. 4 lec. (Same as PESS 514). *Gilders, Hagerman; F, Sp; Y.*

546 Physiology of Exercise Laboratory (3)
Prereq: required for those enrolled in 545. Lab experiences designed to complement 545. 6 lab. *F, Sp; Y.*

550 Principles of Endocrinology (4)
Prereq: 542 and 543 or 560 or 548 recommended. Endocrine control of mammalian homeostasis and metabolism. 4 lec. *Loucks; F; Y.*

554 Principles of Physiology I Laboratory (2)
Prereq: 542 or concurrent. Laboratory exercises designed to illustrate the experimental basis of principles covered in 542. 4 lab. *Chamberlin; F; Y.*

555 Principles of Physiology II Laboratory (2)
Prereq: 543 or concurrent. Laboratory exercises designed to illustrate the experimental basis of principles covered in 543. 4 lab. *Chamberlin; W; Y.*

556 Advanced Topics in Physiology (4)
Prereq: 542, 543, 554, 555 or perm. Lecture and discussion of current research in physiology. Topics include membrane, epithelial, cardiovascular, respiratory, excretory, thermal, and metabolic physiology. The lab component will entail research projects designed and conducted by the student under the supervision of the instructor. 3 lec, 2 lab. *Chamberlin.*

557 Animal Systematics (4)
Principles and methods of systematic zoology. Numerical methods and hypotheticodeductive reasoning applied to study of organismic diversity (taxonomy) and geographic distribution (biogeography). Use of computer stressed. 3 lec, 2 hr disc., and computer work. *Moody; F; D.*

558 Biology of Amphibians (3)
Evolutionary origin, taxonomy and classification, anatomy, physiology, ecology, behavior, and genetics of amphibians (caecilians, frogs, and toads, salamanders, and sirens). Field techniques of safe capture and monitoring for population presence and abundance. Identification of Ohio species and north American genera and families. Field trips are an integral part of this course. 2 lec., 3 lab, and field trips. *S. Moody; W; A.*

559 Biology of Reptiles (3)
Evolutionary origin, taxonomy and classification, anatomy, physiology, ecology, behavior, and genetics of reptiles (turtles, crocodilians, tuataras, lizards, and snakes). Field techniques of safe capture and monitoring for population presence and abundance. Identification of Ohio species and north American genera and families. Field trips are an integral part of this course. 2 lec., 3 lab, and field trips. *Moody; Sp; A.*

562 Animal Physiological Ecology (4)
Examines how organismal physiology is affected by the physical environment. Comparative approaches explore the behavioral, physiological, and biochemical responses to environmental factors. Current topics and methods addressed in selected readings and discussion. *Roosenburg, Johnson, Crockett; F; D.*

563 Cell Chemistry (4)
Structure/function of proteins, lipids, and carbohydrates. Principles of enzyme kinetics, chemical/physical and functional properties of biological membranes. Biochemistry of energy metabolism and mechanisms of metabolic regulation. 4 lec. *W; Y.*

565 Ichthyology (6)
Topics include morphology, physiology, taxonomy, evolution, ecology, behavior, and conservation. 4 lec., 4 lab, field. *White; F; A.*

571 Ornithology (6)
Bird biology, including discussions on anatomy, physiology, conservation biology, life histories, and role of ornithology in current ecological and evolutionary theory. Research paper required. 4 lec, 4 lab, field. *Miles; F; Y.*

573 Animal Behavior (5)
Ecological, physiological, and developmental aspects of animal behavior, interpreted from the perspective of evolutionary biology. 5 lec. *Morris; W; Y.*

574 Mammalogy (6)
Mammals; their origin, evolution and adaptations, geographical distribution, ecology and systematics. Emphasis on local fauna. Field project required. 4 lec, 4 lab, field. *Svendsen; F; Y.*

575 Sociobiology (3)
Current understanding of how and why animal social behavior evolved, including spacing, mating, and parental behavior of solitary as well as social animals. Research paper required. Lectures, reading, and reports. 3 lec. *Svendsen; Sp.*

577 Population Ecology (4)
Major theories and concepts in population and evolutionary ecology. Emphasis on theoretical, field, and experimental studies pertaining to growth and regulation of populations; population interactions, including predation and competition, distribution and abundance, and life history theories. 4 lec. *Cuddington; W; A.*

578 Community Ecology (4)
Prereq: 577 or equiv. Provides a theoretical and empirical examination of the description, structure, and organization of communities. Emphasis on mathematical models that describe the biotic processes that mold community structure. Further consideration of null models in ecology and historical effects. 4 lec. *Miles; W; A.*

579 Evolution (4)
Current concepts of evolutionary processes; sources of variation, agents of change, natural selection and adaptation, speciation, and macroevolution. 4 lec. *Svendsen; W.*

580 Biological Research Methods (2–4)
F, W, Sp; Y.

581 Animal Conservation Biology (4)
The roles of population genetics, population and community ecology, biogeography, systematics, and paleobiology in the study of diversity, design of nature reserves, and the recovery of endangered species. Discussion of extinction as a process, the effects of human-induced habitat degradation on loss of species diversity. 4 lec. *White; Sp; Y.*

585 Microbial Ecology (3)
Examines the interactions of microorganisms with their biotic and abiotic surroundings, including interactions with plants, animals, other microorganisms, air, water, and soil. Additional topics include waste treatment, biogeochemical cycling, and biodegradation/bioremediation. 3 lec. *Coschigano; F; A.*

586A Immunology (3)
Prereq: perm. Fundamental principles and concepts of immunity and the immune response. 2 lec. *Goodrum, Grijalva;; W; Y.*

586B Immunology Laboratory (2)
Prereq: 586A or concurrent, or perm. Lab methods introduced include identification and assessment of functional activities in immune cells and molecules and applied immunological methods with antibodies in research, diagnosis, and therapy. 2 lab. *Cunningham; W; Y.*

589 Microbial Physiology (5)
Prereq: 611, CHEM 590, 591. Nutrition, function, and metabolism of microorganisms; pertinent lab work illustrating fundamental principles and various experimental techniques. 3 lec, 4 lab. *Sugiyama; Sp; Y.*

653 Current Topics in Biological Transport (3)
Advanced lecture-seminar. Critical study of literature and research methods pertaining to physiology of biological transport. *F; A.*

655 Cardiovascular Physiology (3)
Advanced lecture-seminar course. Hemodynamics, normal physiology of heart and vascular system, and control of cardiovascular function. 3 lec. *Sp; A.*

656 Advanced Physiology of Exercise (4)
Prereq: 545 or PESS 514. Advanced concepts and methodologies for research in the endocrinology of exercise, cardiovascular and muscle physiology, and human performance assessment and training. *Sp; Y.*

666 Adaptational Biochemistry (3)
Prereq: CHEM 591 or perm. The function and design of enzymes, membranes, and metabolic pathways in animals adapted to live in different and often extreme environments. Biochemical strategies employed to maintain an organism's structure and function during environmental changes in oxygen, water, salinity, temperature and other conditions will be covered. *Chamberlin, Crockett, Johnson; Sp.*

670 Biostatistics I (5)
Application of univariate statistics to biology. Descriptive statistics, distributions, hypothesis testing, analysis of variance, linear regression, correlation, and analysis of frequencies. 4 lec and arr. *Svendsen; W; Y.*

682 Advanced Topics (1–3)
Specialized topics not otherwise available to advanced students. *F, W, Sp; Y.*

683 Colloquium in Ecology, Behavior, and Evolution (1)
Forum for presentation of original research, literature reviews, and discussions of contemporary issues in ecology, behavior, and evolution. Annual participation is required of all graduate students enrolled in the section of Ecology, Behavior, and Evolution. Presentation and discussion. *Staff; W, Sp; Y.*

685 Research in Zoology (1–15)
Unspecified research, not directly applicable to thesis. *F, W, Sp, Su; Y.*

695 Master's Thesis (1–15)
Research directly applicable to thesis. *F, W, Sp, Su; Y.*

710 Advances in Signal Transduction (5)
Prereq: CHEM 592. Covers the concepts of and recent advances in biochemistry and molecular biology of inter- and intracellular signal transduction. 4 lec. *F.*

711 Neuroscience Methods (4)
Prereq: 514 or perm. Training in electrophysiology including extracellular and intracellular recording and stimulation, sensory mapping, motion transduction, neuromodulation, voltage clamp, computerized data acquisition and analysis, using the "classic" invertebrate preparations (crab leg, leech, crustacean, stomatogastric system, *Aplysia* feeding system). 6 lab, 1 lec. *Hooper, Dicaprio; Sp; A.*

712 Seminar in Neuroscience (1)
Forum for presentation of original research, literature reviews, and discussions of contemporary issues in neuroscience. Annual participation is required of all graduate students enrolled in the Neuroscience section. Presentation and discussion. *Staff; F, W, Sp; Y.*

781 Techniques in Electron Microscopy (6)
Principles and methods for preparation of biological specimens for ultrastructural analysis and research, and some associated techniques. Instruction in microscope operation and maintenance and darkroom techniques. Lab project and paper required. Arr. *Hikida; W.*

791 Muscle Biology (1–5)
Topics in muscle structure, function, development, disease, and relationship with nervous system. Different aspects of muscle biology covered each term, and topics chosen on basis of need or requests of interested students. *D.*

792 Physiology of Work and Fatigue (3)
Seminar using current literature as basis for detailed discussion of contemporary facts and theories concerning influence of acute and chronic exercise upon physiological processes in mammals. Major areas include skeletal muscle, cardiovascular, endocrine, neuromuscular, and respiratory physiology. *Loucks; Sp; Y.*

794 Ecology Colloquium (1-2)
Student and faculty presentations of ecologically and evolutionarily focused research. *F, W,* Sp*; Y.*

797 Topics in Conservation Biology (2)
Current research topics in conservation biology. Different aspects of conservation biology are covered each term with the topics chosen based on current issues related to the threats to biological diversity. Faculty and student discussion. 2 lec. *Miles*; *W; Y.*

870 Biostatistics II (5)
Application of multivariate statistics to biology; multiple regression and correlation, principal components, canonical correlation, discriminant function, and factor analysis. Project in experimental design and analysis of data. 4 lec and arr. *Miles, McCarthy. S; A.*

895 Doctoral Dissertation (1–15)
Research directed toward doctoral degree. *F, W, Sp, Su; Y.*

Chemistry and Biochemistry

http://main.chem.ohiou.edu/

The Department of Chemistry and Biochemistry offers M.S. and Ph.D. programs in analytical, biochemistry, inorganic, organic, and physical chemistry. All degree programs include teaching and research experience.

Although an undergraduate degree in chemistry accredited by the American Chemical Society provides the strongest foundation for graduate work, many successful students have held either a B.A. or B.S. in a physical or biological science or in engineering.

Entering students take standardized examination in the areas of chemistry in which they have had appropriate undergraduate work (analytical, biochemistry, inorganic, organic, or physical). The results determine the level at which students will begin graduate study. Acceptable performance on the standardized examination can lead to an exemption for one or more of these courses in the M.S./Ph.D program. The program of study is flexible to take advantage of previous training and to meet particular needs of the student's area of study. During the first year, students are expected to complete 90 lecture hours of graded coursework in their area of major interest and 90 lecture hours of graded elective coursework.

The M.S. program requires 45 graduate credits in chemistry and approved electives. A seminar course is required each quarter, and students must present one satisfactory seminar each year beyond the first year of study. An examination is given after one year of study to determine if students are qualified to continue graduate work. A failure of this examination may lead to a decision that the student be terminated from the graduate program. Students must defend their thesis orally at a public meeting of their advisory committee. In lieu of a thesis, a student may submit a paper that has been accepted for publication in an approved journal and the student is a primary author. There is no foreign language requirement for the M.S. The average period of study is two and one-fourth years. The Ph.D. program has no fixed number of required graduate credits but requires a minimum of 90 lecture hours of Ph.D.-level courses in the major area.

The student, the advisor, and the advisory committee will determine coursework that the student should complete. A yearly meeting of the student's committee is required. The student's major advisor will determine the amount of research required for the dissertation. A seminar course is required each quarter and each student must present a satisfactory seminar each year beyond the first year of study. A qualifier examination is given after approximately one year of study to determine if the student should continue in the program. A failure of this examination may lead to a decision that the student be placed into the M.S. degree program or terminated from the graduate program.

A student must defend their dissertation orally at a public meeting of their advisory committee. Before the dissertation is approved, a portion must have been accepted for publication in an approved journal. There is no foreign language requirement for the Ph.D. The average period of study for the Ph.D. is four and one-half years.

You must apply at least six weeks prior to the quarter for which you seek admission. Most students enter the chemistry program in the fall quarter. Entry during the academic year other than fall quarter is possible, but usually discouraged. Although there is no formal deadline for applications for financial aid, early application (by February 15 for fall quarter) is strongly recommended.

Chemistry and Biochemistry Courses (CHEM)

500A Advanced Organic Laboratory (2)
Advanced lab techniques and instrumentation.

501 Organic Chemistry Survey (4)
Survey of the important topics, literature and problems in organic chemistry including structure and bonding, stereochemistry, reaction mechanisms, structural determination, organic synthesis, medicinal chemistry, natural products, and bio-organic chemistry.

520 Chemical Literature (4)
Chemical literature in journals, handbooks, monographs, and patents. Scientific writing.

531 Chemical Separation Methods (3)
Modern methods of separating components of complex mixtures with emphasis on operation of, and application to, analytical chemistry. Topics include liquid-liquid extractions, partition chromatography, ion-exchange, gas chromatography, high pressure liquid chromatography, exclusion chromatography, and electrophoresis.

532 Chemical Instrumentation and Electrochemistry (3)
Modern electrochemical techniques and instrumentation with emphasis on their application to analytical chemistry. Topics include potentiometry, specific ion electrodes, DC and AC polarography, pulse polarography, coulometry, chronocoulometry, cyclic voltammetry, and rapid scan voltammetry.

533 Spectrochemical Analysis (3)
Survey of spectrochemical instrumentation with emphasis on their operation and application in analytical chemistry. Topics include atomic absorption, atomic emission, molecular absorption, and molecular emission, and cover emission-absorption phenomena in the X-ray, ultraviolet, visible, and infrared regions of the electromagnetic spectrum.

534 Chemical Separation Methods Laboratory (1)
Prereq: 531 or concurrent. Laboratory work to accompany CHEM 531.

535 Chemical Instrumentation and Electrochemistry Laboratory (1)
Prereq: 532 or concurrent. Lab work to accompany 532.

536 Spectrochemical Analysis Laboratory (1)
Prereq: 533 or concurrent. Lab work to accompany 533.

551 Physical Chemistry (5)
For graduate students not majoring in chemistry. Includes thermodynamics, thermochemistry, equilibrium, solutions, electrochemistry, and kinetics.

553 Physical Chemistry (4)
Calculus-based study of thermodynamics with applications to chemical equilibria.

554 Physical Chemistry (4)
Prereq: 553. Continuation of 553. Thermodynamics of ionic solutions, kinetic theory of gases, chemical kinetics.

555 Physical Chemistry (4)
Prereq: 554. Continuation of 554. Introductory quantum theory of simple systems with applications to molecular structure and bonding. Introduction to spectroscopy and statistical thermodynamics.

558 Chemical Thermodynamics (4)
Concepts of energy and entropy and their use in predicting the feasibility and extent of chemical reactions.

559 Physical Chemistry (4)
Prereq: 554. Continuation of traditional topics in physical chemistry begun in 553 and 554 to include surfaces, structure of solids, mass and heat transport, electrical conduction, heterogeneous reaction kinetics, photochemistry, and polymer properties.

560 Spectroscopic Methods in Organic Chemistry (4)
Modern spectroscopic methods as employed in organic chemical research: NMR, IR, UV, ESR, and mass spectrometry.

571 The Physical Chemistry of Macromolecules (4)
Effects of structure and molecular weight on physical and chemical properties of macromolecules. Topics include molecular weight distribution, solubility, polymer conformation, different types of polymers, synthesis, and reactions. Both synthetic and natural polymers considered.

576 Modern Inorganic Chemistry (5)
Relationship between physical and chemical properties of inorganic substances and nature of bonding and structures involved.

579 Radiochemistry (5)
Application of radiation and radioactive isotopes to problems in chemistry and environmental sciences; detection and determination of radiation; safe handling and disposal of radioactive materials; other problems in environmental radiation safety.

580 Advanced Organic Chemistry (5)
Structural theory, stereochemistry, reactive intermediates, and reaction mechanisms.

585 Introduction to Toxicology (5)
Introduction to chemical, clinical, environmental, and forensic aspects of toxicology, types of poisons, how poisons act, treatment of acute poisoning, and control of poisonous materials.

586 Advanced Analytical Chemistry (5)
Fundamental principles of instrumental analysis. Electrochemistry, atomic and molecular spectroscopy, gas and liquid chromatography.

587 Forensic Chemistry (7)
Prereq: 533. Survey of chemical problems most frequently encountered in crime lab and their currently acceptable solutions, as well as special techniques not covered in other analytical chemistry courses. 3 lec, 6 lab.

588C Forensic DNA Typing (4)
Survey of techniques and instrumentation used in the identification, extraction and analysis of DNA obtained from forensic evidence.

589 Basic Biochemistry (5)
Prereq: 302 or 307. Survey course, including introduction to biochemical concepts and techniques, metabolic pathways, and information storage and transmission, with emphasis on directions of current biochemical research.

590 General Biochemistry I (4)
Protein chemistry, enzymology, and nucleic acid chemistry.

591 General Biochemistry II (4)
Prereq: 590. Bioenergetics, metabolism, and metabolic control systems.

592 General Biochemistry III (4)
Prereq: 591. Study of integrated molecular systems in biology.

630 Instrument Use and Maintenance (2–4)
Technical information concerning operation and maintenance of sophisticated instruments is presented. Includes preparation of users manuals and videotape presentations that explain and demonstrate techniques. Registration required for access to instruments. Credit allowed more than once, as subjects vary.

695 Research and Thesis (1–15)
Research and thesis as recommended by department.

700 Research Techniques (4)
Important skills and techniques of chemical research including glassblowing, vacuum techniques, separation methods, etc.

701 Advanced Organic Chemistry (4)
Prereq: 580. Organic syntheses.

702 Advanced Organic Chemistry (4)
Prereq: 701. Theoretical aspects of organic chemistry.

703 Physical Organic Chemistry (4)
Prereq: 702. Application of modern concepts to structure and reactivity in organic reactions of various mechanistic classes.

704 Heterocyclic Chemistry (4)
Theoretical and synthetic aspects.

705 Organometallic Chemistry (4)
Prereq: 576 and 580. Structure and reactivity of organometallic compounds.

706 Natural Products Chemistry (4)
Prereq: 702. Terpenes, steroids, alkaloids, and other natural products.

710 Special Topics in Organic Chemistry (4)
Selected topics of current interest.

711 Protein Chemistry (4)
Prereq: 590. Topics and techniques relevant to thorough understanding of current status of protein chemistry. Includes isolation and characterization of proteins by standard techniques and identification of their post-translational modifications.

712 Biophysical Chemistry (4)
Prereq: 590. Applications of physical methods to biological systems, including UV visible, nuorescence, infrared, Raman, and nuclear magnetic resonance spectroscopies.

713 Bioenergetics and the Structure and Function of Biological Membranes (4)
Prereq: 592. Membrane biogenesis; development and intracellular trafficking; advanced topics in molecular physiology of membranes.

714 Control and Regulation in Molecular Biology (3)
Prereq: 590. Current concepts in chromosomal structure and function, genetic control of transcription, and translation control of protein synthesis.

715 Advanced Special Topics in Biochemistry (3)
Prereq: 590.

716 Enzymology (4)
Prereq: 590. A study of the subjects and techniques relevant to the structure and function of enzymes. Topics include enzyme kinetics, purification, characterization, and active site chemistry. Current research directions such as the construction of catalytic RNA molecules (ribozymes) and catalytic antibodies are emphasized, along with the recent role molecular biology techniques have played in the enzymology field.

726 Electroanalytical Chemistry (5)
Prereq: 532. Fundamentals and applications of potentiometry, conductometry, coulometry, voltammetry, amperometry, cyclic voltammetry, chronocoulometry, and spectroelectrochemistry.

727 Spectrochemical Analysis (5)
Prereq: 533. Modern instrumental methods of molecular spectroscopy including Raman, Fourier transform, IR and NMR, circular dichroism, and mass spectroscopy; recent methods of atomic spectroscopy including plasma sources, diode arrays, and television spectrometers; impact of computerization.

728 Theory and Principles of Analytical Separation (4)
Prereq: 586 or 531. Topics include liquid-liquid extractions, partition chromatography, ion exchange, gas chromatography, high pressure liquid chromatography, exclusion chromatography, and electrophoresis.

729 Introduction to Chemometrics (4)
Prereq: 586. Topics include multivariate calibration, experimental design and optimization, pattern recognition, signal processing, and multivariate curve resolution.

730 Special Topics in Analytical Chemistry (4–5)
Selected topics of current interest: electronics, signal processing techniques, surface analysis, modified and ultramicroelectrodes, hyphenated techniques.

750 Chemical Thermodynamics (4)
Prereq: 558. Application of thermodynamics to mixtures and solutions to take account of solvent-solute interaction and ionic effects.

751 Statistical Thermodynamics (4)
Prereq: 555 and 558. Derivation of thermodynamic principles and data from knowledge of size and shape of molecules and laws of mechanics.

753 Chemical Applications of Group Theory (5)
Prereq: 555. Develops foundations for application of elementary group theory to organize or simplify problems in quantum chemistry. Applications include molecular orbitals, molecular vibrations, and ligand field environments.

754 Chemical Quantum Mechanics (4)
Prereq: 555. Perturbation and variation theory with application to quantum chemistry; angular momentum; electron-spin; atomic structure. Some matrix theory.

756 Solutions (4)
Selected topics in solution thermodynamics such as stoichiometry, determination of equilibrium constants, activity coefficients, and other thermodynamic properties of solutions; theories of electrolytes: electrochemistry, and transport.

757 Chemical Kinetics (4)
Experimental methods of obtaining reaction rates, interpretation of rate data, and relationships between mechanism of reactions and rate equations of reactions.

758 Solid State Chemistry (5)
Develops foundation of basic surface science concepts and techniques. These concepts include structure of clean and adsorbate covered surfaces, chemical bonding of adsorbates, energy transfer mechanisms on surfaces, and catalyzed surface reactions.

761 Molecular Structure I (4)
Prereq: 555. Theoretical principles of rotational, vibrational, and electronic spectra of diatomic and polyatomic molecules.

762 Molecular Structure II (4)
Prereq: 555. Theoretical principles of nuclear magnetic resonance and electron spin resonance spectroscopy.

763 Radiation and Photochemistry (4)
Comparison of radiation and photochemical reactions; primary and secondary processes; general treatment of free radical mechanisms; isolation and detection of free radicals; radiation dosimetry; chemical and biological effects of radiation.

764 Special Topics in Physical Chemistry (3–4)

775 Theoretical Inorganic Chemistry (4)
Prereq: 576. Theoretical principles underlying physical and chemical behavior of inorganic substances.

776 Chemistry of the Representative Elements (4)
Prereq: 576. Descriptive chemistry of A-group elements.

777 Chemistry of Transition Elements (4)
Prereq: 775. Descriptive chemistry of transition elements and their coordination compounds.

778 Chemistry of Heavy Elements (4)
Prereq: 775. Descriptive chemistry of lanthanides, actinides, and selected heavy metals.

790 Special Topics in Inorganic Chemistry (3–4)

891 Inorganic Chemistry Seminar (2)
Required of inorganic chemistry majors. Selected topics from current literature presented by participating students and staff.

892 Organic Chemistry Seminar (2)
Required of organic and biological chemistry majors. Selected topics from current literature presented by participating students and staff.

893 Analytical Chemistry Seminar (2)
Required of analytical chemistry majors. Selected topics from current literature presented by participating students and staff.

894 Physical Chemistry Seminar (2)
Required of physical chemistry majors. Selected topics from current literature presented by participating students and staff.

895 Doctoral Research and Dissertation (1–15)
Research and dissertation as recommended by department.

Classics and World Religions

http://www.classics.ohiou.edu/

No graduate degree in Classics or World Religions is offered, but some graduate courses are offered each quarter. These can contribute in particular to degree programs in African studies, Southeast Asian studies, international studies, comparative arts, English, geography, linguistics, and philosophy.

For Greek and Latin languages, see under Foreign Languages and Literature.

Classics in English Courses (CLAS)

598 Independent Study in Classical Literature (1–5, max 10)
Supervised reading on a specific topic.

Classics and World Religions (CLWR)

511 Islam (5)
Introduction to core ideas. *Weckman, Keefe; Y.*

521 Hinduism (5)
Vedic religion, Hinduism, Jainism. *Collins, Weckman, Keefe.*

531 Buddhism (5)
Introduction to doctrines, origins, and varieties. *Collins, Weckman, Keefe; Y.*

541 Taoism (5)
A historical survey of philosophical and religious Taoism from the third century B.C. to the 18th century. *Blocker; Y.*

542 Confucianism (5)
Examination of the texts associated with Confucius and their history, including religious, social, and intellectual aspects.

571 African Religions (5)
Study of the world views of African traditional cultures expressed in myths, art, beliefs, and practices.

581 Myth and Symbolism (5)
Review of theories concerning nature of mythology and symbolic process. Analysis of selected myths and symbols in various religions, literature, and art. *Collins, Weckman; Y.*

582 Thinking About Death (5)
Survey and analysis of human thought and practices regarding death. *Weckman; Y.*

583 Contemporary Religious Thought (5)
Problem of God; relation of faith and reason, human destiny, religious language—in thought of representative theologians and philosophers such as Tillich and Buber. *D.*

589 Independent Study (1-5)
Intensive individual reading, research, and written analysis on topics selected by the student in negotiation with a faculty member and supervised by that faculty member.

Conservation Biology

The Program in Conservation Biology offers an interdisciplinary graduate conservation biology certificate. The program applies a multifaceted understanding of the factors affecting the conservation of biological diversity. It is centered in the Department of Biological Sciences but includes faculty members from the Departments of Environmental and Plant Biology, Economics, Geography, and Political Science.

Students enrolled in any master's or doctoral program at Ohio University are eligible to apply for the certificate. Each application for the certificate program is reviewed by an oversight committee composed of three faculty representatives from participating departments. Each student in the program chooses a certificate advisor to oversee the completion of requirements.

The requirements for the certificate are the completion of BIOS 581 Animal Conservation Biology, BIOS 797 Seminar in Conservation Biology, and three courses from the following list for a total of 17–20 credit hours. Two of the three courses must be outside your major field of study. The certificate is awarded upon fulfillment of these requirements and completion of the graduate degree.

The courses listed here are offered by five departments within the College of Arts and Sciences. In addition, up to five hours of courses offered under titles such as Special Topics or Colloquium that focus on aspects of conservation biology may be applied toward the certificate with the approval of your certificate advisor.

Biological Sciences Block

BIOS 525	Evolutionary Genetics (4)
BIOS 577	Population Ecology (4)
BIOS 578	Community Ecology (4)
BIOS 579	Evolution (4)
PBIO 522	Tropical Plant Ecology (4)
PBIO 535	Plant Population Biology
PBIO 536	Plant Community Ecology (5)
PBIO 537	Ecosystem Ecology (4)
PBIO 575	Plant Speciation and Evolution (5)
GEOG 516	Biogeography (5)
GEOG 517	Landscape Ecology (5)
GEOG 544	Agricultural Ecosystems (5)

Natural Resource Economics and Policy

BUSL 570	Environmental Law (4)
ECON 513	Economics of the Environment (5)
GEOG 547	Natural Resource Conservation (5)
GEOG 550	Land Use Planning (5)
GEOG 553	Environmental Planning (5)
POLS 510	Public Policy Analysis (5)
POLS 525	Environmental and Natural Resources Policy (5)
POLS 526	Politics of the Contemporary Environment Movement (5)

Sociological Aspects of Conservation Biology

HIST 506	American Environmental History (5)
ANTH 578	Human Ecology (5)
GEOG 521	Population Geography (5)

Contemporary History Institute

http://cscwww.cats.ohiou.edu/conhist/CHi2.htm

The Ohio University Contemporary History Institute, created in 1987, offers a unique course of interdisciplinary study, mainly on the graduate level, that trains students to apply historical perpectives in analyzing recent events

and contemporary policy issues. The institute is centered in the Department of History, but it also draws faculty and students from the Departments of Economics and Political Science, the E. W. Scripps School of Journalism, and the Honors Tutorial College.

The institute does not grant degrees but offers a certificate in contemporary history that serves as an adjunct to the M.A. and Ph.D. degrees in history, the M.A. degrees in economics and political science, the M.S. in journalism, and the Ph.D. in mass communication (journalism sequence). The institute's certificate also can be earned in connection with a four-year Honors Tutorial College bachelor's degree in one of the participating departments. Students receive the institute's certificate after satisfactorily completing a sequence of interdisciplinary seminars and tutorials focusing on methodologies, themes, and issues in contemporary history and writing a thesis or dissertation on some aspect of that subject that meets the requirements of the degree-granting department.

Admission

Apply for admission in history, economics, journalism, or political science using the standard application form but indicating contemporary history as the specific area within the graduate major in which you wish to work. If you are an Honors Tutorial College student, apply through your departmental director of tutorial studies.

The Contemporary History Institute admissions committee will evaluate your application only after you have been granted admission to one of the participating departments. All applicants to the institute are considered automatically for fellowships. You may be asked to provide additional supporting material.

Admission to the Contemporary History Institute is granted only for classes beginning in the fall quarter of each academic year. Applications for fall must be received by February 1.

Requirements

1 You must formally enroll in an existing M.A. program in the Department of History, Economics, or Political Science; the M.S. program in the E. W. Scripps School of Journalism; or the Ph.D. program in history or mass communication (journalism sequence). Fourth-year Ohio University Honors Tutorial College students majoring in participating departments also are eligible. Upon completing all requirements in one of those programs, you will receive the appropriate degree.

2 Within your degree-granting department, you must concentrate no less than half the required coursework in courses that deal in a substantial way with the post-1945 period.

3 You must complete the sequence of courses listed below.

Contemporary History Institute Courses (CH)

601 Introduction to Contemporary History (5)
Investigates the nature of contemporary history: major philosophical and conceptual approaches; interpretive trends; and methodologies. *Y.*

602 Themes in Contemporary History (5)
Examines major forces that have shaped the contemporary world: nationalism, democratization, colonialism, racial and ethnic conflict, globalization, etc. *W; Y.*

603 Issues in Contemporary History (5)
Focuses on contemporary issues with policy implications. Students apply the conceptual and methodological approaches encountered in CH 601 and 602 to selected problems facing current decision-makers. *Sp; Y.*

604 Special Project (in Contemporary History) (1-5)
Individualized study, usually in the form of a one-on-one tutorial with an outside expert, although internships or enrollment in courses at other universities can be used to fulfill this requirement.

Economics

http://cscwww.cats.ohiou.edu/economics/

As a student beginning graduate work in economics, you should ordinarily have some undergraduate training that includes courses in the social sciences or business administration. However, a wide variety of areas of concentration relate to or provide appropriate background knowledge for advanced study in economics. If your undergraduate major is not economics or a related field, you will take a placement test to determine whether you need to take ECON 503 Microeconomics and/or ECON 504 Macroeconomics.

Undergraduate courses in principles of economics, statistics, intermediate micro and macro theory, and some quantitative orientation are ordinarily prerequisites for graduate work in this area, although you may be permitted to make up these deficiencies while pursuing a graduate program. Your undergraduate program must be approved by the department admissions committee before you begin graduate work. You are advised to take the Graduate Record Examination and submit scores with your application. If you are an international student, take the Test of English as a Foreign Language and submit scores with your application.

It is preferable that you enter the graduate program during the summer or fall quarter. It is possible, however, to begin studies in the winter or spring quarter. For financial assistance, it is advisable to apply before March 1 for the following fall quarter.

We offer two tracks within our graduate program: (1) The Applied Economics Track; and (2) The Financial Economics Track. For the first track you are required to:

1 complete a core requirement comprising 603A Advanced Microeconomic Theory, 604A Advanced Macroeconomic Theory, 635 Econometrics, 500 Mathematical Economics Foundations, and 501 Statistical Foundations.

2 concentrate in one area from the following list of fields: business economics; econometrics; economic history; economic planning, growth, and development; industrial organization; international economics; labor economics; monetary economics; natural resources; public finance and policy; and urban and regional economics

3 Five electives.

4 complete a research paper in a topic within the area of concentration. (ECON 696).

For the second track you are required to:

1 complete a core requirement comprising ACCT 610, 611; ECON 500, 600, 601, 639, 640, 644; FIN 620, 622,

623, 650, 651. Accounting courses are offered by the School of Accountancy and finance courses by the Department of Finance of the College of Business.

2 complete an internship/research paper. (ECON 670).

Economics Courses (ECON)

500 Mathematical Economics Foundations (5)
Introduction to differential calculus, integral calculus, and linear algebra with economic and business models and applications. Same as QBA 500.

501 Statistical Foundations (5)
Basic topics of statistics are discussed, including descriptive statistics, probability theory, random variables, mathematical expectation, binomial and normal distributions, sampling theory and central limit theorem, point and interval estimation, and hypothesis testing.

503 Microeconomics (5)
Analysis of prices, markets, production, wages, interest, rent, and profits.

503W Microeconomics (3)
Analysis of prices, markets, production, wages, interest, rent, and profits. Accelerated workshop course for M.B.A. students.

504 Macroeconomics (5)
Factors determining level of nation's economic activity and growth and stability in nation's economy.

504W Macroeconomics (3)
Factors determining level of nation's economic activity and growth and stability in nation's economy. Accelerated workshop course for M.B.A. students.

505 Managerial Economics (5)
Prereq: non-econ. Decision making in enterprise: market environment; measurement of influence of policy and nonpolicy variables on sales and cost; empirical studies of market structure and pricing. (Not open to students who have had 505W or to graduate students in economics.)

505W Managerial Economics (3)
Prereq: non-econ. Decision making in enterprises: market environment measurement of influence of policy and nonpolicy variables in sales and costs; empirical studies of market structure and pricing. Accelerated workshop course for M.B.A. students. (Not open to students who have had 505 or to graduate students in economics.)

506 Monetary Theory and Policy (5)
Use of economic theory to formulate monetary policy for minimizing cyclical fluctuations in economic activity.

507 History of Economic Thought (5)
Major economic doctrines: mercantilists and cameralists, physiocrats, Adam Smith and classical school, historical school, Austrian school, Alfred Marshall, and neoclassicists.

510 Urban Economics (5)
Application of economic analysis to urban problems; urban economic growth and structure (location patterns, land use and environment, urban transportation, and housing); human resources in urban economies and the public sector in a metropolitan context.

511 Inequality of Personal Wealth and Income (5)
Prereq: course in statistics. Quantitative and qualitative differences in wealth and income between low, middle, and high income groups in society using historical, statistical, and mathematical techniques.

512 Economics of Poverty (5)
Incidence, causes, and consequences of poverty in affluent society. Economic theory, history, statistics applied to analysis of poverty reduction measures.

513 Economics of the Environment (5)
Economic analysis of such environmental matters as air, water, and noise pollution; population growth; and land use. Emphasis on use of economic theory and empirical research in evaluating environmental policies.

515 Economics of Health Care (5)
Demand for medical care, supply behavior of profit and nonprofit agencies, market structure, adverse selection, public and private health insurance.

520 Labor Economics (5)
Demand for labor, supply of labor, household production, compensating wage differentials, education and training, discrimination, unions, and unemployment.

521 Labor Legislation (5)
Prereq: 520. Law bearing upon labor problems: labor relations legislation, old-age and unemployment insurance, workmen's compensation, wages-and-hours legislation.

522 Economics of Human Resources (5)
Current development in theory, empirical research, and policy with respect to investment in human resources, economic value of education, manpower programs, and growth.

525 Public Policy Economics (5)
Survey of economics approach to analyzing public policy issues. Uses concepts of welfare economics, public choice economics, and cost-benefit analysis as applied to samples of policy subjects.

530 Public Finance (5)
Study of government revenues and expenditures. Theories of government growth, public goods, and externalities. Introduction to public choice topics such as the median voter model, cyclical majority, and rent-seeking. Positive analysis of taxation.

531 Economics of Transportation (5)
Economics of transport pricing, regulation of transport, and national transport policy.

532 Industrial Organization (5)
Market structure, especially oligopoly, and firm behavior in price and nonprice competition. Topics include location, product quality, advertising, research and development, and patent incentives. Emphasis on economic welfare.

533 Government and Agriculture (5)
American agriculture as an industry; economics of government policies and programs; consideration of forces and objectives in policy formation.

535 Economics of Energy (5)
Economic theory applied to energy policy issues in the U.S., including questions of sources of supply, conservation, pollution control, foreign dependence, monopoly control, special interests, and future generation equity.

537 Government Regulation of Business (5)
Economics of regulated industries. Economic underpinnings, regulatory instruments, and impact on firm and society. Industries of interest include various public utilities, communications, and transportation. Also focuses upon product and labor safety.

540 International Trade Theory (5)
International trade patterns, theories of absolute and comparative advantage, classical and modern trade theory, tariffs, quotas, nontariff barriers, preferential trading arrangements.

541 International Monetary System (5)
How exchange rates are determined, fixed vs. flexible rates, government intervention, fiscal and monetary policy in open economy, transmission of inflation and unemployment among nations, international capital movements, covered interest arbitrage, forward exchange, Eurocurrency markets.

542 International Economic Policy (5)
Prereq: 540. Current economic developments of foreign and U.S. economic policy. Commercial treaties and tariff policy; exchange rate instability; balance of payments problems including LDC debt situation; international liquidity issues; trade relations among industrial, underdeveloped, and former Soviet-bloc countries; multinational corporations; roles of institutions such as World Bank, International Monetary Fund, and GATT.

543 Financial Economics (5)
Prereq: Permission; No credit if FIN 527 taken. In a free economy, income earners' savings flow directly and through intermediaries to investors who use the proceeds to increase capital, the engine of growth. Intermediaries such as banks, brokers and exchanges, create instruments such as equities, bonds, mutual fund shares, and their derivatives, which trade in secondary markets. This course examines the interrelationship between institutions, instruments, participants, strategies, and markets.

544 Futures Markets (5)
Prereq: 360 or FIN 327. Examines futures markets in terms of the instruments traded, the institutional features of the markets, the participants, and their economic strategies, including speculation and hedging. Describes and analyzes the various futures and options markets to understand how the exchanges operate and to realize the pitfalls and dangers, as well as the possibilities and opportunities of participation.

550 Economic Development (5)
Analysis of developing regions of the world including the interplay of population growth, the demaind for food, and the environment. Measures of poverty and inequality. Models of economic growth.

552 Economic History of the United States (5)
Economic development of United States. Growth of banking, manufacturing, labor unions, and agriculture from colonial times to present.

553 European Economic History (5)
Economic growth of developed countries; industrial revolutions in Great Britain, France, Germany, the former Soviet Union, and Japan. Historical experiences of these countries related to various theories of economic change.

554 Latin American Economic History (5)
Fundamental assumption is that current problems of economic development of Latin America can be better understood if student has solid knowledge of economic history of region. One-half to two-thirds of course covers economic history with emphasis on larger countries such as Brazil, Argentina, Chile, Peru, and Mexico. Particular attention given to legacies of past which affect current foreign private investment, etc. Latter part of course discusses current problems such as declining terms of trade, import substitution, urbanization, national and regional planning, etc.

555 African Economic Development (5)
Prereq: 550. African societies as traditional economies and in process of modernization.

560 Money, Banking, and Financial Markets (5)
Theory and practice of money, banking, and financial markets. Topics include interest rates and their term structure, portfolio choice, CAPM, efficient market hypothesis, foreign exchange market, bond and stock markets, financial derivatives, monetary policy, etc.

561 Monetary History of the United States (4)
Correlation of developments in American history with development of monetary institutions, policy, and theory. Evolution of commercial and central banking and relationship to economic activity in history of U.S.

570 Comparative Economic Systems (5)
Theoretical and institutional characteristics of capitalism and socialism with emphasis on prevailing economic systems in the U.S., England, and Russia.

573 Economics of Southeast Asia (5)
Prereq: 550. Economic characteristics, development problems, strategies, and prospects of countries of Southeast Asia.

574 Economics of Latin America (5)
Macroeconomic trends and obstacles in modern Latin America including import substitution industrialization, debt, inflation, exchange rate regimes, trade, and reform. Microeconomic analysis of poverty, inequality, the rural sector, and the informal sector.

575 The Chinese Economy (5)
Prereq: 550. China's early industrialization, 1880–1931; socialist transformation of each economic sector, 1949–1967; overall performance of Chinese economy and each economic sector, and Maoist revision of orthodox Marxist-Leninist economic doctrines.

600 Managerial Economics (5)
Measuring economic relationships, analyzing market behavior, and examining some major economic decisions of business firm.

601 Macroeconomics and Business Fluctuations (5)
Analyses of demand for money, inflation, interest rates, capital growth, asset markets, financial intermediaries, and the relationship between money and the business cycles. Other topics include national income, savings, investment, unemployment, fiscal, and monetary policies.

603A Advanced Microeconomic Theory I (5)
Consumer behavior under certainty and uncertainty, theory of the firm, and perfect competition.

604A Advanced Macroeconomic Theory I (5)
Aggregate Demand (IS-LM) and Aggregate Supply, Money Supply and demand, inflation dynamics, rational expectations, real business cycle, monetary and fiscal policy, and long-run growth model.

635 Econometrics I (5)
Prereq: 500 and 501. Basic topics of econometrics are discussed, including simple linear regression models, violation of classical assumptions (heteroskedasticity, autocorrelation, etc.), multiple linear regression models, multicollinear-ity, specification errors, dummy variables models, basic simultaneous equations models, causality tests, unit root tests, cointegration tests, error correction model.

636 Econometrics II (5)
Prereq: 635. Advanced topics of econometrics are discussed, including convergence in distribution, multivariate normal distributions, distribution of quadratic forms, large sample tests (LR, Wald, LM tests), generalized linear regression models, seemingly unrelated regression models, simultaneous equations models, and generalized method of moments estimators.

637 Applied Forecasting (5)
Prereq: 501. Simple forecasting methods, forecasting with econometric approach, time series methods, and the Arima models. Empirical model building using real-life data and these models.

638 Applied Econometrics (5)
Prereq: 635. Basic techniques of empirical econometric modeling are introduced and applied topics of econometrics are discussed. Applied topics include specification error tests (RESET, CUSUM, etc.), model selection tests, causality tests, unit root tests, cointegration tests, error correction models, distributed lag models, logit and probit models, limited dependent variables models, GARCH-type models, and translog cost functions.

639 Statistics and Econometrics: Theory and Application (5)
No credit if 635. Probability theory and hypothesis testing, classical linear regression and various diagnostic tests and remedies for violations of classical assumptions, and various forecasting models.

640 International Trade and Financial Economics (5)
No credit if (540 and 541). The benefits from international trade. The law of comparative advantage, the factor endowment explanation of interational trade, and other theories of international trade. Other topics include foreign exchange markets, interest arbitrage, portfolio theory, balance of payments, and international banking.

644 Financial Derivatives (5)
No credit if 544. A risk management course dealing with contract specifications. Characteristics of options and trading procedures, and the pricing mechanism that joins commodity, options, futures, and futures options markets.

670 Internship/Research Paper
Complete an internship or write a scholarly paper on any topic in financial economics.

691 Seminar in Economics (2–6)
Seminars in following general areas: theory and thought; growth and development; monetary and fiscal; theory and policy; labor and human resources.

693 Readings in Economics (1–6)
Readings in selected fields in economics under direction of staff member.

696 Master's Seminar (5)
Writing of scholarly papers in areas of economics. Required of all master's candidates.

697 Independent Research (1–12)
Research in selected fields in economics under supervision of staff member.

698 Colloquium (1)
Selected topics of current interest. Required of all graduate students.

English

http://www.english.ohiou.edu/

Master's Program

The Department of English offers an M.A. that can serve as a stepping stone to the Ph.D. and a career in teaching or simply as an extension of the liberal arts education beyond the bachelor's level. All students, no matter what their intended trajectory, satisfy a common set of core requirements, but also can give their studies a particular emphasis through one of the five program concentrations. Completing the program generally requires two years, though full-time students who are not teaching assistants may complete it more quickly.

Admission. Applications must be submitted to the Office of Graduate Studies along with scores for the GRE (general test only) and transcripts of all undergraduate work. Your transcripts should show at least 27 quarter hours (18 semester hours) of superior work in English language and literature on the undergraduate level. They also should provide evidence of your having completed the equivalent of two years of foreign language at the undergraduate college level. If you do not meet the language requirement but otherwise have outstanding qualifications for graduate study, you may apply and plan to complete your foreign language requirement while you are earning your M.A. Intensive graduate reading courses are offered in French and Spanish in alternate summers which may be used to fulfill your requirement.

To apply, you should collect letters of recommendation from three professors with whom you have studied on the undergraduate level, and send them to the Graduate Director in English, along with a statement of purpose and a writing sample. For potential creative writing students, the writing sample should be a portfolio of poems, a manuscript of short fiction or a selection of creative nonfiction of 10-15 pages. All other applicants should submit a critical essay of the same length.

Admission deadline is January 15 for the following fall quarter, and this is the only annual admissions period. The English Department does not admit student in the winter or spring quarters.

M.A. Requirements. To complete the Master of Arts in English, you must satisfy the following requirements:

1 Bibliography and Methods. ENG 593 Bibliography and Methods deals with enumerative and descriptive bibliography and methods of scholarship. It also provides a general introduction to graduate study and research in English language and literature.

2 English Language. The English language requirement is met by ENG 503 English Language.

3 The Teaching of English. ENG 591 Teaching College English I, ordinarily taken in your first quarter of residence, is designed to offer various kinds of practical and theoretical information and discussions about teaching. ENG 591A, Teaching College English II, provides further training and pedagogical assistance for TAs. It is offered in the winter quarter.

4 Literary Theory. You will take at least one course that has as its primary focus critical theory.

5 Master's essay or thesis. The master's essay is a scholarly essay of publishable quality, substance, and length, written as an extension of work done in a seminar but researched and reshaped to meet professional standards of scholarly publication. The master's essay prospectus and the essay are submitted during the winter and spring quarters of your second year.

Like the master's essay, the master's thesis is expected to show originality, rigor of argument, and thoroughness of research and documentation. It should, however, include more extensive research than a master's essay, particularly more detailed analysis of the theoretical approach being used, a wider and deeper survey of research and scholarship, and a more thorough contextualization of the central argument. The creative writing thesis is a piece or collection of original creative writing.

6 Area distribution. You are required to take seminars in at least three of the following six periods:

Medieval
Renaissance
Restoration and Eighteenth Century
Nineteenth Century British
Twentieth-Century British
American Literature

Of these three seminars, one must focus primarily on British literature before 1700, one on British literature after 1700, and one on American literature.

7 Departmental concentration. You are required to take a sequence of three courses from one of the following concentrations:

Literary History
Creative Writing
Literary Theory
Rhetoric and Composition
Women's Studies

8 Foreign language. If you have not met the foreign language prerequisite for admission, you must complete it before graduation.

Doctoral Program

The Ph.D. in English is designed primarily as professional preparation for scholars and teachers of literature, creative writing, and rhetoric/composition. It includes required and elective coursework, a series of examinations, and completion and defense of a dissertation.

Admission. You must apply for admission to the Office of Graduate Studies. Applications are downloadable or can be filled out online at http://www.ohio.edu/graduate/. To apply you need also to submit complete undergraduate and graduate transcripts to the Office of Graduate Studies, along with your GRE scores (general test only). To the Director of Graduate Studies in English you need to submit three letters of recommendation, a statement of purpose, and a writing sample.

Ph.D. Requirements. To earn a Ph.D. in English, you must fulfill the following requirements:

1 M.A. requirements. If your M.A. program did not include the following requirements or their equivalents, you must fulfill them as part your doctoral program: ENG 593 Bibliography and Methods; ENG 591 and 591A Teaching College English I and II; ENG 503 English Language; and ENG 536 Critical Theory I.

2 Literary History: general course requirements. Two doctoral seminars in your area of specialization; three doctoral seminars in literature outside of your area of specialization; one doctoral seminar in critical theory; one doctoral seminar in rhetoric and composition and one doctoral seminar in creative writing or two seminars in either of those areas.

3 Creative Writing: general course requirements. Two doctoral seminars in your area of specialization; two doctoral seminars in literature outside your specialization; one doctoral seminar in form and theory of your genre; and one seminar in rhetoric and composition. You are also required to take four workshops in the first four years of your program, including one in a genre that is not your primary one, and a fifth workshop in your fifth year as part of your preparation for the creative dissertation.

4 Rhetoric and Composition: general course requirements. Two doctoral seminars in literature; one doctoral seminar in critical theory; one doctoral seminar in creative writing; and nine doctoral seminars in rhetoric and composition.

5 Professional preparation. You are required to take ENG 777 Colloquium on the Profession of English during all quarters of coursework.

6 Foreign language requirement. Before being admitted to candidacy for the Ph.D., you must demonstrate proficiency in one foreign language by the Princeton exam or by a translation exam or translation project administered by the Department of Modern Languages.

7 Exam requirement. Ph.D. area exams begin in the fall of your fourth year in the program and consist of three parts, which vary according to your concentration. The reading lists for the examination are drawn up by you in consultation with your examination committee.

8 Dissertation and defense. The main criterion for the dissertation is quality rather than quantity. You are encouraged to plan a dissertation that is original, significant, and ideally, publishable. The defense of your dissertation is public, and includes your presentation of aspects of your dissertation, oral examination by your committee, and questions by attendees from the audience.

Supervised Teaching. All doctoral students holding assistantships are expected to teach as part of their professional training. Ohio University has a wide variety of undergraduate

English courses to be staffed, and consequently, graduate assistants receive considerable experience in teaching different courses; as a doctoral student you will have the opportunity to teach at least four or five different upper and lower division courses in composition, literature, and creative writing before the end of your program. Although you will receive supervision and assistance in planning and teaching these courses, you are primarily responsible for their planning and teaching and, unless you happen to be assisting in a large lecture class, will be the teacher of record.

English Courses (ENG)

503 English Language (5)
Sounds, inflections, syntax, and vocabulary of English from 1000 to present; exploration of language theory and language controversies.

509 Medieval Language and LIterature (5)
Selected Topics.

510 Chaucer (5)
Selected topics.

511 18th-Century Novel (5)
Selected topics.

512 19th-Century Novel (5)
Selected topics.

513 Early Modern British Literature (5)
Selected topics.

514 Spenser (5)
Selected topics.

517 Milton (5)
Selected topics.

518 Restoration (5)
Selected topics.

519 18th-Century Literature (5)
Selected topics.

523 Romanticism (5)
Selected topics.

524 Shakespeare (5)
Selected topics.

525 Victorian Poetry (5)
Selected topics.

526 19th-Century Prose (Nonfiction) (5)
Selected topics.

527 20th-Century Literature (Modernism) (5)
Selected topics.

528 20th-Century LIterature (Postmodernism) (5)
Selected topics.

529 American Literature to 1776 (5)
Selected topics.

530 American Literature 1776-1865 (5)
Selected topics.

531 Major Medieval Genre (5)
Selected topics.

532 Renaissance Drama excluding Shakespeare (5)
Selected topics.

533 American Literature 1865-1918 (5)
Selected Topics.

534 20th-Century American Literature (5)
Selected Topics.

535 African American Literature (5)
Selected Topics.

536 Critical Theory (5)
Introduction to critical theory.

537 Critical Theory II (5)
Selected topics in critical theory.

551 Teaching Language and Composition (3)
Studies materials, methods, and techniques of language and composition in secondary school settings.

551L Field Experience in Secondary English/Language and Composition (1)
Practical applications of materials, methods, and techniques of teaching literature in secondary school settings. Students observe classroom teachers and carry out various instructional tasks as the cooperating teachers deem appropriate.

552 Teaching Literature (3)
Materials, methods, and techniques of teaching literature in secondary school settings.

552L Field Experience in Secondary English/Literature (1)
Practical applications of materials, methods, and techniques of teaching literature in secondary school settings. Students observe classroom teachers and carry out various instructional tasks as the cooperating teachers deem appropriate.

555 English Education Workshop (1–5)
Selected topics.

556 Teaching Young Adult Literature (5)
Authors, works, genres, and aesthetic bases of literature for young adults.

575 Theory and Teaching Technical Writing (5)
Practice in teaching feasibility studies, proposals, progress reports, and a range of minor items from abstracts to letters of transmittal. Techniques and standards of good business and professional writing.

580 Internship (4–5)
On-the-job experience in Ohio University offices and elsewhere. Coordinated and evaluated by graduate chair and director of office in which student is placed.

585 History of Books and Printing (4)
Broad introduction to history of the book and its place in development of Western culture from ancient world to present.

590 Independent Reading (1–15)
Directed individual reading and research.

591 Teaching College English I (5)
Designed for teaching associates who have full responsibility for their own sections of ENG 151. Discussions of theoretical and practical problems in teaching rhetoric and writing in colleges and universities.

591A Teaching College English II (3)
Provides further training and pedagogical assistance to TAs, continues examination of pedagogy and theory begun in ENG 591.

592A Major Rhetorical Theories and the Teaching of Composition (5)
Introduction to major rhetorical theories underlying modern composition pedagogy.

592B Research Methods in Rhetoric and Composition (5)
Study of research methodology in rhetoric and composition.

592C Rhetoric in Reading (5)
Links teaching of writing to teaching of reading.

592D The Rhetorical Tradition and the Teaching of Writing (5)
Relates classical rhetorical theory to developments in contemporary rhetorical theory, criticism, practice, and pedagogy.

592E Computers and Composition Pedagogy (5)
Investigates recent debates about the effects of electronic media on post-secondary literacy and writing instruction within the context of English studies. Emphasizes hands-on experiences with electronic discourse through participation in electronic venues and composition in digital media.

592F History of Composition (5)
Examines some of the forces, both internal and external, that have influenced the teaching of writing over the past two hundred years and that have shaped the relatively new discipline of composition. Provides a context in which students can situate themselves individually in the discipline.

593 Bibliography and Methods (5)
Enumerative and descriptive bibliography; methods of criticism and scholarship in English studies.

650 Master's Essay (5)
Preparation of master's essay prospectus.

651 Master's Essay (5)
Completion of master's essay.

690 Creative Writing Seminar (5)
Workshop including criticism of manuscripts and discussion of problems of form. By permission only, except for students accepted into creative writing program.

691 Creative Writing Seminar (Winter) (5)
See ENG 690.

692 Creative Writing Seminar (Spring) (5)
See ENG 690.

694 History of the Essay (5)
Surveys the history of the essay and its varieties: familiar, literary, philosophical, critical, theoretical, and personal.

695 Master's Thesis (1–10)

703 English Language (5)
Selected topics.

709 Medieval Language and Literature (5)
Selected topics.

710 Chaucer (5)
Selected topics.

711 18th-Century Novel (5)
Selected topics.

712 19th-Century Novel (5)
Selected topics.

713 Early Modern British Literature (5)
Selected topics.

714 Spenser (5)
Selected topics.

715 Theory of Teaching Literature (5)
Discussions of theoretical and practical problems of teaching literature in colleges and universities.

716 Apprenticeship in Teaching Literature (5)
Permission required. Experience in teaching upper division undergraduate literature courses in specialized areas by observing and teaching with experienced graduate instructors.

717 Milton (5)
Selected topics.

718 Restoration (5)
Selected topics.

719 18th-Century Literature (5)
Selected topics.

723 Romanticism (5)
Selected topics.

724 Shakespeare (5)
Selected topics.

725 Victorian Poetry (5)
Selected topics.

726 19th-Century Prose (5)
Selected topics.

727 20th-Century Literature (Modernism) (5)
Selected topics.

728 20th-Century Literature (Postmodernism) (5)
Selected topics.

729 American Literature to 1776 (5)
Selected topics.

730 American Liteartur 1776-1865 (5)
Selected topics.

731 Major Medieval Genre (5)
Selected topics.

732 Renaissance Drama Excluding Shakespeare (5)
Selected topics.

733 American Literature 1865-1918 (5)
Selected topics.

734 20th-Century American Literature (5)
Selected topics.

735 African American Literature (5)
Selected topics.

736 Critical Theory I (5)
Introduction to critical theory.

737 Critical Theory II (5)
Selected topics in critical theory.

765 Theory of Literature (5)
Required of all master's and doctoral students in creative writing. Investigations into form and theory of literature and problems of practical literary criticism. Sections offered annually in poetry, fiction, and nonfiction.

777 Colloquium on the Profession of English (1)
Required of all doctoral students every quarter of coursework. Prepares students for the profession of college teaching and research in English.

780 Special Studies Seminar (5)
Selected topics in literature, theory, creative writing, and rhetoric/composition.

781 Research (1–15)

782 Research (1–15)

791 Professional Issues in Teaching College English (1)
Colloquium for apprentice teachers designed to explore alternative approaches to classroom planning and presentation. Encourages exchange of ideas and problems among teachers; evaluation methods, syllabi, and texts; development of a sense of professionalism in teaching.

792A Major Rhetorical Theories and the Teaching of Composition (5)
Introduction to major rhetorical theories underlying modern composition pedagogy.

792B Research Methods in Rhetoric and Composition (5)
Study of research methodology in rhetoric and composition.

792C Rhetoric in Reading (5)
Links teaching of writing to teaching of reading.

792D The Rhetorical Tradition and the Teaching of Writing (5)
Relates classical rhetorical theory to developments in contemporary rhetorical theory, criticism, practice, and pedagogy.

792E Computers and Composition Pedagogy (5)
Investigates recent debates about the effects of electronic media on post-secondary literacy and writing instruction within the context of English studies. Emphasizes hands-on experiences with electronic discourse through participation in electronic venues and composition in digital media.

792F History of Composition (5)
Examines some of the forces, both internal and external, that have influenced the teaching of writing over the past two hundred years and that have shaped the relatively new discipline of composition. Provides a context in which students can situate themselves individually in the discipline.

895 Dissertation (1–15)

Environmental and Plant Biology

http://www.plantbio.ohiou.edu/

Doctor of Philosophy and Master of Science degree programs are offered in biochemistry, cell biology, ecology, evolution, molecular biology, plant morphology, paleobotany, plant physiology, and plant systematics. The department also participates in the interdisciplinary M.S. and Ph.D. programs in molecular and cellular biology and the M.S. program in environmental studies.

To begin graduate study, you must have at least 24 quarter hours (or equivalent) of botany and/or related biological sciences. You also must have completed genetics, organic chemistry, and quantitative skills (i.e., calculus, statistics, or computer science). You may eliminate deficiencies in undergraduate preparation during the course of graduate study. Scores from the aptitude test of the Graduate Record Examination are required. Foreign applicants whose native language is not English must submit scores from the Test of English as a Foreign Language (TOEFL) as an evaluation of English proficiency.

For Ph.D. students, an advisory committee will determine the program of study, including coursework and quantitative skills (e.g., calculus, statistics, computer science). All graduate students are required to teach a minimum of two quarters during their tenure in the department. A research thesis (M.S.) or dissertation (Ph.D.) resulting from original research is required. A nonthesis terminal M.S. degree is also an option.

Applications for admission to graduate study in environmental and plant biology are accepted during all quarters. Applications for financial aid for the following academic year should be received by January 15.

Environmental and Plant Biology Courses (PBIO)

507 Algal & Bryophyte Morphology (6)
Comparative studies of structure, evolutionary relationships, life histories, and reproduction of selected representatives of major groups of algae and bryophytes. 4 lec, 4 lab. *Vis; Sp; A.*

508 Vascular Plant Morphology (6)
Comparative morphology, anatomy, and life histories of vascular plants. 3 lec, 6 lab. *Rothwell; F; A.*

509 Plant Systematics (6)
Principles and methods of systematics; angiosperm taxonomy; processes and patterns of vascular plant evolution. Emphasis in lab on angiosperm floral morphology, pollination mechanisms, and family characteristics. 3 lec, 6 lab, Saturday field trip. *Cantino; Sp; Y.*

510 Biology of Fungi (5)
Life histories and characteristics unique to fungi. Collection and identification of mushrooms, plant pathogens, and slime molds. Biotrophic, saprotrophic, and necrotrophic relationships of fungi with plants. Field and laboratory. 4 lec, 2 lab. *Cavender; F; D.*

515 Quantitative Methods in Plant Biology (5)
Prereq: introductory statistics. Lecture: biostatistics and applications in the plant sciences; scientific method, hypothesis testing, and design of experiments; sampling, data analysis, regres-sion and correlation, analysis of variance, parametric and nonparametric statistics. Lab: microcomputer applications in spreadsheet analysis, statistics, and graphics. 4 lec, 2 lab. *McCarthy; W; Y.*

518 Writing in the Life Sciences (4)
Current research and public controversy dealing with topics in biology and plant science will provide students opportunities to practice and master skills needed for successful written communication in the fields of plant science and biology. 4 lec. *Wyatt; W; Y.*

520 Phycology (5)
Classification, nomenclature, relationships, morphology, reproduction, life histories, and economic importance of freshwater and marine algae. 3 lec, 4 lab. *Vis; Sp; A.*

522 Tropical Plant Ecology (4)
Prereq: PBIO or BIOS major or perm. Tropical rainforest studies around the world, including basic plant ecology, conservation, and management. 4 lec. *Matlack; F; Y.*

524 Plant Physiology (6)
Basic chemical and physical aspects of plant processes; phoyosynthesis, respiration, mineral nutrition, transport, nitrogen metabolism, water relations, and growth. 3 lec., 4 lab. *Faik; Sp; Y.*

526 Physiological Plant Ecology (5)
A hands-on approach to exploring the physiological and anatomical adaptations of plants to their environments. Weekly (outdoor) labs will survey abiotic factors and plant physiological responses using state-of-the-art technology. 3 lec, 4 lab. *Brown; Sp; A.*

527 Molecular Genetics (3)
Fine structure of gene, biochemistry of gene action, genetic regulation. 3 lec. *Showalter; Sp; Y.*

531 Plant Cell Biology (5)
Biochemical, cytochemical, and ultrastructural aspects of the nucleus and cytoplasmic organelles, mitosis, meiosis, and cellular differentiation. 3 lec, 4 lab. *Faik; F; Y.*

535 Plant Population Biology (5)
Acquaint students with basic demographic processes as experienced by plant populations; 2) explore the demographic implications of a range of plant growth forms and life histories; 3) present the material in the context of a variety of models. The course will take an evolutionary/ behavioral approach to plant populations. 3 lec 4 lab. *Matlack; W; A.*

536 Plant Community Ecology (5)
Advanced concepts and theory of plant community ecology. Emphasis will be placed on the interplay between theory and empirical studies. Classic literature will be reviewed and case studies developed from the modern literature to explore current ideas of theory, approach, and experimentation. Laboratories will emphasize modern field methods of vegetation analysis and environmental assessment. 3 lec 4 lab. *McCarthy; F; A.*

537 Ecosystem Ecology (4)
Analysis of the composition, function, and heterogeneity of ecosystems. Topics include: atmospheric, climate and geological controls on ecosystem function, comparisons of aquatic and terrestrial ecosystems, ecosystem carbon cycling, nutrient cycling and trophic dynamics. Synthesis with evaluation of human impacts on ecosystems, locally and globally. *Brown; F; Y.*

542 Experimental Anatomy of Plant Development (6)
The concepts of plant development have been integrated with the descriptive assessment of cell, tissue, and organ types that are the mainstay of plant anatomy to provide an exciting opportunity for all plant biologists. The course is grounded in experimentation and includes cutting edge methodologies. 3 lec 6 lab. *Wyatt and Rothwell; W; Y.*

550 Biotechnology and Genetic Engineering (4)
Introduction to basic molecular biological concepts and techniques in biotechnology and genetic engineering, including discussion of current experimentation and progress in these fields. 4 lec. *Showalter; F; Y.*

560 Paleobotany (6)
Morphology, evolution, and stratigraphic position of representative fossil plant groups. Field trips. 3 lec, 6 lab. *Rothwell; F; D.*

575 Plant Speciation (5)
Theories and principles of evolution and speciation in plants, emphasizing microevolution, breeding systems, cytology, species concepts, and species complexes. 3 lec, 4 lab. *Ballard; W; A.*

580 Molecular Approaches in Plant Systematics, Ecology, and Evolution (5)
Overview of comparative molecular approaches used to infer relationships in plants at level of populations, species and lineages. 3 lec, 4 lab. *Ballard; W; A.*

670 Botanical Pedagogy (1)
Preparation for botanical teaching in colleges and universities. *F, W, Sp, Su; Y.*

691 Seminar (2)
Graduate students present seminars on topics of current botanical interest. *F, W, Sp, Su; Y.*

693 Topics in Botany (2–6)
Advanced discussion courses offered when there is sufficient student interest in a significant current topic. Previous topics have included histochemical methods, current problems in biochemistry, plant anatomy, pteridology, and soil microbiology. *D.*

694 Graduate Research (1–15)
Original research in field of major interest under supervision of major advisor. Results and conclusions resulting from research may be presented in M.S. thesis or Ph.D. dissertation as partial fulfillment for respective degree. *F, W, Sp, Su; Y.*

695 Thesis (1–15)
Formal presentation of results of research as partial fulfillment of requirements for M.S. *F, W, Sp, Su; Y.*

696 Topics in Organismal Botany (2–6)
Advanced discussion courses offered when there is sufficient student interest in a significant current topic. *D.*

697 Topics in Cell Biology (2–5)
Advanced discussion courses offered when there is sufficient student interest in a current topic. *D.*

698 Topics in Ecology and Evolutionary Botany (1–6)
Advanced discussion courses offered when there is sufficient student interest in a significant current topic. *D.*

895 Dissertation (1-15)
Formal presentation of results of research as partial fulfillment of requirement for Ph.D. *F, W, Sp, Su; Y.*

Environmental Studies

http://www.ohio.edu/envstu/

Graduate work leading to the Master of Science in environmental studies is developed around an interdisciplinary program of coursework and research. The following five areas constitute available curricular concentrations:

Life sciences—courses selected primarily from biological sciences and plant biology

Physical and earth sciences—courses selected from chemistry, chemical engineering, civil engineering, geography, geology, industrial and systems engineering, and mechanical engineering

Environmental policy and planning—courses selected from business, civil engineering, economics, industrial and systems engineering, geography, and political science

Environmental monitoring—courses selected from biological sciences, chemical engineering, chemistry, civil engineering, plant biology, geology, and geography.

Environmental archaeology—courses selected from anthropology, biological sciences, plant biology, geography, geology, history, and political science.

Specific requirements for each concentration area are available upon request from the program director.

In addition to conventional programs of study developed around the five areas of concentration, you have the option of pursuing a combined master's degree program that allows you to combine the breadth of environmental studies with the focus of a departmental discipline. See the Degree Requirements section, in which University regulations for combined master's degree programs are discussed.

Admission

Admission to the graduate program in environmental studies requires an undergraduate degree in agriculture, biology, botany, chemistry, ecology, economics, environmental studies, engineering, forestry, geography, geology, microbiology, zoology, or other cognates. If you lack a suitable background in one of these fields, you may be admitted to the program but required to take additional coursework. A transcript of undergraduate work and three letters of recommendation are required with your application for admission. Deadlines for admission are January 1 for fall quarter, October 1 for winter quarter, and February 1 for spring quarter. To be considered for financial aid, submit your application by January 1 of the academic year preceding admission.

The minimum undergraduate grade-point average (g.p.a.) necessary for unconditional admission is 3.0 (of 4.0). Some students with a g.p.a. between 2.8 and 3.0 are admitted on conditional status but must achieve a g.p.a. of 3.0 in their first 15 hours of graduate coursework.

Requirements

You are required to complete at least 45 credit hours of graduate coursework. Of these, at least 17 credits (three courses) are core courses, and at least 20 additional credits (four to six courses) are in your area of concentration. The balance of the 45 hours comes from other graduate courses, plus graduate research.

Students may select their remaining courses from one of the five curriculum concentrations: Life Sciences, Physical and Earth Sciences, Environmental Monitoring, Environmental Archaeology, or Environmental Policy and Planning.

The core course requirement is satisfied by successful completion of ES 659 Environmental Studies Seminar, and the following courses: GEOG 547 Resource Management, GEOG 557 Environmental Law, POLS 525 Environmental and Natural Resources Policy, plus one graduate ecology course: BIOS 577 Population Ecology, BIOS 578 Community Ecology, MICR 575 Microbial Ecology, GEOG 517 Landscape Ecology, ANTH 578 Human Ecology, PBIO 536 Plant Community Ecology, or PBIO 537 Ecosystem Ecology

The program takes two years to complete. Each student completes interdisciplinary graduate coursework and independent research as a thesis or as a non-thesis research report. The non-thesis research report includes written comprehensive examinations.

Environmental Studies Courses (ES)

658 Environmental Studies Colloquium (2)
Prereq: ES major. Orientation course primarily for new students in the environmental studies program. Covers general topics in curriculum, research, and career planning. *F, W, Sp.*

659 Seminar in Environmental Studies (3)
Prereq: ES major. Provides forum for discussion and analysis of contemporary environmental problems. Topics vary depending on interests of seminar students. This course is required fall quarter for all new students, and may be taken winter or spring quarters for additional credit

Foreign Languages and Literatures

http://www.ohio.edu/departments/foreign.html

Courses are offered in African and Asian Languages (Chinese, Indonesian/ Malaysian, Japanese, Swahili, Southeast Asian Literature in Translation); Germanic, Romance, and Slavic Languages (Modern Languages Professional Courses, French, German, Italian, Russian, Spanish); Classical Languages (Greek, Latin). Master of Arts degree programs in French and Spanish are offered.

African and Asian Languages

Chinese Courses (CHIN)

511 Elementary Chinese I (3–5)
Study of spoken and written Mandarin. *Tao; F; Y.*

512 Elementary Chinese II (3–5)
Prereq: 511 or equiv. Study of spoken and written Mandarin. *Tao; W; Y.*

513 Elementary Chinese III (3–5)
Prereq: 512 or equiv. Study of spoken and written Mandarin. *Tao; Sp; Y.*

521 Intermediate Chinese I (3–5)
Prereq: 513 or equiv. Intensive study of spoken and written Mandarin. *Tao; F; Y.*

522 Intermediate Chinese II (3–5)
Prereq: 521 or equiv. Intensive study of spoken and written Mandarin. *Tao; W; Y.*

523 Intermediate Chinese III (3–5)
Prereq: 522 or equiv. Intensive study of spoken and written Mandarin. *Tao; Sp; Y.*

531 Advanced Chinese I (3–5)
Prereq: 523 or equiv. Intensive study of spoken and written Mandarin. *Tao; F; Y.*

532 Advanced Chinese II (3–5)
Prereq: 531 or equiv. Intensive study of spoken and written Mandarin. *Tao; W; Y.*

533 Advanced Chinese III (3–5)
Prereq: 532 or equiv. Intensive study of spoken and written Mandarin. *Tao; Sp; Y.*

599 Special Studies (1–3)
Prereq: perm. Reading and discussion of arranged assignments in books, periodicals, and tapes on specific topics related to Chinese language and culture. *Tao; F, W, Sp, Su;Y.*

Indonesian/Malaysian Courses (INDO)

511 Elementary Indonesian/Malaysian I (3–5)
Study of spoken and written Indonesian/ Malaysian. *Soemarmo; F; Y.*

512 Elementary Indonesian/Malaysian II (3–5)
Prereq: 511 or equiv. Study of spoken and written Indonesian/ Malaysian. *Soemarmo; W; Y.*

513 Elementary Indonesian/Malaysian III (3–5)
Prereq: 512 or equiv. Study of spoken and written Indonesian/ Malaysian. *Soemarmo; Sp; Y.*

521 Intermediate Indonesian/Malaysian I (3–5)
Prereq: 513 or equiv. Study of spoken and written Indonesian/ Malaysian. *Soemarmo; F; Y.*

522 Intermediate Indonesian/Malaysian II (3–5)
Prereq: 521 or equiv. Study of spoken and written Indonesian/ Malaysian. *Soemarmo; W; Y.*

523 Intermediate Indonesian/Malaysian III (3–5)
Prereq: 522 or equiv. Study of spoken and written Indonesian/ Malaysian. *Soemarmo; Sp; Y.*

531 Advanced Indonesian/Malaysian I (3–5)
Prereq: 523 or equiv. Study of spoken and written Indonesian/ Malaysian. *Soemarmo; F; Y.*

532 Advanced Indonesian/Malaysian II (3–5)
Prereq: 531 or equiv. Study of spoken and written Indonesian/ Malaysian. *Soemarmo; W; Y.*

533 Advanced Indonesian/Malaysian III (3–5)
Prereq: 532 or equiv. Study of spoken and written Indonesian/ Malaysian. *Soemarmo; Sp; Y.*

599 Special Studies (1–3)
Prereq: perm. Individual study of selected Southeast Asian topics. *Soemarmo; F, W, Sp, Su; Y.*

Japanese Culture Courses (JPC)

510 Field Study in Japan (2)
Cultural orientation designed to prepare students for study abroad in Japan. Taught in English. *Thompson; Sp.*

550 Japan: A Sociocultural Interpretation (5)
Focused readings in English designed to broaden students' understanding of Japanese culture for personal, academic, or professional purposes. *Thompson; Sp.*

Japanese Courses (JPN)

511 Elementary Japanese I (3–5)
Study of spoken and written Japanese. *Oshita; F; Y.*

512 Elementary Japanese II (3–5)
Prereq: 511 or equiv. Study of spoken and written Japanese. *Oshita; W; Y.*

513 Elementary Japanese III (3–5)
Prereq: 512 or equiv. Study of spoken and written Japanese. *Oshita; Sp; Y.*

521 Intermediate Japanese I (3–5)
Prereq: 513 or equiv. Study of spoken and written Japanese. *Oshita; F; Y.*

522 Intermediate Japanese II (3–5)
Prereq: 521 or equiv. Study of spoken and written Japanese. *Oshita; W; Y.*

523 Intermediate Japanese III (3–5)
Prereq: 522 or equiv. Study of spoken and written Japanese. *Oshita; Sp; Y.*

531 Advanced Japanese I (3–5)
Prereq: 523 or equiv. Study of spoken and written Japanese. *Oshita; F; Y.*

532 Advanced Japanese II (3–5)
Prereq: 531 or equiv. Study of spoken and written Japanese. *Oshita; W; Y.*

533 Advanced Japanese III (3–5)
Prereq: 532 or equiv. Study of spoken and written Japanese. *Oshita; Sp; Y.*

538 Spoken Japanese I (4)
Prereq: 523 or perm. Development of receptive and productive skills for extended oral discourse in a wide range of interpersonal communicative situations. Emphasis on sociocultural aspects of language use. *Oshita; Sp; Y.*

541 Business Japanese I (4)
Prereq: 523 . Adaptation of productive and receptive skills introduced in JPN 511–523 for use in the context of the contemporary Japanese workplace. *Thompson; W; Y.*

548 Readings in Japanese Culture I (4)
Prereq: 523 or 531 or perm. Social, political, and cultural aspects of modern Japan through readings, discussions, class reports, and short papers. All work will be done in Japanese. *Oshita; W; Y*.

549 Readings in Japanese Culture II (4)
Prereq: 548 or perm. Social, political, and cultural aspects of modern Japan through readings, discussions, class reports, and short papers. All work will be done in Japanese. *Oshita; Sp; Y.*

599 Special Studies (1–3)
Prereq: perm. Reading and discussion of arranged assignments in books, periodicals, and tapes on specific topics related to Japanese language and culture. *Oshita; F, W, Sp, Su; Y.*

Swahili Courses (SWAH)

511 Elementary Swahili I (3–5)
Study of spoken and written Swahili. *Githinji; F; Y.*

512 Elementary Swahili II (3–5)
Prereq: 511 or equiv. Study of spoken and written Swahili. *Githinji; W; Y.*

513 Elementary Swahili III (3–5)
Prereq: 512 or equiv. Study of spoken and written Swahili. *Githinji; Sp; Y.*

521 Intermediate Swahili I (3–5)
Prereq: 513 or equiv. Study of spoken and written Swahili. *Githinji; F; Y.*

522 Intermediate Swahili II (3–5)
Prereq: 521 or equiv. Study of spoken and written Swahili. *Githinji; W; Y.*

523 Intermediate Swahili III (3–5)
Prereq: 522 or equiv. Study of spoken and written Swahili. *Githinji; Sp; Y.*

531 Advanced Swahili I (3–5)
Prereq: 523 or equiv. Study of spoken and written Swahili. *Githinji; F; Y.*

532 Advanced Swahili II (3–5)
Prereq: 531 or equiv. Study of spoken and written Swahili. *Githinji; W; Y.*

533 Advanced Swahili III (3–5)
Prereq: 532 or equiv. Study of spoken and written Swahili. *Githinji; Sp; Y.*

599 Special Studies (1–3)
Prereq: perm. Reading and discussion of arranged assignments in books, periodicals, and tapes on specific topics related to Swahili language and East African culture. *Githinji; F,W, Sp, Su; Y.*

Southeast Asian Literature in English Courses (ILL)

540 Traditional Literature of Southeast Asia (3)
Survey of traditional literature of Southeast Asia in translation. *McGinn; W; Y.*

545 Modern Literature of Southeast Asia (3)
Survey of modern literature of Southeast Asia in translation. *McGinn; Sp; Y.*

Germanic, Romance, and Slavic Languages

Master of Arts programs are offered in French and Spanish. Both thesis and nonthesis programs are available. Courses for a secondary area can be taken in any language offered by the Department of Modern Languages. You may apply for admission to a graduate degree program in modern languages in any quarter, but preference will be given to applications received in the fall quarter. Application materials must be received two quarters prior to the quarter for which you are seeking admission; to be considered for financial aid for the following academic year, you must submit application materials by Jan. 15 in Spanish and Feb. 1 in French. Qualified teaching assistants may have an opportunity to teach in one of the department's programs abroad.

You also can earn a Master of Education with certification and a major in one modern foreign language, or a Ph.D. in education with 12 graduate courses in one modern foreign language. Consult the College of Education for further information.

To begin a graduate major in a modern foreign language, you should have completed an undergraduate major of 40 quarter hours beyond course 213 or the equivalent in that language. To begin a secondary area of modern languages, you should have completed a minimum of six hours of undergraduate work at the 300 level or the equivalent in the language. You can make up deficiencies in undergraduate preparation during the summer preceding graduate work or during the first quarter of study.

Twelve graduate courses in the major field are required for the M.A. in Spanish and in French. You must also demonstrate a reading knowledge of a second modern language or Latin, to be shown either by passing 113 in a modern foreign language, Latin 113, or an equivalent intermediate course with at least a grade of B; passing the examination given for 513 (ETS Foreign Language Tests or a translation test prepared by the Modern Languages Department); or by passing a literature course in the foreign language. Graduate students in Spanish and French may alternatively pass the second language requirement by demonstrating that they have completed one entire year of undergraduate study in a language or by taking 511, 512, and 513. In lieu of a foreign language, you may present two graduate courses in linguistics in addition to the 12 graduate courses required for the M.A. in Spanish and in French. Spanish teaching assistants are required to register for one hour of 699 each of the first three quarters they are on financial appointment. French teaching assistants must register for one hour of 699 each quarter they are on financial appointment. To complete the M.A. degree you must pass a written and an oral comprehensive examination based on coursework and a reading list.

For further information regarding admissions, program options, and degree requirements, write to the graduate chair, Department of Modern Languages, Ohio University, Gordy Hall, Athens OH 45701-2979, or consult our Web site.

Modern Languages Courses (ML)

510 Technology in Language Teaching (4)
For graduate students in teaching English as a foreign language, modern foreign language graduate associates, graduate teaching associates in linguistics, graduate education students, and teachers in secondary schools and colleges.

530 Video in Foreign Language Teaching (5)
This course is to develop students' ability to evaluate foreign language video programs, to teach techniques for developing their own video programs (e.g., operating video production equipment and editors, developing scripts and Quicktime movies), and to teach methods for integrating television and video into the foreign language classroom.

535 Teaching Foreign Languages in the Elementary School (4)
Readings and discussions of the cognitive development of children and second-language acquisition provide the basis for practical class work. Students design units and prepare learning activities to present in class. Lab experience includes 20 hours observation and participation on the elementary school level.

545 Teaching of Modern Foreign Languages (4)
Problems confronting students on level of instruction (elementary school, secondary school, college) at which they teach or plan to teach.

590 Special Topics (1–15, max 15)
Special graduate-level projects in various areas of modern foreign language study (literature, civilization, language development, and language technology) for graduate students with insufficient foreign language proficiency to participate in MLD graduate-level courses offered in the target languages. This course is not intended as a substitute for the 511-512-513 sequences in French, German, Italian, Russian, and Spanish. (Credit does not count toward M.A. in French or Spanish.)

French Courses (FR)

511 French for Graduate Reading Requirement (3–5)
Preparation for reading knowledge examination required by some departments. (Credit does not count toward graduate major.)

512 French for Graduate Reading Requirement (3–5)
Continuation of 511. See 511 for description.

513 French for Graduate Reading Requirement (3–5)
Continuation of 511 and 512. See 511 for description.

515 French Literature of the Renaissance (5)
Major 16th-century poets, including DuBellay and Ronsard.

516 French Literature of the Renaissance (5)
Major 16th-century prose writers, including Rabelais and Montaigne.

518 17th-Century French Literature (5)
Works by numerous authors, including at least some of the following: Descartes, Pascal, Mme de La Fayette, La Rouchefoucauld, La Bruyére, La Fontaine, and Boileau.

519 17th-Century French Literature (5)
Major plays of Corneille, Racine, and Molière.

523 18th Century (5)
French literature and thought in Age of Enlightenment.

524 18th Century (5)
Continuation of 523.

525 Romanticism (5)
Romanticism in drama, poetry, and fiction of first half of 19th century.

526 Realism and Naturalism (5)
Major fictional works of 19th century.

527 French Poetry in the Second Half of the 19th Century (5)
Poetry of Baudelaire, Verlaine, Rimbaud, Mallarmé, and others.

529 20th-Century French Literature (5)
French prose fiction before WW II.

531 20th-Century French Literature (5)
French prose fiction since WW II

533 20th-Century French Literature (5)
French drama of the 20th century.

537 Applied Phonetics (5)
Systematic study of segmental and prosodic elements of French pronunciation including extensive oral practice.

539 Modern French Usage (5)
Fine points of grammar. Practice in writing and reading.

541 Stylistics and Criticism (5)
Explication de texte. Introduction to literary criticism.

554 Francophone Literature of Sub-Saharan Africa, Maghreb, and the Caribbean (5)
Representative works by 20th century Francophone Sub-Saharan, Maghreb, and Caribbean writers, including at least, but not limited to, Malika Makeddem, Léopold Senghor, Ferdinand Oyono, Maryse Condé, and Simone Schwartz-Bart. Works are studied in their historical and cultural contexts. Readings, lectures, films, and discussions.

559 French Civilization and Culture (5)
Social, political, and cultural development of France from its origins to French Revolution.

560 French Civilization and Culture (5)
Social, political, and cultural development of France from French Revolution to present.

561 Graduate Study in France (1–15) (as recommended by dept)
Research project must be approved by graduate committee. Research paper must be presented to graduate committee by end of quarter following foreign study.

562 Graduate Study in France (1–15) (as recommended by dept)
Continuation of 561. See 561 for description.

563 Graduate Study in France (1–15) (as recommended by dept)
Continuation of 561 and 562. See 561 for description.

564 Francophone Literature of Quebec (5)
Representative works by 20th century Francophone writers of Quebec, including at least, but not limited to, Anne Hébert, Roch Carrier, Michel Tremblay, and Marie-Claire Blais. Works are studied in their historical and cultural contexts. Readings, lectures, films, and discussions.

602 Seminar (5, max 10)
Advanced study of period, movement, genre, work, or author.

603 Seminar (5, max 10)
See 602 for description.

695 Thesis (1–15)
Prereq: perm.

696 Directed Readings in French Language, Literature, and Culture (1–15, max 30)
Supervised reading in selected areas for students preparing for comprehensive exams. Final grade is recorded when departmental comprehensive examination has been taken.

698 Independent Study in French (1–5, max 15)
Supervised research projects.

699 Problems in Teaching College French (1, max 6)
Designed to provide guidance for teaching associates during their two years of instructing college students in beginning language course. Methods of presentation and difficulties in grammar and syntax discussed. Skill of making valid and fair tests developed.

German Courses (GER)

511 German for Graduate Reading Requirement (3–5)
Preparation for reading knowledge examination required by some departments. (Credit does not count toward graduate major.)

512 German for Graduate Reading Requirement (3–5)
Continuation of 511. See 511 for description.

513 German for Graduate Reading Requirement (3–5)
Continuation of 511 and 512. See 511 for description.

698 Independent Study in German (1–4, max 4)
Supervised reading on a specific topic.

Italian Courses (ITAL)

511 Italian for Graduate Reading Requirement (3–5)
Preparation for reading knowledge examination required by some departments. (Credit does not count toward degree.)

512 Italian for Graduate Reading Requirement (3–5)
Continuation of 511. See 511 for description.

513 Italian for Graduate Reading Requirement (3–5)
Continuation of 511 and 512. See 511 for description.

Russian Courses (RUS)

511 Russian for Graduate Reading Requirement (3–5)
Preparation for reading knowledge examination required by some departments. (Credit does not count toward degree.)

512 Russian for Graduate Reading Requirement (3–5)
Continuation of 511. See 511 for description.

513 Russian for Graduate Reading Requirement (3–5)
Continuation of 511 and 512. See 511 for description.

698 Independent Study in Russian (1–4, max 4)
For students who have established superior records and who have exceptional or native fluency in Russian.

Spanish Courses (SPAN)

511 Spanish for Graduate Reading Requirement (3–5)
Preparation for reading knowledge examination required by some departments. (Credit does not count toward graduate major.)

512 Spanish for Graduate Reading Requirement (3–5)
Continuation of 511. See 511 for description.

513 Spanish for Graduate Reading Requirement (3–5)
Continuation of 511 and 512. See 511 for description.

521 Medieval Spanish Literature (5)
Readings from *Cantar de Mío Cid*, Gonzalo de Berceo, Juan Ruíz, and other works from the 11th through mid-14th centuries.

522 Medieval Spanish Literature (5)
Continuation of 521 with a focus on prose and lyric poetry to include Alfonso el Sabio, don Juan Manuel, and *La Celestina*.

525 19th Century Spanish Literature 1800–1850 (5)
Romanticism, costumbrismo, and other movements in drama, essay, and poetry.

527 19th Century Spanish Literature 1850–1900 (5)
Evolution of the novel in 19th-century Spain, including novels selected from the work of the following: Valera, Pereda, Galdós, Alas, Pardo Bazán, Blasco Ibáñez.

529 Generation of '98 (5)
Representative works by early 20th-century Spanish writers, including at least some of the following: Azorín, Baroja, Valle-Inclán, Unamuno, A. Machado, Pérez de Ayala, Ortega y Gasset, and Juan Ramón Jiménez.

532 20th Century Spanish Literature (5)
Study of Spanish literature of various genres since 1925. The course may highlight the poetic generation of 1927, contemporary poetry or theatre, or the novel of the democratic period.

537 Applied Phonetics (5)
Systematic description of the sound system of Spanish.

538 Hispanic Dialectology and Sociolinguistics (5)
Overview of major dialects of the Hispanic world and exploration of the sources of dialectal variation, e.g. age-based, gender-related, and socio-cultural, among others. Readings, lectures, class presentations, and discussions.

539 Modern Spanish Usage (5)
The grammatical structure of modern Spanish.

540 Teaching Spanish: Theory and Methodology (5)
This course provides an introduction to the philosophy and theoretical orientation of the teaching of Spanish language and cultures; an introduction to issues in second language acquisition research, with a focus on Spanish; and opportunities to develop professional and instructional materials.

541 Stylistics (5)
Analysis of literary styles and study of techniques used to acquire correct style in writing Spanish.

543 Spanish American Literature (5)
Main movements of Spanish American literature from colonial period through Modernismo.

544 Spanish American Literature (5)
Continuation of 543. Main movements of Spanish American literature from Modernismo through contemporary period. Includes all genres.

547 Themes from Spanish American Prose (5)
Open topic course on narrative essay, prose and poetry of Spanish America.

548 Contemporary Spanish American Literature (5)
The study of XXth and XXIst Century Spanish American literature.

550 History of Art in Spain (1500–present) (5)
Survey of major artists and artistic movements in Spain from 1500 to the present; study of artistic patronage and history of Spanish museums.

553 Drama of the Golden Age (5)
Works by Lope de Vega, Calderon de la Barca, Tirso de Molina, Juan Ruiz de Alarcón, and related dramatists.

554 Golden Age Poetry (5)
Works by Garcilaso de la Vega, San Juan de la Cruz, Luis de León, Lope de Vega, Luis de Góngora, Francisco de Quevedo, and related poets.

555 Novel of the Golden Age (5)
Picaresque novel, Cervantes' *Novelas Ejemplares,* and other examples of the novel from this period.

557 History of the Spanish Language (5)
Evolution of Spanish language from pre-Romance Iberian languages to present. Consideration of contemporary dialects. Some knowledge of Latin recommended.

558 Don Quijote de la Mancha (5)
Intensive study of Part One and Part Two of Spain's greatest novel.

559 Spanish Civilization and Culture (5)
Comprehensive survey of Spanish civilization and culture including setting, historical background, regionalism, intellectual currents, and movements in arts which lead into and form modern Spain.

560 Spanish American Civilization and Culture (5)
Reading and interpretation of Spanish American philosophical, political, historical, social, and artistic thought as expressed in essay. Occasional visits of lecturers from other disciplines will provide different perspectives on same subject and thus cross-fertilization of ideas.

561 Graduate Study in Spain or Latin America (1–15) (as recommended by dept)
Research project must be approved by graduate committee. Research paper must be presented to graduate committee by end of qtr following foreign study.

562 Graduate Study in Spain or Latin America (1–15) (as recommended by dept)
Continuation of 561. See 561 for description.

563 Graduate Study in Spain or Latin America (1–15) (as recommended by dept)
Continuation of 561 and 562. See 561 for description.

602 Seminar (5, max 10)
Advanced study of period, genre, work, author, or phenomenon in one of the following areas: (a) literature of the Middle Ages, (b) Renaissance, (c) modern Spanish literature, (d) Latin American literature, (e) Spanish language. May be repeated when topic changes.

603 Seminar (5, max 10)
Continuation of 602. See 602 for description.

695 Thesis (1–15)
Prereq: perm.

696 Directed Readings in Spanish Language, Literature, and Culture (1–15, max 30)
Supervised reading in selected areas for students preparing for comprehensive exams. Final grade is recorded when departmental comprehensive examination has been taken.

698 Independent Study in Spanish (1–5, max 15)
Supervised research projects.

699 Problems in Teaching College Spanish (1, max 3)
Provides guidance for teaching associates in first year of instructing college students in beginning language course.

Greek and Latin Languages

Greek Courses (GK)

501 Beginning Greek (3–5)
Grammar, vocabulary, and reading of ancient Greek. Introduction to Ionic, Attic, and Koine (New Testament) dialects.

502 Beginning Greek (3–5)
Prereq: 501 or equiv. Continuation of 501. See 501 for description.

503 Beginning Greek (3–5)
Prereq: 502 or equiv. Continuation of 501-502. See 501 for description.

504 Greek Prose and Poetry (3–5)
Prereq: 1st yr Greek. Review of language principles. Readings adapted to needs and interests.

505 Greek Prose and Poetry (3–5)
Prereq: 504. Continuation of 504. See 504 for description.

506 Greek Prose and Poetry (3–5)
Prereq: 505. Continuation of 504-505. See 504 for description.

511 Greek Epic Poets (3–5)
Prereq: 506 or equiv. Readings in Greek from Homer and Hesiod.

512 Greek Tragedy (3–5)
Prereq: 506 or equiv. Readings in Greek from Aeschylus, Sophocles, and/or Euripides.

513 Readings in Greek Intellectual History (3–5)
Prereq: 506 or equiv. Readings in Greek from Plato, Thucydides, and/or the Sophists.

514 Greek Historians (3–5)
Prereq: 506 or equiv. Readings in Greek from Herodotus and Thucydides.

515 Greek Comedy (3–5)
Prereq: 506 or equiv. Readings in Greek from Aristophanes.

516 The Greek New Testament and the Milieu of Early Christianity (3–5)
Prereq: 506 or equiv. Readings in Greek from the New Testament, the early Greek fathers, and/or non-Christian writers of interest for the study of early Christianity.

551X Demotic Greek (3-5)
Beginning demotic (modern) Greek.

552X Demotic Greek (3-5)
Prereq: 551X. Continuation of demotic (modern) Greek.

553X Demotic Greek (3-5)
Prereq: 552X. Continuation of demotic (modern) Greek.

598 Independent Study in Greek (1–5, max 10)
Supervised reading in Greek on a specific topic.

Latin Courses (LAT)

501 Latin for Graduate Reading Requirement (3–5)
Preparation for reading knowledge examination required by some departments. (Credit does not count toward degree.)

502 Latin for Graduate Reading Requirement (3–5)
Continuation of 501. See 501 for description.

503 Latin for Graduate Reading Requirement (3–5)
Continuation of 501 and 502. See 501 for description.

511 Studies in Latin Literature of the Republic (3–5)
Extensive reading or study of special topics in period.

512 Studies in Latin Literature of the Republic (3–5)
Continuation of 511. See 511 for description.

513 Studies in Latin Literature of the Republic (3–5)
Continuation of 511 and 512. See 511 for description.

515 Studies in Latin Literature of the Early Empire (3–5)
Extensive reading or study of special topics in period.

516 Studies in Latin Literature of the Early Empire (3–5)
Continuation of 515. See 515 for description.

517 Studies in Latin Literature of the Early Empire (3–5)
Continuation of 515 and 516. See 515 for description.

519 Graduate Reading in Latin Literature (3–5)
Reading and essays to complement undergraduate work in Latin.

520 Graduate Reading in Latin Literature (3–5)
Continuation of 519. See 519 for description.

521 Graduate Reading in Latin Literature (3–5)
Continuation of 519 and 520. See 519 for description.

533 Special Work in Latin Syntax (3–5)
Development of style in writing Latin prose.

540 Special Problems in Latin (2–6, max 12)
Investigation of selected phases of classical study.

French

See Foreign Languages and Literatures.

Geography

http://www-as.phy.ohiou.edu/Departments/Geography/

The Master's Degree program in Geography prepares students for professional positions in government and industry, or for doctoral study. The departmental focus is primarily environmental geography, with faculty strengths in physical (biogeography, geomorphology, meteorology), resource management/land use planning, historical, urban, economic/globalization, agriculture/cultural ecology, and geographic techniques (cartography, remote sensing, GIS). The Department houses several facilities to support research, including the Cartographic Center, Ohioview/Remote Sensing Laboratory the Long Term Social and Ecological Research Laboratory, Scalia Laboratory for Atmospheric Analysis, and the Carl Ross Geomorphological Laboratory.

Prospective students are required to submit transcripts of all undergraduate work, scores on the GRE examination (verbal, quantitative, analytical), a statement of purpose, and three letters of recommendation. International students whose native language is not English must also submit the Test of English as a Foreign Language (TOEFL) scores. Application deadlines for admission to the graduate program are six weeks before the beginning of the quarter for which you are requesting admission, although the Department strongly encourages students to begin their graduate program in the fall quarter. To be considered for financial support for the academic year beginning in September, submit all application materials before March

1; international applicants should submit all materials by February 1. Graduate assistantships are awarded on a competitive basis; the minimum undergraduate grade point average for financial aid and unconditional admittance to the program is 3.0 on a 4.0 scale.

The Department of Geography offers both thesis and non-thesis M.A. degree programs. For the thesis track, students must complete a minimum of 60 quarter hours of graduate study. Students pursuing the thesis option must complete a minimum of nine courses, seven of which must be in Geography. Nonthesis students must complete a minimum of 75 credit hours of graduate study, 50 of which must be in Geography. All students are required to take Research and Writing (GEOG 675) and Quantitative Methods (GEOG 571) during their first year; during their program, students must also complete two graduate seminars. Hours in GEOG 504, 505, 585, and 690 do not count toward the 60 or 75 credit total.

For students following the thesis track, fifteen hours of Thesis (GEOG 695) are required. Students should make every effort to select a thesis advisor early in their program, and defend a proposal before their thesis committee. Students who do not defend a thesis proposal by the middle of their fourth quarter enrolled will be automatically placed in the nonthesis track.

Nonthesis students must develop a program within two systematic fields chosen from such areas as cultural, physical, resource management, economics, population, or urban, supported by at least two courses in geographic techniques. The degree is completed by passing a three-part comprehensive written examination.

Geographic Information Science (GIS) Graduate Certificate

http://www-as.phy.ohiou.edu/Departments/Geography/

Geographic Information Science (GIS) is an important synthesis of traditional mapping with more advanced tools of data modeling and analysis to provide new and enhanced information on geospatial topics. The power of GIS is the use of spatial analysis techniques to analyze geographic information. The GIS certificate offers non-geography majors an opportunity to gain the knowledge, theory, and training to use GIS as a tool to answer research questions relevant to their disciplines. This graduate certificate program offers a balance of theory and technical training in Geographic Information Science (GIS). The certificate program is designed to accommodate both degree and non-degree seeking students.

Students currently enrolled in a graduate degree program can add the certificate program by completing an Application for Update of Program(s), available at the Graduate Studies office. Students not currently enrolled in a graduate degree program must complete a non-degree application as described in the *Graduate Catalog*.

The GIS certificate is comprised of three of the courses listed below, plus GEOG 578 (a minimum of 18 hours).

Required Courses

Core Course: GEOG 578 (5) Principles of GIS

Supporting Courses: Take two (2)
GEOG 560 (5) Cartography

GEOG 566 (5) Remote Sensing

GEOG 570 (5) GIS Applications

GEOG 579 (5) Geographic Information Analysis

Electives: Take one (1)

BIOS 670 (5) Biostatistics I

CE 515 (3) Geodetic Surveying

CS 509N (4) C++ for Non-majors

EE 664 (3) Digital Image Processing

GEOL 505 (6) Modeling and Computational Methods in Geology

HLTH 604 (4) Research and Quantitative Methods for Health Sciences

MIS 580 (4) Business Database

PBIO 515 (5) Quantitative Methods in Plant Biology

PBIO 536 (5) Plant Community Ecology

SOC 550 (5) Data Analysis

Geography Courses (GEOG)

502 Meteorology (5)
General survey of meteorology with focus on physical principles explaining weather change. Lab.

503 Climatology (5)
Exchanges of energy and moisture and their significance in the human use of the earth's surface. Lab.

504 Observations in Meteorology (2)
Prereq: 502. Lab experience in acquisition, measurement, and interpretation of meteorological parameters.

505 Practicum in Meteorological Forecasting (2-10)
Prereq: 502, 504. Lab experience in preparation and dissemination of meteorological forecasts.

506 Introduction to Synoptic Meterology (5)
Introduction to synoptic meteorological analysis with interpretation of surface, upper air, and prognosis charts.

507 Advanced Synoptic Meteorology (5)
The construction and analysis of meteorological models used in predicting meteorological phenomena. Lab.

511 Advanced Physical Geography (5)
Application of physical geographic principles to specific research theme.

515 Landforms and Landscape (5)
A topical approach to the study of landforms and landforming processes as fundamental elements of the physical environment. Includes landforms created by tectonism, volcanism, gravity, streams, glaciers, waves, and the wind. Lab.

516 Biogeography (5)
An examination of the historical, environmental, and biotic influences that shape spatial patterns of plant and animal distributions and community structure in the contemporary landscape. (Cross-listed with BIOS)

517 Landscape Ecology (5)
Explores landscape mosaics, focusing on landscape elements and the implication of spatial pattern for populations, communities, and ecosystems. Examines the role of humans in influencing landscape pattern and change.

518 Research Methods in Plant Biogeography (5)
Integrated, problem-oriented introduction to modern biogeographical research techniques. Emphasis on a range of problems biogeographers address, relevant literature, and traditional and contemporary approaches to particular issues. Students will learn by experience how biogeographers gather and weigh evidence about natural and human processes, employ maps and databases to represent and model real-life situation, analyze spatial, temporal, and functional relationships, and communicate findings.

520 American Ethnic Geography (5)
Systematic and thematic survey of spatial and cultural patterns associated with ethnicity and ethnic groups in the United States. Emphasis on historical and spatial patterns of immigration, the experience of ethnic groups in American plural society, and ethnic contributions to American life.

521 Population Geography (5)
Systematic survey of global population concerns including historic and contemporary patterns of population growth, distribution, fertility, and impact of these on the environment and economic resources. Population policies and trends in international migration examined, as well as gender/equity critiques of population as a development problem.

522 Settlement Geography (5)
Survey of American rural settlement and its European antecedents. Emphasis on evolution and regional variation in property, field, fence, and road patterns on farmsteads and in small towns.

525 Political Geography (5)
Systematic examination of basic approaches, historical development, special problems, and

spatial concepts in political geography. Case studies emphasize the nation-state.

526 Urban Geography (5)
Geographic analysis of cities and urbanization. Examines spatial patterns of cities and factors that lead to growth, decline, and change in urban areas. Introduces models of land use, transportation, population distribution, ethnic patterns, segregation, employment, urban economics, and housing. Studies impact of public policy changes and shifting social attitudes on spatial structure of cities, urban life, and city management.

529 World Economic Geography (5)
Survey of the capitalist world economy, the rise of core economies, (under)development in the periphery and global economic restructuring.

530 Geography of Western Europe (5)
Topical survey of Europe with emphasis on the geographical and cultural historical factors that influenced landscape and regional patterns in the past and today.

531 Geography of Africa (5)
Systematic examination of four selected themes relevant to modern geography of Africa. Emphasis on development.

533 Appalachia: Land and People (5)
Topical and regional survey of Appalachia with emphasis on settlement and expansion, landownership and speculation, society and culture, and the impacts of natural resource extraction.

534 Historical Geography of the United States (5)
Systematic and regional survey of past human geographies of the United States from 1450 to the present. Focus on the development of regional identity over time and space, and manifestations of regional identities on the cultural landscape.

535 Geography of Latin America (5)
Regional survey of Latin America focusing on biophysical systems, rural development, population/migration, cultural geography, and economic development.

536 The Geography of Religious Space and Place (5)
Systematic and regional survey of religious cultural landscapes of the world in comparative perspective. Emphasis on religion as a cornerstone of culture and its manifestations in the cultural landscape. Focus on sacred space and place, pilgrimage and holy sites in selected religious belief systems.

537 The Geography of Religion in the United States (5)
Regional and systematic survey of religious belief systems in the United States. Emphasis on the analysis of the development of regional religious patterns over time and space and the role played by religion in American life. Focus on selected regional and local manifestations of religious belief in the American cultural landscape.

538 Geography of Southeast Asia (5)
Survey of physical geography, natural resources, population, food production, urbanism, and energy within selected regions.

539 Geographic Patterns in Developing Countries (5)
Comparative examination of selected spatial patterns of countries from the developing world.

540 Environmental Impact Analysis (5)
Introduction to analytic techniques, legal responsibilities, and administrative procedures in evaluating environmental impacts of land use change. Practice in production of environmental impact statements and in documenting scientific research.

544 Agricultural Ecosystems (5)
Systematic analysis of agricultural change and sustainability of agricultural systems in the industrial and developing world. A spatial perspective on the globalization of agriculture, agro-biotechnology, and the future of agriculture.

547 Natural Resource Conservation (5)
Themes in American environmental history, resource conservation and management, and contemporary environmentalism.

550 Land Use Planning (5)
Survey of land use issues including mapping, ownership, legal issues, zoning, conservation, subdivision regulation, takings, and habitat conservation planning with practical applications.

553 Environmental Planning (5)
Introduction to the development, implementation, and operation of activities to guide landscape development. Emphasis on interaction between natural and social systems, methods of environmental analysis, and the evolution of environmental planning strategies.

555 Evolution of Planning (5)
Evolution of urban planning in U.S. during 19th and 20th centuries. Housing, parks, ideal communities, intellectual attitudes, zoning and subdivision case law, federal intervention, present programs.

556 City and the Environment (5)
Examination of historical and present-day environmental impacts of urban and suburban expansion in a North American context.

558 Environmental Risk Assessment (5)
Systematic introduction to the concepts, problems, and methods that guide the identification and assessment of environmental risk with emphasis on natural hazards and their geophysical dimensions.

560 Cartography (5)
Introduction to basic design and basic principles of aesthetically pleasing maps. Map construction ranges from simple map compilation to multicolor composition and scale reduction. Lab.

561 Statistical Cartography (5)
Prereq: 560. Cartographic techniques of representing quantitative data on maps. Lab.

565 Air Photo Interpretation (5)
Principles, techniques, and practice used in air photo interpretation for geographers, geologists, community planners, resource managers, and engineers. Lab.

566 Remote Sensing (5)
Application of computer-based statistical pattern recognition techniques to the digital analysis and classification of remotely-sensed imagery. Lab.

568 Automated Cartography (5)
Prereq: 560. Introduction to automated techniques for compiling and producing maps. Issues range from reapplication of manual techniques in a computer environment to fully automated production and GIS.

570 Geographic Information Systems Applications (5)
Applications of geographic information systems (GIS) to solving spatial problems. Instruction is a problem-oriented approach using desktop GIS. Students will learn how to use vector and grid-based GIS to answer problems with a geospatial component. Course emphasizes methods for importing and integrating date sources and digital boundary files from the Internet and other sources. The purpose is to give students critical thinking skills to solve spatial problems using automated methods.

571 Quantitative Methods (5)
Prereq: Permission. Systematic survey of the methods of multivariate analysis used by geographers.

575 Geocomputing (5)
Introduction to methods of systems analysis and modeling directed to study of regional human and environmental processes and their interaction at regional and global scales.

576 Field Methods (5)
Introduction to geographic field methods and techniques. Field mapping, data collection, spatial sampling, data analysis, synthesis, and reporting.

578 Principles of GIS (5)
Systematic introduction to the procedures and techniques that guide the design, implementation, and application of geographic information systems.

579 Geographic Information Analysis (5)
Prereq: 578. In-depth examination of the methods of spatial data analysis and the utilization of GIS.

585 Internship (max 15)
Prereq: perm. Provides qualifying students credit for work study experience in cartography, remote sensing, land-use planning, resource management, and other fields in applied geography. Supervised by geography faculty and evaluated by on-the-job supervisor. Lengthy report summarizes experience.

593 Colloquium (1)

666 Seminar in Cartography (5)

675 Research and Writing (5)
Emphasis on geographic research and writing. Consideration of geography as science and scientific method. Study of techniques and style, followed by completion of writing tasks including literature reviews, criticism, and research proposal.

678 Analysis of Geographical Data (5)
Prereq: 571. Students build geographical data files, analyze with descriptive and inferential statistics, and use models of spatial analysis directed toward the analysis of spatial patterns.

679 Seminar: Human Geography (5)

680A Seminar in Development: Environment and Development (5)

680B Seminar in Development: Theories of Development (5)

680C Seminar in Development: Gender and Development (5)

681A Seminar in Physical Geography: Biogeography (5)

681B Seminar in Physical Geography: Geomorphology (5)

681C Seminar in Physical Geography: Meteorology and Climatology (5)

682 Seminar in Economic Geography (5)

682B Seminar in Political Geography (5)

683 Metropolitan Areas: Seminar in Urban Geography (5)

684A Seminar in Regional Geography: Latin America (5)

684B Seminar in Regional Geography: Southeast Asia (5)

684C Seminar in Regional Geography: Africa (5)

685 Seminar in Population Geography (5)

686 Seminar in Historical Geography (5)

687 Seminar in Geographical Technique (5)

688 Seminar in Resource Management (5)
Prereq: 547.

689 Seminar in Land Use Planning (5)

690 Geographic Studies (1–5, max 5)

694 Research Project (1–15)

695 Thesis (1–15)

Geological Sciences

http://www.ohio.edu/geology/

The Department of Geological Sciences welcomes qualified applicants who possess an undergraduate degree in geology or in an allied science field such as chemistry, physics, mathematics, biological science, or engineering. The department offers six M.S. options:

Geology—specializations in sedimentary geology, paleontology, surficial processes, tectonics/ structural geology, and petroleum geology.

Hydrogeology

Environmental geology

Environmental geochemistry

Geophysics— Specialization in measurement of seismic properties of rocks in seismic field methods.

Geoscience Education

The Graduate Record Examination (GRE) is not required, but the general test is recommended. Have the results reported to the Department of Geological Sciences.

All options require a minimum of eight graduate courses approved by the department and completion of a thesis. Specific course requirements depend on the option selected. For additional details on requirements, see the publication *Graduate Program Information Package—Geological Sciences*, available from the department.

Prospective graduate students for all options are expected to have completed the equivalent of a year of chemistry, two courses of physics, and mathematics through integral calculus. Minimal background for admission to the Geology option without deficiency includes courses in mineralogy, petrography/petrology, structural geology, sedimentology-stratigraphy, and field geology. Geomorphology and paleontology are recommended, and may be taken to meet graduate course requirements. Since the graduate options in Hydrogeology, Environmental Geology, Environmental Geochemistry, and Geophysics are designed for candidates with either undergraduate geology degrees or undergraduate degrees in allied sciences, the required background is flexible, and you may take certain undergraduate geology courses for graduate credit on the assumption of a more detailed background in a related science.

Applications for financial aid must be received by February 1 for priority consideration for fall quarter admission. You may be admitted in any academic quarter, but financial aid is often unavailable for students who do not enter in fall quarter.

Geological Sciences Courses (GEOL)

505 Modeling and Computational Methods in Geology (6)
Prereq: 330 and 360. Applied computer-based mathematical methods in geology. Basic geostatistical concepts. Data analysis, conceptual models, and hypothesis testing in geological problems. Mathematical simulation of geological processes and analysis of solutions. Use of software to model processes in hydrogeology, geochemistry, and other fields of geology. 4 lec, 2 lab. *López.*

510 Rocks and Minerals (6)
Principles of crystallography and crystal chemistry, descriptive mineralogy, origin and classification of igneous, sedimentary and metamorphic rocks. 4 lec, 4 lab. *D.*

512 Earth Materials and Resources (5)
Prereq: 101, CHEM 122 or 152. An introduction to minerals and rocks, emphasizing common varieties and those important as mineral resources. 3 lec, 4 lab. *Heien.*

520 Petrography (6)
Petrogenesis of igneous, metamorphic, and sedimentary rocks and their identification via microscopic analysis of thin sections. 3 lec, 4 lab. *Kidder, Schneider; Sp Y.*

527 Water Geochemistry (5)
Geochemical origin of major ions in natural waters and the role of fluid-mineral interactions in the evolution of sediments, the ocean, and the atmosphere. Introduction to thermodynamic equilibrium, kinetics, complexation, oxidation-reduction, and cation exchange. Case studies of important geochemical and environmental issues. 3 lec, 2 lab. *López.*

528 Physical Geochemistry (5)
Prereq: 527. Basic principles of physical chemistry of hydrogeologic, environmental, and geologic applications. Topics include adsorption and desorption reactions; chemistry of sulphur and iron; introduction to stable isotopes; transport mechanisms of chemical species; and origins, formation, and migration of oil. 3 lec, 2 lab. *López.*

529 Contaminant Geochemistry (5)
Chemical principles and processes involved in the generation and movement of contaminants. Sources, fate, and chemical behavior of some of the most important classes of chemical pollutants. 5 lec. *Lopez; Sp; A.*

530 Principles of Geomorphology (6)
Basic concepts of origin and development of land forms. Laboratory study of topographic maps and aerial photographs. Can be taken for graduate credit by students in hydrogeology and geophysics options only. 4 lec, 2 lab. *Springer; F; Y.*

532 Origin and Classification of Soils (5)
Prereq: 330. Concept of soil and factors of soil formation, introduction to soil morphology and systems of soil classification, discussion of major soil groups of world and soils of Ohio. 3 lec, 2 lab, field work. *Springer; Sp; A.*

533 Glacial Geology (5)
Formation and behavior of glaciers, past and present; glacial processes and causes, and implications of ice ages. 3 lec, 2 lab, field trips.

535 Quaternary Geology (5)
Evaluation of the several geologic records of Quaternary environmental change, including geomorphic land forms and sediments, ice cores, soils, organic sediments/fossils, cave deposits, tree rings, and others. Quaternary geochronology will be considered.

538 Fluvial Geomorphology (4)
Introduction to stream processes and human interactions with rivers, including the qualitative and quantitative techniques used to study natural and disturbed streams as presented in lecture and field settings. 4 lec. *Springer; Sp; A.*

539 Fluvial Geomorphology (4)
Study of stream processes and human interactions with rivers, including the qualitative and quantitative techniques used to study natural and disturbed streams as presented in lecture and field settings. 3 lec., 2 lab. *Springer; A.*

543 Advanced Invertebrate Paleontology (6)
Prereq: 340. Evolutionary trends, geologic history, selected index genera and faunas, and modern methods in study of invertebrate fossils. 3 lec, 4 lab. *Stigall; W;A.*

546 Earth Systems Evolution (5)
Prereq: 320, PHYS 201. Synthesis of the coupled histories of the earth's interior, surface, and life. 3 lec, 2 lab. *Worsley; W; Y.*

548 Paleoecology (5)
Prereq: Paleontology course. Principles of ecology applied to interpretation of the fossil record including ecological convergence, community paleoecology, coordinated stasis, diversity gradients, mass extinctions, and relationship to macroevolution. 3 lec., 2 lab. *Stigall; W; A.*

550 Stratigraphy—Sedimentology (5)
Prereq: 320. Introduction to principles and processes relating to origin of stratified rocks and conventions of their classification and description. Field methods and field trips with emphasis on depositional environments. 4 lec, 2 lab. *Gierlowski-Kordesch; Sp; Y.*

551 Diagenesis (5)
Critical view of diagenetic principles using numerous examples. Many topics are selected from recent journal articles. Readings, presentations, and discussions of current literature are included, as well as a term paper. 4 lec. *Kidder.*

552 Depositional Environments (5)
Advanced coverage of depositional processes and environments. Latter part of course focuses on global sedimentation and events. Readings, presentations, and discussions of current literature are included, as well as a term paper. 4 lec. *Kidder.*

553 Physical Limnology (5)
Physical parameters and processes in lake environments, including temperature, light, heat, oxygen, alkalinity, and dissolved ions. Labs include outdoor sampling and measurements. 3 lec, 2 lab. *Gierlowski-Kordesch; F; A.*

555 Limnogeology (5)
Prereq: 350 or 550 or equivalent. Geological aspects of ancient lake environments. Topics in lake models, geochemistry, sedimentology, and stratigraphy are selected from current literature for presentations and discussions. 4 lec. *Gierlowski-Kordesch.*

557 Petroleum Geology (5)
Petroleum geology is designed for geology students at the senior undergraduate and graduate level to provide an understanding of the basic concepts and processes that govern (1) the generation, migration, and trapping of hydrocarbon resources, and (2) the fundamentals of exploration for, and exploitation of, these resources. 3 lec, 2 lab. *Nadon; A.*

558 Fluvial Sedimentology (5)
Provides students with an understanding of how to interpret depositional environment of sedimentary rocks deposited by rivers and the large and small-scale forces that control the formation and preservation of these deposits. *Nadon; D.*

560 Structural Geology (6)
Prereq: 320. Principles of rock deformation and interpretation of folding and faulting and related topics. Stress and strain; their application and derivation in natural structures. Field-oriented structural problems, structural maps, and use of stereographic projections. 3 lec, 2 lab, field work. *Nance; F; Y.*

564 Regional Tectonics (5)
Prereq: 360. Global tectonics and structure of continental cratons and margins, mid-ocean ridges, island arcs, and major orogenic belts. 4 lec. *Schneider; W; A.*

565 Basin Tectonics and Hydrocarbon Exploration (6)
An examination of the tectonics, structural style, and hydrocarbon potential of sedimentary basins, their role in the exploration of petroleum provinces, and their appearance and interpretation on conventional exploration data. *Nance; D.*

566 Geodynamics: The Earth's Interior (5)
Prereq: 320. Structure of earth's interior and plate tectonics. Solid earth geophysics; gravity, magnetics, heat flow, velocity structure and seismicity. 4 lec. *Green, Nance; Sp; Y.*

567 Tectonophysics (5)
Quantitative modeling of solid earth physical processes. Physical properties of minerals, rocks, and unconsolidated materials. Modeling of tectonic plate flexure, geothermal heat flow, seismic wave propogation, and fault mechanics. 4 lec. *Green; W; D.*

571 Advanced Environmental Geology (5)
Covers the conceptual basis for understanding transport and reaction processes that govern change in many environmental systems. Emphasizes processes occurring at the three major environmental interfaces: air and water, water and the adjoining earthen material, and air and soil. Includes chemical and thermal equilibrium, chemical transport, and transport and transfer of energy across the interfaces. 4 lec. *López; W; A.*

575A Field Camp I (4)
Introduction to field mapping techniques based on projects in the Appalachian region. This course, only in combination with GEOL 575B (Field Camp II), satisfies the field camp requirement. *Schneider, Nadon, Nance; F; Y.*

575B Field Camp II (5)
Prereq: 575A. Application of Field and mapping techniques learned in GEOL 575A, based on projects in the Death Valleyregion. This course, only in combination with GEOL 575A (FieldCamp I), satisfies the field camp requirement. *Schneider, Nadon, Nance; winter intersession; Y.*

576 Subsurface Methods (5)
Prereq: PHYS 202 or 253. Drilling practices, drill stem test, electric, sonic, and radioactivity logging applied to subsurface exploration. 3 lec, 2 lab. Nadon; W; Y.

580 Principles of Hydrogeology (5)
Principles governing occurrence, movement, and recovery of water in soil and aquifers. Hydrogeologic cycle, water budget, hydrology of agriculture, watershed studies, water chemistry, and water pollution, water chemistry. 3 lec, 2 lab. *Stoertz; F; Y.*

581 Groundwater Flow Modeling (5)
Prereq: 580. Steady and unsteady flow to well, analysis of pumping data, water well design, well development, interference of wells, and design of well fields. 3 lec, 2 lab. *Stoertz; W; A.*

582 Transport Processes in Groundwater (5)
Prereq: 581. Basic principles and fundamental equations; D.E. of groundwater motion, solution of boundary value problems for different types of aquifers. Analytical and numerical methods in subsurface hydrology with emphasis on finite difference method, digital model. 4 lec. *López; Sp; A.*

583 Field Hydrology (6)
Prereq: water resources background. Field training in techniques of hydrology and water resources evaluation.

585 Introduction to Applied Geophysics (5)
Prereq: PHYS 202 or 253. Introductory course in environmental and geotechnical geophysics. Survey of applied geophysical methods including seismic, gravity, magnetic, electrical, and electromagnetic techniques. 3 lec, 2 lab. *Green; F; Y.*

586 Seismology (5)
Prereq: 585. Field methods and analysis techniques for seismic characterization of shallow subsurface, multichannel digital data acquisition, generalized reciprocal refraction, and common offset reflection techniques as practiced in environmental and geotechnical industries. *Green; Sp; A.*

589 Advanced Topics in Hydrogeology (1-4)
Prereq: 580. In-depth study of an advanced or current topic in hydrogeology, exploring (but not limited to) such areas as karst hydrogeology, fracture-flow hydrogeology, mine hydrology, unsaturated flow, and inverse modeling. Consult instructor for topics. *Stoertz, López.*

653 Sequence Stratigraphy (5)
Principles governing the use of relative changes in sea level to interpret sedimentary sequences with an emphasis on field and core examples. 4 lec. *Nadon. A.*

661 Advanced Structural Geology (5)
Prereq: 360. Deformation, stress, and strain: their application and derivation in natural structures. Regional structural associations and geometric analysis. 4 lec, 2 lab. *Nance; D.*

690 Advanced Seminar in Geology (1–2, max 6)
Intensive study of selected geologic topics by special groups. (Several seminars may be held concurrently.) *F, W, Sp, Su; Y.*

691 Geologic Studies (1–6, max 12)
Individual or small-group independent study arranged with faculty members. *F, W, Sp, Su; Y.*

692 Colloquium in Geology (1)
Advanced seminar on current research in geology. *F, W, Sp; Y.*

693 Research in Geology (1–3, max 6)
Individual research projects arranged with faculty members. *F, W, Sp, Su; Y.*

694 Teaching Methods in Geology (1)
Practicum on pedagogical methods for geology teaching assistants. *F; Y.*

695 Thesis (1–15)
Individual reseach toward a graduate thesis, supervised by a faculty member. *F, W, Sp, Su; Y.*

German

See Foreign Languages and Literatures.

History

http://www-as.phy.ohiou.edu/Departments/History/

The graduate program in history is intended to prepare students for teaching and research at the college and university level, for secondary school teaching, and for a variety of other pursuits. Applicants are expected to have completed 24 semester hours or 36 quarter hours of undergraduate history courses. An exception to this requirement may be considered if you have an outstanding undergraduate or M.A. record. Deadline for application to either the M.A. or the Ph.D. program for fall quarter admission is February 1; for financial assistance, the deadline is February 1.

Master's Program

The M.A. program offers work in the following fields: United States, modern Europe, ancient and medieval, Eastern Europe, Middle East, Latin America, Africa, and southeast and east Asia. The general requirements in the thesis program consist of eight 500-level courses, a two-quarter seminar, and an acceptable thesis. The general requirements for the nonthesis program are ten 500- level courses, plus a two-quarter seminar in which an acceptable research paper is written. No foreign language is required for admission, but students in the thesis program must demonstrate a reading proficiency in one foreign language prior to graduation. The nonthesis M.A. program is usually regarded as terminal.

Doctoral Program

You must offer a minimum of six quarters of residence credit as a full-time equivalent student beyond the master's degree. You are required to

show reading proficiency in two foreign languages; in particular cases, demonstrated proficiency in quantitative methods may be substituted for one language. You must complete a nonhistory minor of three graduate courses in one cognate field or four courses in two cognate fields. Within the area of concentration, you normally will select two fields, in one of which the dissertation will be written. You also will do coursework in two fields outside the area of concentration. Areas and fields are as follows:

Area one. American history: colonial, 19th century, 20th century, U.S. foreign relations, U.S. social-intellectual, U.S. Military, U.S. economic (in cooperation with the Department of Economics).

Area two. European: western Europe, European diplomatic, Tudor-Stuart England, England since 1815, Eastern Europe, Russia, ancient, medieval Europe, and Renaissance and Reformation.

Area three. Third World: Africa, east Asia, southeast Asia, Middle East and Mediterranean, Latin America.

For additional details as to requirements, consult the publication *Ohio University: Graduate Study in History*, available from the department.

History Courses (HIST)

500A Colonial America to 1689 (5)
English background, establishment of settlements, first economies, evolution of political and religious structures. Relations with England, internal conflicts. Glorious Revolution. *Griffin; Y.*

500B Colonial America 1689–1763 (5)
Governmental changes, credit and currency, Great Awakening, cultural developments, old colonial system, Anglo-French rivalry, nature of colonial society, problems of maturing political units. *Y.*

500C Revolutionary Era 1763–1789 (5)
Causes of American Revolution and struggle for independence. Confederation, movement for new government, framing of Constitution. *Y.*

500D Early American Republic 1789–1815 (5)
Beginning with the ratification of the Constitution and concluding with the end of the War of 1812. Explores how Americans struggled to construct their political, social, and cultural institutions. *Y.*

502 American Indians (5)
Treats Indian society before white contact; Spanish, French, and English impact; Indian removal; Indian wars; problems of cultural contact; preservation versus assimilation; Indian society today. *Y.*

503 United States in World War II (5)
Military and diplomatic role of United States in WWII; political, economic, and social impact of war on that nation. *Y.*

505 The United States and the Vietnam War (5)
Examines American experience in Vietnam, in terms of both military and diplomatic history of war itself and its impact on American society. *Y.*

506 American Environmental History (5)
A survey of the evolution—from 1565 to the present—of American attitudes toward, and interactions with, the natural world, including such topics as romanticism, the "code of the sportsman," conservation, the "land ethic," and "deep ecology." *D.*

508A Pre–Civil War America, 1815–1850 (5)
New definitions of democracy, westward expansion, early industrialization and class formation, moral reform movements, slavery and sectionalism, Mexican War, conflict of Jacksonian Democrats and Whigs. *Field; Y.*

508B The Civil War and Reconstruction (5)
Forces making for increased sectionalism in 1850s, rise of new parties, military engagements, society and institutions in North and Confederacy during wartime, attempts to restructure Southern society after war and why they failed. *Field; Y.*

508C Foundations of Modern America: The Gilded Age, 1877–1901 (5)
Labor unrest, nativism and antisemitism, imperialism, government corruption, social Darwinism, urban growth, Victorian morality, and Indian wars examined as outgrowths of efforts of American people to adapt to modernization and industrialization in late 19th century. *Field; Y.*

509A American Constitutional History (5)
Traces the history of the American Constitution. Using the Constitution as a springboard, the course will examine the ideas, institutions, and individuals responsible for making the Constitution a battleground rife with intellectual, social, and cultural significance. *Y.*

510A Twentieth-Century America, 1900–1928 (5)
Emphasis on political and cultural history. Major topics include early 20th-century progressivism as an intellectual movement and its manifestations in state and local politics; presidencies of Theodore Roosevelt and Woodrow Wilson; impact of WWI; ambivalent character of the 1920s in American culture and politics; origins and effects of the affluent society. *Y.*

510B Twentieth-Century America, 1928–1945 (5)
Emphasis on politics, culture, and foreign policy. Major topics include origins and nature of Great Depression; Franklin D. Roosevelt and the emergence of the modern presidency; political and intellectual character of the New Deal; origins and impact of American involvement in WWII; wartime military history, diplomacy, and politics. *Y.*

510C Twentieth-Century America, 1945–Present (5)
Emphasis on politics, culture, and foreign policy. Major topics include origins and nature of the Cold War; impact of foreign involvements on American politics; political leadership in the media age; radicalism and social change in the '60s and '70s; the rise of cultural politics and its effect on economic-based political coalitions; resurgence of conservatism in the '70s and '80s. *Y.*

512A United States Urban History (5)
History of urban development from the colonial through the 20th century.

514D American Social Thought to 1815 (5)
Major aspects of intellectual history of American colonies and United States to 1815, organized around two major themes: Puritanism and secularization of American thought in 18th century. *Mattson; Y.*

514E American Social Thought, 1815–1915 (5)
Major aspects of intellectual history of U.S., 1815–1915, stressing rise of romantic nationalism; triumph of democratic attitude; slavery controversy; impact of Civil War and Darwinian evolution. *Mattson; Y.*

514F American Social Thought Since 1915 (5)
Major aspects of intellectual history of U.S. since 1915, with principal attention to continuing impact of evolutionary naturalism, especially in development of pragmatism; trends in left and right political ideologies; rise of pessimistic theology and its ramifications; modernism in arts; new radicalism and counterculture. *Mattson; Y.*

514G Cultural Rebels in the Modern U.S. (5)
This course examines the history of cultural rebellion (or radicalism) in the 20th century. It surveys rebellion from Greenwich Village at the turn of the century to the punk explosion of the 1970s and 80s. It examines larger questions like: How do people rebel in a culture that often seems to embrace rebellion? What do cultural rebels want to institute in place of what they are rebelling against? How do cultural rebels communicate their anger to the wider society?

515A African American History to 1865 (5)
Beginning with introduction of slavery in 1619, course deals with black person's role in America through Civil War. Concerns slavery, abolition, and many attempts by black people to improve their position. *Fletcher; Y.*

515C African Americans in American History, 1865-1939 (5)
Concerns Emancipation and its continuing effects on African Americans; life in the post-Civil War South; new Black leaders such as Washington, DuBois, and Garvey; and the migration to the North. *Fletcher; Y.*

515D African Americans in American History, 1940-Present (5)
Concerns World War II and its continuing effects on African Americans, migration to the North, the Civil Rights movement, and the problems of equality. *Fletcher; Y.*

516A History of United States Foreign Relations to 1914 (5)
U.S. foreign relations from war for independence to WWI, stressing development of traditional policies—isolationism, neutrality, Monroe Doctrine—and emergence of U.S. as world power. *Pach; Y.*

516B History of United States Foreign Relations, 1914–1945 (5)
U.S. foreign relations beginning with World War I and ending with World War II, emphasizing the interwar years by comparing and contrasting such international issues facing the United States in the 1920s and 1930s with those which have resurfaced after the end of the Cold War as isolationism, nationalism, the nation-state, self-determination, ethnic and religious conflict, global economics, and peace movements. *Pach; Y.*

516C History of United States Foreign Relations, 1945–Present (5)
U.S. foreign relations emphasizing the various interpretations of and methodologies for study of the origins of the Cold War, the emergence of detente, the reasons behind the end of the Cold War, and the current international issues facing the United States since 1991, especially globalization, terrorism, fundamentalism, and ethnic conflict. *Pach; Y.*

517A Ohio History to 1851 (5)
Moundbuilders and Indians, Anglo-French rivalry, Revolution, territorial development, patterns

of settlement, Constitution of 1802, evolution of political parties, transportation and economy, banking and currency, Constitution of 1851. *Steiner; Y.*

517B Ohio History Since 1851 (5)
Slavery and restructuring of political parties; Civil War, rise of industry, politics in progressive era, Great Depression and aftermath, post–WWII Ohio. *Y.*

519 Sports in American History (5)
Survey of evolution of organized sports in U.S., focusing on major spectator sports. Emphasis on personalities and particular events rather than sociological and psychological theorizing. *Alexander; Y.*

520A Women in American History Before 1877 (5)
American women's history from the colonial era through Reconstruction. Topics include the traditional life of Native American women, witchcraft in colonial New England, women in the American Revolution, African American women in slavery, early American childbirth customs, the early women's rights crusade, women on the trans-Mississippi frontier, and women in the Civil War. *Jellison; Y.*

520B Women in American History Since 1877 (5)
American women's history since Reconstruction. Topics include the experiences of immigrant women in the U.S., prostitution in the Gilded Age, the Progressive Era birth-control movement, achievement of the right to vote, women in the two world wars, women in the civil rights movement, the new feminist movement, the backlash against feminism, and Roe v. Wade and the abortion debate. *Jellison; Y.*

520C Women's Health and Medicine in America (5)
This course examines, from the colonial era to the present, changes in the medical treatment of women and changes in the perception of what constitutes women's health and illness. The class will explore how the complex interplay of scientific inquiry, social mores, cultural fears and expectations, and the relationship between physicians and women have contributed to changing definitions of women's health and medicine.

521A History of the Military in America 1600–1898 (5)
Military institutions in American history: role of technology in warfare, innovations and reforms in military; war and its conduct; military and civilian society in war and peace. *Fletcher; Y.*

521B History of the Military in America 1898–Present (5)
Continuation of 521A. *Fletcher; Y.*

521C Military History of the Civil War (5)
The military aspects of the U.S. Civil War, who won and lost and why. Also the roles of individual men and women, white and black. Battles and leaders.

522 1960s in the United States: Decade of Controversy (5)
Enables students to go beyond the popular stereotypes of the 1960s to understand the decade as a period of social, cultural, and political confrontation that laid the groundwork for life in the present-day United States. Students focus primarily on the following social protest movements of the era: the civil rights movement, the student movement, the antiwar movement, the counterculture, and the women's movement. *Jellison; Y.*

523A Latin American History: The Colonial Era (5)
Examines historical origins of Latin American society. Themes include internal nature of Iberian and pre-Columbian Indian societies, ca. 1492; conquest and subordination of Amer-Indian civilizations by Spain and Portugal; distribution of power, land, and labor in post-conquest Latin America; order and instability in colonial society; and region's position in international economy. *Grow; Y.*

523B Latin American History: The 19th Century (5)
Examines 19th-century origins of modern Latin American underdevelopment, focusing on causes and consequences of revolutions of independence; dynamics of dictatorship and democracy in post-independence Latin American political culture; and decision-making process by which Latin America's 19th-century leaders integrated their national economies into international economic systems as specialized exporters of raw materials. *Grow; Y.*

523C Latin American History: The 20th Century (5)
Survey of modern Latin American history focusing on causes and consequences of structural instability in Latin America since 1900. Emphasis on collapse of region's traditional liberal/export model of national development in the 1930s; competing political/ideological responses to structural crisis in region (social revolution, authoritarianism, democratic change); and ongoing search for viable formulas of economic development. *Grow; Y.*

523D History of Brazil (5)
This course will explore the history of Brazil from the colonial period until the present. Combing classic and recent scholarship, and well-known literary works, it will focus on major historiographical debates that have shaped perceptions of Brazilian history, society, and culture.

524 Colloquium in the History of U.S.–Latin American Relations (5)
Readings and research papers on major issues in 20th-century U.S.–Latin American relations. *Grow; D.*

525 History of U.S.–Latin American Relations (5)
Survey of inter-American relations in the 19th and 20th centuries, focusing on evolving, and often conflicting, definitions of national interest that have shaped U.S. and Latin American policy orientations toward one another. *Grow; Y.*

526 Dictatorship in Latin American History (5)
Focuses on predominant type of political/governmental system in Latin America: authoritarian dictatorship. After placing Latin American authoritarianism in long-range historical context of autocratic, centralized rule within region, examines major examples of 20th–century ideological authoritarianism in Latin America ranging from populist authoritarianism of Juan Peron in Argentina to bureaucratic authoritarian regimes recently in power in Southern Cone and Brazil. Attention to competing schools of interpretation which attempt to explain recurring phenomenon of nondemocratic forms of government in Latin America. *Grow; Y.*

527 Slavery in the Americas (5)
Through the examination of the lives and experiences of slaves of African origin and descent as revealed by themselves in slave accounts and other documents this course will explore, in a comparative perspective, African and Afro-American agency and identity in various New World societies.

528 The World of Aristophanes (5)
Political, social, and cultural institutions of Greece in fifth century B.C. with special emphasis on city of Athens.*D.*

529A Ancient Egypt and Mesopotamia (5)
Prehistoric eras; origin of Mediterranean civilizations; problems of ancient chronology; civilizations of Sumerians, Babylonians, Egyptians, Assyrians, Biblical Hebrews, and Persians. Stresses archaeological and literary sources, comparative social and religious concepts, acculturation, contributions to Western civilization. *Y.*

529B Ancient Greece (5)
Aegean prehistory. Minoan civilization, Mycenaean Greeks, Dorian invasions, Greek Renaissance, growth of the polis, Athenian society and culture, Persian and Peloponnesian wars, political history of Greece to Alexander. Stresses archaeological sources, mythology, and drama. Hellenic contributions to Western civilization. *Y.*

529C Ancient Rome (5)
Early peoples of Italy, Etruscans, constitutional development of republic, growth of empire, civil wars, history of principate to Constantine. Stresses archaeological sources, Latin literature, Roman life and institutions, Roman contributions to Western civilization. *Y.*

530A African History Through Film (5)
This course explores transformations in the nature of African societies, cultures and economies in the twentieth century, particularly in the post-1960 period. It will use film as a medium for studying issues as they are understood by Africans themselves. We will see African filmmakers as social historians, historians concerned with the everyday nature of the lives of common people.

532 History of Women in the Middle East (5)
Main themes, divided chronologically and thematically, include the history of veiling, polygamy, divorce, and laws of personal status during the early periods of Islam; a reexamination of "harem politics" and the role of women in the Ottoman empire; the effects of Westernization and modernization in the 19th-century societies; and recent trends such as the enforce-ment of the veil in the Islamic Republic of Iran and Egyptian fundamentalist movements; section on women poets and novelists. *Quinn; Y.*

533 Oil and World Power (5)
Resources, global communications, and grand strategy in historical perspective: focus on the oil industry in relation to warfare, politics, and the world economy with special attention to the Persian Gulf. *Brobst; Y.*

534 The Arab-Israeli Dispute (5)
History of Arab-Israeli confrontation since 1890. Origins of Zionism and Arab Nationalism, impact of WWI and Peace Settlement, British Mandate for Palestine, political developments in Israel and Arab World since 1948, Great Power involvement in Middle East, and recent developments in conflict between Israel and Arabs. *Quinn; Y.*

535 Colloquium in Middle East History (5)
Literature and source materials in Middle East since 1914; readings and reports. *Quinn; D.*

537A Middle East 600 to 1500 (5)
Islamic history and civilization from the rise of Islam to the end of 15th century. Includes discussion of establishment of Islam, development and spread of Muslim rule, medieval caliphates and their cultural achievements. Mongol invasions, crusades, and contributions of Arabs, Persians, and Turks to Islamic civilizations.

537B Middle East 1500-1800 (5)
Islamic history and civilization during the period of the great "Gunpowder Empires." Includes discussion of Turko-Mongol background, role of Tamerlane, origins of Ottomans, Safavids, and

Mughals, military organization, kingship, "harem politics," cultural developments, and decline and transformation of these great empires.

537C Middle East History Since 1800 (5)
History of Middle East since era of French Revolution. Disintegration of Ottoman Empire; emergence of contemporary Middle East political system; impact of nationalism, secularism, and industrialism on region; and position of Middle East in contemporary world affairs. *Quinn; Y.*

538 History of West Africa (5)
History of West Africa from early times to present; peopling of sudanic and forest regions; development of trade; Islam and rise of sudanic empires; slave trade and forest states; colonial era; independence movements; problems of nationalism.

538A History of East Africa (5)
History of East Africa from early times to present, with particular emphasis on period since 1750.

541 Colloquium in African History (5)
Literature and source materials on Africa; readings and reports. *Hawthorne; D.*

541A Early Africa (5)
Africa in ancient world, spread of agriculture and iron working, rise of Islam, migrations of peoples, development of states, arrival of Europeans, beginnings of slave trade. *Hawthorne; Y.*

541B Africa During Slave Trade (5)
Africa in 17th century, slave trade, religious revolutions in western Sudan, development of African states, commercial revolution of 19th century, birth of plural society in South Africa, European partition of Africa. *Hawthorne; Y.*

541C Modern Africa 1890 to Present (5)
Establishment of European rule in Africa, colonial period, rise of nationalism, decoloni-zation and independence, problems of modern Africa. *Hawthorne; Y.*

541D-Z Studies in African History (5)
Topics to be arranged.

542A South Africa to 1899 (5)
Establishment and transformation of African societies (Bantu's migrations); coming of Europeans; evolution of Cape society (black, white, colored); conflicting nationalisms; Great Trek; rise of Zulu empire and *mefcane*; mineral revolution and subjection of African chiefdoms; British imperialism and coming of South African war. *Hawthorne; Y.*

542B South Africa Since 1899 (5)
South Africa (Boer) War and reconstruction; formation of Union; global war and racial/regional/class conflicts over land, labor, and politics; rise of Afrikaner nationalism and triumph of apartheid; rise and radicalization of African nationalism; collision of nationalisms and expansion of conflict in the 1970s; South Africa and the modern world. *Hawthorne; Y.*

543 Revolutions in Southern Africa (5)
Historical background and developments to present of revolutions in Mozambique, Angola, Zimbabwe (Rhodesia), Namibia (South West Africa), and Azania (South Africa). *Hawthorne; D.*

544A History of the Malay World (5)
Comparative view of southeast Asian archipelago, emphasizing Indonesian civilization after 1750. Penetration of West, struggle with imperialism and modernization, and present dilemmas. Indigenous views focus of attention. *Frederick; D.*

544B History of Burma and Thailand (5)
Comparative study of neighboring Buddhist states, emphasizing themes of change and continuity since mid-18th century. Special attention given to divergent responses to colonialism and Western style development and to similarities in political and social forms. *Frederick; D.*

544C History of Vietnam (5)
Modern Vietnamese civilization since 15th century, emphasizing political and social change after 1800. Special attention given to Vietnamese struggle with outside powers, including China, France, U.S., and Soviet Union. *Frederick; D.*

545A Southeast Asia to ca. 1750: The Creative Synthesis (5)
Highlights of pre- and proto-history and development of classical states. Emphasis on cultural synthesis (Hindu, Buddhist, Muslim, and animist influences) and theme of change and continuity in both Great and Little traditions of region. *Frederick; Y.*

545B Southeast Asia, ca. 1750 to 1942: Change and Conflict (5)
Indigenous change and widening effects of Western penetration, with emphasis on social and cultural developments. Nature of colonialism in region and response of colonized seen in light of both traditional and modern influences. *Frederick; Y.*

545C Southeast Asia, 1942 to the Present: The Rise of New States and Societies (5)
Japanese occupation and its relationship to great national revolutions of 1940s. Social and cultural contents of nationalism and revolt, search for new political forms, and struggle against disunity and poverty. *Frederick; Y.*

546C Ancient China (5)
Follows developments in early Chinese history. *Jordan; Y.*

546D Imperial China: 1200-1911 (5)
See 546C. *Jordan; Y.*

546E Modern China Since 1911 (5)
See 546C. *Shao; Y.*

548A Traditional Japan (5)
Development of Japan's early civilization, including indigenous elements and those derived from Korea and China. Political development of Japan leading to its position vis-à-vis Western nations in 19th century. *Shao; D.*

548B Modern Japan (5)
Political weakness of Tokugawa system, leading to opening of Japan to Western trade and restoration of emperor; favorable economic and political base, which allowed Japan to enter successfully into competitions with European nations; Japan's ultranational era and postwar reconstruction. *Shao; D.*

549 Colloquium in History of East Asia in Modern Times (5)
Historical literature relating the U.S. involvement in the process of modernization of China and Japan from 1860s to 1990s. Readings and reports. *Jordan; D.*

550A History of Early Science (5)
Overview of the history of science from the ancient world to the 17th century. Examine areas of knowledge and technique most modern people consider to be a part of science, and some they do not, including medicine, astronomy, construction, mining, navigation, and warfare.

551 Medieval People (5)
In-depth inquiries into lives and epochs of representative individuals of Medieval Europe. Look at Middle Ages through biography. *Y.*

552 Medieval Civilization (5)
Transmission of Christianity and classical culture to barbarians and their work of combining the two into new civilization in early Middle Ages. Medieval civilization at its height: church, schools, scholastic thought, and secular culture. *Y.*

553A The Barbarian West: Europe 400-1000 (5)
Foundation of Medieval synthesis, 300-1100; collapse of Roman world, establishment of successor states, spread of Christianity, formation and development of European culture.

553B Later Middle Ages (5)
History of the Mediterranean and Western Europe from roughly 1000 to 1400: papacy, lords & vassals, agricultural revolution, crusades, monarchy, bubonic plague, mystics and gunpowder.

553C History of the Crusades (5)
The Crusades brought peoples of three religious communities in close contact: Jews, Christians, and Muslims. This course will provide an overview of the history of that contact, examining the political, social, cultural, and religious impact the Crusades had on each community.

553D-Z Studies in Medieval History (5)
Selected topics in medieval history. Readings in original sources and scholarship. Reports and final essay.

554A Early Christianity (5)
Investigates historical development and spread of Christianity from its origins to about A.D. 600. Content includes Greek and Hebraic backgrounds, early church fathers of East and West, ecumenical councils, early heresies, and defvelopment of church doctrine.

554B Modern Christianity (5)
This course will explore the modern history of the world's largest and most geographically diverse religious tradition. While primarily considering modern Christianity's Euro-American "heartlands" this class will also examine Christianity's transition during the modern period from a religion centered on Europe, its colonies and settlements to a global religion that has helped define and resist modernity.

554C Medieval Christianity: Church and Society (5)
Historical developments within Christian society between the fifth and fourteenth centuries, with special focus on western Europe and the church of Rome. Central topics will include the inner financial and legal workings of the church; monks as reformers and representatives of the papacy; heresy, mysticism, and the problem of uncovering popular devotion; the importance of gender in shaping religious theory and practice; cooperation and conflict between religious leaders and worldly rulers. Along with a textbook, students will read, analyze, and discuss original source material in translation.

555 The Age of Michelangelo (5)
The life of Michelangelo (1475–1564) spans the two most significant movements in early modern European history: the Renaissance and the Reformation. All of his work, artistic and literary, reflects these movements. This course deals with philosophy, theology, architecture, art history, literature, and history. *Bebb; Y.*

556A Italian Renaissance (5)
Major political, social, economic, and cultural currents of Italian city-states from 1150 to 1550. Focus on Dante, Petrarch, Boccaccio, Bruni, Machiavelli, Guicciardini, Michelangelo, Leonardo da Vinci, etc. *Bebb; Y.*

556B Northern Renaissance (5)
History of Renaissance outside Italy: politics, economics, sociology, and intellectual currents of Germany, France, Spain, Burgundy, and England from 1300 to 1600. Treated thematically, course focuses on Erasmus, More, Ximenes, Reuchlin, Hutten, Bude, etc. *Bebb; Y.*

556C Reformation (5)
Protestant, Catholic, and Counter-Reformations in Europe, showing their relationship to social, political, economic, and religious movements of 15th and 16th centuries. Roles of Luther, Zwingli, Calvin, Cranmer, Erasmus, Loyola, etc.; Protestant and Catholic churches and sects in western and eastern Europe. *Bebb; Y.*

557 Florentine People (5)
Major figures in Florence from 1300 to 1600, from Dante to Galileo. Concerned with some originators of modern thought in areas of artistic theory, poetic form, Italian language, political ideas, scientific method, and historical composition. *Bebb; D.*

558A Early Modern Europe, 1559–1648 (5)
Main political, economic, and social developments during age of Spanish hegemony: Hapsburg power, wars of religion and ideological struggle, challenge of Bourbon France—Henry IV and Richelieu. *Baxter; Y.*

558B Early Modern Europe, 1648–1715 (5)
Main political, economic, and social developments: rise of absolutism and France of Louis XIV, French hegemony and its challenges, society of hierarchy. *Baxter; Y.*

558C Early Modern Europe, 1715–1774 (5)
Main political, economic, social, and intellectual developments: change from society of "estates" to that of class, New Husbandry, Industrial Revolution, rise of Prussia and Frederick the Great, balance of power, and Enlightenment and Enlightened Despots. *Baxter; Y.*

559 Philosophies of History (5)
Study and discussion of different philosophies of history dating from ancient to modern period. Analysis of how thinkers have taken empirical data of history and shaped them into metaphysical form. *Y.*

560A Women in Early Modern European History (5)
The course explores the social, cultural, political, and economic roles of women in Europe from the fifteenth through the eighteenth centuries. Key issues will include women's political power and participation in politics; sexuality and the body; women's spiritual and religious roles; and women's interactions with men.

560B Women in Modern European History, 1800-present (5)
The course explores the role of women in western European society from the French Revolution to the present. Key themes will include how women have affected and been influenced by social, cultural, and political currents; the place of women in historical literature; and how women's roles have changed over time at the political as well as the everyday levels.

560C Women Warriors (5)
This course analyzes the role of women in military capacities in Western Europe from a social-cultural perspective.

561 The French Revolution (5)
The French Revolution traditionally has been seen as the dividing line in history, separating the Old Regime from modern times. This course will examine the origins, course of events, and the significance of the French revolutionary experience. *Baxter; D.*

562A Europe 1814–1871 (5)
Europe from Congress of Vienna through Franco-Prussian War. Growth of liberalism and nationalism, revolutions of 1830 and 1848, industrial revolution, unification of Italy and Germany, social and intellectual movements. *Y.*

562B Europe 1871–1914 (5)
Development of Austria-Hungary, France, Italy, Germany, Great Britain, and Russia including imperialism. Background of WWI and social and intellectual movements. *Goda; Y.*

564A Europe Between World Wars (5)
Fascism, communism, world depression, and 20-Year Armistice between 1919 and 1939; social, economic, and intellectual approach. *Goda; Y.*

564B Contemporary Europe (5)
Europe since 1945: postwar settlement, cold war, E.E.C.; survey of developments in Britain, France, Italy, Germany, and some smaller countries. *Goda; Y.*

566A Modern France in the 19th Century (5)
Rise and fall of Napoleon I; his impact on France and Europe; monarchist interlude; revolution of 1848 and election of Louis Napoleon; Second Empire, liberal and authoritarian; wars and transformation of Europe; fall of Napoleon and Paris Commune; Third Republic. *Y.*

566B Modern France in the 20th Century (5)
Dynamic and stagnant aspects; nostalgia and rejection of 20th century; impact of 20th century; democracy in France; European and colonial wars; communist movement from Popular Front to Common Program; anticommunism in France; French in changing world; De Gaulle, his predecessors, and his successors. *Y.*

568A Modern Germany in the 19th Century (5)
Cosmopolitanism and movement to create national German state; rise of capitalism and decline of handicraft; liberation of German peasantry; revolution of 1848 and reaction; blood and iron chancellor; Germany's rise to European predominance; rise of worker movement; German society at turn of century. *Goda; Y.*

568B Modern Germany in the 20th Century (5)
Germany on eve of WWI: military fiasco and creation of Weimar Republic; Weimar, Berlin, Munich, and Dresden; attempt to forge democracy; Third Reich and transformation of German society; WWII and Final Solution; Communist Germany and Federal Germany; two societies and two states, 1945–1990. *Goda; Y.*

570 History of the Byzantine Empire 324–1453 (5)
Decay of Roman world and emergence of Christian Empire, 324–717; Medieval Roman Empire, 717–1056; weakening of Central Administration and apparent revival under Comneni, 1025–1204; Byzantium and neighboring world, 1204–1453; church and state; education and learning; Byzantine art; social, political, and military developments. *Curp; Y.*

572A Balkans in Early Modern Period, 1453–1804 (5)
Ethnographic structure of Balkan peoples under rule of Ottoman Empire. Ottoman institutions and society; political, social, economic, religious, and cultural developments in Balkans in 15th, 16th, 17th, and 18th centuries. *Curp; Y.*

572B Balkans in 19th Century, 1804–1878 (5)
Evolution of modern Balkan nationalism and rise of Balkan states. Ottoman dissolution and Balkan revolutionary nationalism; political, social, economic, religious, and intellectual developments; domestic Balkan policy and foreign intervention. *Curp; Y.*

572C Balkans in 20th Century, 1878–Present (5)
Historical, cultural, and ethnic background of Balkan peoples. Social, economic, political, and intellectual developments in Balkans; communication of southeast European states. *Curp; Y.*

574A Balance of Power: Napoleon to the Kaiser (5)
Diplomatic history from Congress of Vienna to WWI. Age of Metternich, Italian and German unification, new imperialism, and prewar alliances and alignments. *Y.*

574B Origins of World War II (1914-1941) (5)
International problems of peace and war, international organization and alliances. *Goda; Y.*

574C Cold War, 1941-1989 (5)
International problems of peace and war on worldwide scale since 1939, international organization and alliances. *Goda; Y.*

575 World War I (5)
Covers the origins of the war, both diplomatic and strategic, as well as the peacemaking afterward, but the central focus will be the war itself. *Richter; Y.*

576 Biography: Leaders in 19th-Century Europe (5)
Lives of great and near-great in 19th-century Europe. *D.*

579 History of Sea Power (5)
Students examine the role of navies and maritime strategy in war, diplomacy, and the world economy from ancient times to the present. The focus is on the development of the British and American sea power: doctrine and operations; the impact of politics, culture, geography, finance, and technology; and the future of sea power.

580 Geopolitics and History(5)
The development and influence of global strategic views in the context of European imperialism, the two world wars, and the Cold War: major thinkers such as Mackinder, Mahan, and Haushofer; the impact of air power, space and information warfare; the outlook of emerging powers, including China and India; geopolitics and the interpretation of international history.

582A History of Russia (5)
Russia from earliest times to 1825. Kievan Russia, Muscovy, emergence of Tsarist Russia. Territorial expansion and role as great power in Europe and Asia. *Miner; Y.*

582B Russia: Road to Revolution, 1825–1917
Tsarist Russia to Soviet Union, 1825–1917; background for revolution. Bolshevik seizure of power and consolidation of dictatorship. *Miner; Y.*

582C Soviet Union (5)
Soviet Union after death of Lenin (1924); internal affairs of Communist regime. *Miner; Y.*

582D The Soviet Union in World War II (5)
History of the Soviet Union during WWII. Topics covered include wartime diplomacy, espionage, social and political history of the USSR during the war, the creation of the communist states in eastern Europe after the war, and the origins of the cold war. *Miner; Y.*

589 Later Medieval England, 1307–1485 (5)
Comprehensive examination of political, social, intellectual, ecclesiastical, and economic aspects of period. *D.*

590A Tudor England (5)
England in 16th century. Tudor politics, English Reformation, and major cultural and economic developments of Shakespeare's England. *Y.*

590B Stuart England (5)
England in 17th century. Constitutional crisis of Stuart period, civil war and revolution, and major cultural and economic developments, including attention to folk culture. *Y.*

591 Colloquium in English History to 1714 (5)
Early modern English history from multidisciplinary perspectives. *D.*

591A English History to 1688 (5)
Stresses institutional aspects of medieval England and social, political, and constitutional developments in Tudor and Stuart periods. Y.

591B English History Since 1688 (5)
Emphasizes cultural and economic developments, growth of British Empire, constitutional and social reforms, and impact of WWI and WWII. *Brobst; Y.*

592A Georgian England (5)
Political, social, intellectual, cultural, and economic developments of England in years prior to and during American and French revolutions. *Y.*

592B Victorian England (5)
England from 1815 to 1900, with primary focus on political and economic developments that produced democratization of British life. *Brobst; Y.*

592C 20th-Century England (5)
England from 1900 to present: beginning of welfare state, WWI, 1920s, Great Depression, road to WWII, and postwar welfare state. *Brobst; Y.*

592E British India and the Great Game (5)
The rise, fall, and legacy of British rule on the Indian subcontinent: imperial competition, conquest, and strategy in South and West Asia; ideologies of the Raj; the emergence and variety of Indian nationalism; the background and effect of independence and partition in 1947. *Brobst; Y.*

593A Rise of the British Empire (5)
This course examines the source, strategies, ideologies, and impact of the British Empire in the nineteenth century. The course evaluates British imperialism from regional as well as metropolitan perspectives, giving particular emphasis to the imperial roots of globalization—how the use of technology and information interlocked the British Empire as a worldwide network of trade, investment, migration, and military power.

593B Fall of the British Empire (5)
This course examines the fate of the British Empire in the twentieth century, focusing on the global impact as well as the process of decolonization. Topics include the question of imperial overstretch; the development of the Commonwealth; India's independence; and Britain's withdrawal from its smaller dependencies in Africa, Asia, and the Middle East through the return of Hong Kong to China in 1997.

594A The Medieval English Constitution (5)
English government from Anglo-Saxon times to end of Middle Ages. Growth of machinery of monarchy, central administration, courts, and common law. Rise of Parliament. *Reeves; D.*

594B The Modern English Constitution (5)
Emergence of modern English constitution druing 16th and 17 th centuries; creation and growth of Tudor Constitution; significance of English reformation for constitution; problems of sovereignty and obligation; constitution today.

595 History of Canada (5)
Introduction to Canada: its exploration and development under France and England, and its emergence as important modern nation. *D.*

596 Quantitative Methods in History (5)
Introduction to descriptive and inductive statistical techniques used in historical research and analysis of current literature employing such techniques. Instruction in use of computer included. *Field; D.*

597A Representative Historians and Their Writings: American History Emphasis (5)
Readings in historical logic and method. Development of historical profession in U.S. from early times to present as phase of American social and intellectual history. In-depth consideration of important writers of American history and major schools of interpretation. *Hamby; Y.*

597B Representative Historians and Their Writings: European History Emphasis (5)
Typical historians from time of Herodotus. Readings from their masterpieces to illustrate schools of interpretation, philosophies of history, and development of historical writing. Noteworthy historians in European history. *Y.*

597C African Historiography (5)
Related philosophies of history, the uses of history, colonial and post-colonial African historiography, research methodology, use of oral sources, interdisciplinary approaches, and new directions in research. *D.*

598A Directed Study: American History (1–6)
Prereq: perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members. *Y.*

598B Directed Study: European History (1–6)
Prereq: perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members. *Y.*

598C Directed Study: World History (1–6)
Prereq: perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members. *Y.*

598D Problems in History (General) (1–6)
Prereq: perm. Intensive individual work either in research or individual systematic reading along lines of student's special interest and under supervision of staff members. *Y.*

600/800 Seminar: Colonial and Revolutionary America (10)
Readings and research in U.S. history prior to 1789. Presented in two-quarter sequence. No credit granted until second quarter is completed. *D.*

601A/801A Colloquium in Colonial American History (5)
Literature and source materials; readings and reports. *Griffin; D.*

601B/801B Colloquium in the Era of the American Revolution (5)
Literature and source materials; readings and reports. *Griffin; D.*

602/802 Colloquium in U.S. Women's History (5)
Literature and source materials in field of early national period of American history; readings and reports. *Jellison; Y.*

605/805 Colloquium in American History 1783-1819 (5)
Literature and source materials; readings and reports. *Griffin, Fidler; D.*

607/807 Colloquium in the Era of Sectional Controversy, 1819–1850 (5)
Literature and source materials; readings and reports. *Field; D.*

608/808 Seminar in United States History, 1850–1900 (10)
Selected topics in political history of U.S. in late 19th century. Presented in two-quarter sequence. No credit granted until completed. *Field; D.*

609/809 Colloquium in the Era of Foundations of Modern America, 1850–1900 (5)
Literature and source materials; readings and reports. *Field; D.*

610/810 Seminar in 20th-Century United States History (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *Mattson, Milazzo, Pach; D.*

611/811 Colloquium in the History of the United States in Recent Times (5)
Literature and source materials; readings and reports, *Mattson, Pach; D.*

614/814 Seminar in the Social, Intellectual, and Cultural History of the United States (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *Jellison, Mattson; D.*

615/815 Colloquium in the Social, Cultural, and Intellectual History of the United States (5)
Literature and source materials; readings and reports. *Jellison, Mattson; D.*

616/816 Seminar in the History of United States Foreign Relations (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *Pach; D.*

617/817 Colloquium in the History of American Foreign Relations (5)
Literature and source materials; readings and reports. *Pach; D.*

621/821 Colloquium in Regional United States History (5)
Literature and source materials; readings and reports. *Staff; D.*

627/827 Colloquium in Recent Latin American History (5)
Literature and source materials; readings and reports. *Grow; D.*

629/829 Colloquium in History of Ancient Greece (5)
Literature and source material of ancient Greek civilization. Themes vary from year to year. May be repeated for credit. *D.*

640/840 Seminar in African History (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *Hawthorne; D.*

644/844 Seminar: Southeast Asia (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *Frederick; D.*

645/845 Colloquium in History of Southeast Asia (5)
Literature of southeast Asian history, general culture, developments in 19th and 20th centuries. Readings and reports. *Frederick; D.*

646/846 Seminar: East Asian History (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *Jordan; D.*

652/852 Seminar in Medieval History (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *D.*

657/857 Seminar in Renaissance-Reformation (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *Bebb; D.*

658/858 Seminar in Early Modern European History (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *Baxter; D.*

661/861 Colloquium in French Revolution (5)
French Revolution as prototype of revolutions: background, immediate causes, pattern of development, role of ideas and individuals in great social upheaval. *Baxter; D.*

662/862 Seminar in 19th-Century European History (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *D.*

663/863 Colloquium in 19th-Century Europe (5)
Literature and source materials; readings and reports. *D.*

664/864 Seminar in 20th-Century European History (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *Brobst, Curp, Miner; D.*

667/867 Colloquium in Modern France (5)
Literature and source materials; readings and reports. *D.*

674/874 Seminar in European Diplomacy Since 1815 (10)
Presented in two-quarter sequence. No credit granted until second quarter completed. *Goda; D.*

683/883 Colloquium in Russian and Soviet History (5)
Literature and source materials; readings and reports. *Miner; D.*

693/893 Colloquium in British History Since 1714 (5)
Literature and source materials; readings and reports. *Brobst; D.*

695 Thesis (as recommended by dept)

798A Directed Study: American History (1–6)
Prereq: perm. Intensive individual work in either research or individual systematic reading along lines of student's special interest and under supervision of staff members.

798B Directed Study: European History (1–6)
Prereq: perm. Intensive individual work in either research or individual systematic reading along lines of student's special interest and under supervision of staff members.

798C Directed Study: World History (1–6)
Prereq: perm. Intensive individual work in either research or individual systematic reading along lines of student's special interest and under supervision of staff members.

894 Independent Study (1–16)
Prereq: Eligibility determined by grad faculty.

895 Dissertation (as recommended by dept)

Indonesian

See Foreign Languages and Literatures.

Linguistics

http://www.ohio.edu/linguistics/dept/welcome.html

The Department of Linguistics offers a Master of Arts in applied linguistics and the teaching of English to speakers of other languages (TESOL). The program normally takes two years to complete and requires a thesis or research essay.

Admission to graduate study in linguistics requires no specific undergraduate preparation, but a background in English, foreign language, speech, psychology, mathematics, or philosophy is particularly relevant. Transcripts of all previous study must be submitted and must indicate strong promise of success in graduate study. Transcripts also must include the equivalent of two years of college-level study of foreign language. Admission is possible if you cannot meet this requirement, but it must then be satisfied by concurrent nondegree study. Nonnative speakers of English may use their study of English to satisfy the requirement. Teacher training and experience are desirable as preparation for native students intending to follow the TESOL curriculum. For nonnative applicants, both teacher training and an undergraduate major in English are recommended, and a TOEFL score of 600 or higher on the paper form or 250 on the computerized form is required.

While there is no specific deadline for submission of application materials, new applicants are normally admitted only in the fall quarter. Applicants for financial aid for the following academic year should apply by February 15.

A certificate in teaching English as a foreign language (TEFL) is also available for graduate students from any field. The sequence includes courses in linguistic theory and TEFL methodology: LING 510, 550, 575, 580, and 582. It is offered every academic year and during the summer. Admission to the linguistics program is not required, but international students must have a TOEFL score of 575 or higher on the paper form or 230 on the computerized form. This certificate is intended for teaching abroad; it if not valid for teaching in the public schools.

Specific information about the programs and requirements is available from the chair, Department of Linguistics, Ohio University, Gordy 383, Athens OH 45701-2979.

Linguistics Courses (LING)

510 Language Teaching Practicum (3)
Supervised graduate student teaching. Required once for all M.A.–TESOL majors and all teaching associates. *Staff; F, W, Sp, Su; Y.*

512 Internship in TESOL (1-5)
Prereq: Perm. Supervised internship in ESL teaching, instructional support, or program administration. *Bell; F, W, Sp, Su; Y*

515 Distributed Learning Courseware Development I (4)
First course in a sequence designed to provide training in developing instructional courseware that can be distributed on disks or via the Internet. *Soemarmo; Su; D.*

516 Distributed Learning Courseware Development II (4)
Prereq: 515. Second course in a sequence designed to provide training in developing instructional courseware that can be distributed on disks or via the Internet. *Soemarmo; Su; D.*

520 Linguistics and Semiotics (4)
Prereq: 550. Analysis and interpretation of cultural sign systems from the perspective of linguistic theory and methodology. *Flanigan; D.*

540 Introduction to Bilingualism (5)
Prereq: 550. Introduction to basic aspects of bilingual education from legal, sociological, linguistic, and educational perspectives. *Flanigan; Sp; Y.*

545 Instructional Materials in Bilingualism (5)
Prereq: 540. Analysis and creation of bilingual teaching materials. *D.*

550 Introduction to General Linguistics (5)
Technical introduction to linguistics, devices of language description, and methods of linguistic analysis. *Staff; F, Su; Y.*

551 Computers for Language Teaching I (4)
Prereq: 550. Introduction to uses of computers for language teaching, software selection, and creation of supplementary computer-assisted language learning (CALL) materials. *Soemarmo; W; Y.*

552 Computers for Language Teaching II (4)
Prereq: 551 and 580 or 581 or concurrent. Creation of CALL materials using authoring packages, authoring languages, or JAVA programming language. *Soemarmo; Sp; Y.*

553 Computers for Language Teaching III (4)
Prereq: 552. Introduction to development of CALL materials using speech synthesis, interactive audiotape, videotape, or videodisc player. *Soemarmo; Sp; D.*

555 Introduction to Graduate Study in Linguistics (5)
Introduction and orientation to field of linguistics and its research resources. *D.*

560 Phonology (5)
Prereq: 550 or concurrent. Introductory course in analysis of sound systems of natural languages. *Coady; F; Y.*

565 Theories of Phonology (5)
Prereq: 560. Latest developments in phonological theory, concentrating on theory of generative phonology in contrast with classical phonemic theory. *Bond; D.*

570 Syntax (5)
Prereq: 550. Introduction to theories and applications of grammatical analysis. *Oshita; W; Y.*

572 Theories of Grammar (5)
Prereq: 570. Study of competing contemporary models of grammatical description. *McGinn, Soemarmo; D.*

575 Theories of Language Learning (5)
Prereq: 550 or concurrent. Theories of first- and second-language acquisition and their applications to development and evaluation of language teaching methodology. *Jarvis, Bell; F, Su; Y.*

580 TEFL Theory and Methodology (5)
Prereq: 575 or concurrent. Second language teaching theory and methodology, with emphasis on teaching English as a foreign language. *Jarvis, Bell; W, Su; Y.*

581 Methods and Materials in TESL (5)
Prereq: 575 or concurrent. Introduction to techniques of teaching English in a second language context, with emphasis on the creation

and evaluation of instructional materials for public school ESL. *Su; D.*

582 Materials in TEFL (5)
Prereq: 580 or concurrent. Theory and practice of analysis, evaluation, and creation of instructional materials for teaching English as a foreign language. *Bell, Jarvis; Sp, Su; Y.*

583 Proseminar in TEFL: Testing (5)
Prereq: 580 or 581 or concurrent. Advanced research in special problems in testing English as a second or foreign language. *Jarvis; Sp; Y.*

585 Historical Linguistics (5)
Prereq: 560, 570. Study of genealogical and typological classification of languages, methods of historical analysis, and change in language systems. *Bond, McGinn; W; Y.*

590 Sociolinguistics I (5)
Prereq: 550. Language varieties and their social functions with implications for educational policy and national language planning. *Flanigan; Sp; Y.*

591 Sociolinguistics II (5)
Prereq: 590. Introduction to interrelationships between language and social groups. *Flanigan; D.*

595 Seminar in Area Linguistics (5)
Research on particular aspects of languages of a given area. *McGinn; D.*

596 Field Methods (5)
Prereq: 560, 570. Methods of eliciting, transcribing, organizing, and analyzing linguistic data. *Bond; McGinn; Sp; D.*

600 Studies in Linguistics (1–4)
Directed individual investigation of particular area of interest in linguistics. *F, W, Sp, Su; Y.*

609 Colloquium in Linguistics (1-2)
Occasional lectures on topics related to theoretical and applied linguistics. *F, W, Sp; Y*

620 Research in Linguistics (5)
Prereq: 575. Introduction to aspects of research design in applied linguistics. *Bell, Jarvis; F; Y.*

640 Topics in Applied Linguistics (5)
Prereq: 575. Critical examination of basic assumptions, approaches, and methods of particular subfields of applied linguistics. *D.*

652 Computational Linguistics (3)
Prereq: 550. Application of computers to linguistic research and teaching. *Soemarmo; D.*

661 Phonological Structures of English (5)
Prereq: 550, 560. Introduction to pedagogical issues related to the teaching of listening and speaking in ESL/EFL settings. *Staff; W; Y.*

671 Syntactic Structures of English (5)
Prereq: 570. Introduction to pedagogical issues related to the teaching of English grammar in ESL/EFL settings. *Bell; F; Y.*

675 Linguistic Semantics (5)
Prereq: 570. Introduction to the study of meaning in three disciplines: linguistics, psychology, and philosophy. *Bell; Sp.*

682 Proseminar in Applied Linguistics (5)
Prereq: 620. Research and writing on a special problem in applied linguistics or teaching English as a second or foreign language. *Staff; W; Y.*

685 Proseminar in Applied Linguistics: Reading and Writing (5)
Prereq: 590. Theories and applications of reading and writing research. *Bell, Jarvis; Sp; Y.*

690 Languages in Contact (4)
Prereq: 560, 570. Social, psychological, and pedagogical consequences of language contact, with emphasis on linguistic transfer, borrowing, and pidginization and creolization. *D.*

695 Thesis (5–10)
Prereq: 620. Advanced research culminating in a thesis. *W, Sp; Y.*

800 Readings in Linguistics (2–5)
Directed readings for advanced students. *F, W, Sp, Su; Y.*

Malaysian

See Foreign Languages and Literatures.

Mathematics

http://www.math.ohiou.edu/

The Department of Mathematics offers the Master of Science and Doctor of Philosophy degrees. The principal feature of graduate study in mathematics is the possibility of designing a study plan to meet your individual needs and interests.

Master's Degree Program

The program can normally be completed in two years or less. Graduate courses totaling at least 55 credit hours are required, with at most 10 credits coming from an optional project or thesis. At least three courses must be taken at the 600-level or above. No grade of CR (credit) other than for practicum, internship, research, and thesis hours will be counted towards satisfaction of program requirements. Within the master's degree program, a student can select one of four tracks, which have different requirements and separate admission. Each student, with the assistance of a faculty adviser, must develop a study plan by the end of his or her first quarter, and have it approved by the graduate chair. Any changes to this study plan must be approved by the faculty adviser and graduate chair at least one quarter before the student applies for graduation.

Applied Track

The applied track is aimed at students interested in the applications of mathematics to other fields. The candidate for this track should expect to complete the analysis sequence. In addition, linear algebra, numerical analysis, differential equations, statistics, and probability are desirable subjects to pursue. The student is encouraged to take some course work in another department such as courses in biology, economics, engineering, finance, operations research, or physics. See http://www.math.ohiou.edu/math/programs/MSapplied.html for a detailed description.

Pure Track

The pure track is intended primarily for those students who plan to continue their study of mathematics at the Ph.D. level. The student should plan to complete two or more of the sequences offered in algebra, analysis, and topology. Advanced sequences in these three and in other subjects such as complex analysis, differential equations are regularly offered. Applicants should have completed advanced calculus and junior- or senior-level courses in abstract and linear algebra.

Computational Track

The computational track is aimed at students who are interested in both Mathematics and Computer Science. Our graduates often become software engineers, and are distinguished by mathematical skills that make them more valuable than typical programmers. These same skills are useful for graduates seeking careers in any field that requires computational or applied Mathematics. The curriculum provides a foundation in both computer science and mathematics, while allowing enough flexibility so that students can pursue their interests in these two fields. See http://www.math.ohiou.edu/math/programs/MScomputational.html for a detailed description.

Secondary School Teachers Track

The Department of Mathematics, together with the College of Education, offers a joint program in mathematics for secondary school teachers. The M.S. degree may be taken either in the College of Education or in the Department of Mathematics. The student taking this graduate program can expect at least half of his or her credits to be earned in mathematics. The topics studied usually are geometry, algebra, number theory, and analysis. Applicants should have completed advanced calculus, geometry , and algebra.

Doctoral Degree Program

The department offers a Ph.D. degree with tracks in either pure or applied

mathematics. The pure mathematics track is primarily in algebra, analysis, and topology. The applied mathematics track covers a broad spectrum of research areas, including dynamical systems, partial and ordinary differential equations, integral equations, optimal control theory, numerical analysis, computational harmonic analysis, statistics, stochastic processes, coding theory, and mathematical biology.

Recent graduates have written dissertations on the theory of non-commutative rings and modules, linear algebra, group theory, optimization theory, general and set theoretic topology, real analysis, boundary value problems, KdV equations, and nonlinear differential and integral equations, and algebraic coding theory. Each student is encouraged to design a program of study suited to his or her needs, for close association between students and faculty members is a major strength of our department.

No specific courses are required for the Ph.D., but each student must pass a comprehensive examination and write an acceptable dissertation. A student is admitted to candidacy for the Ph.D. degree upon completion of comprehensive examinations and recommendation of his or her adviser. See http://www.math.ohiou.edu/math/programs/PhDcandidacyMathematics.html for further details. The Ph.D. candidate is expected to write a dissertation that is a scholarly work demonstrating the ability to understand, organize, improve, and present mathematical ideas of outstanding importance, depth, or interest. It should include original mathematical research and be worthy of publication.

Students are encouraged to develop the ability to read mathematics in the languages which predominate the literature of the discipline. Students in post-master's courses are expected to understand mathematics written in one or more of the following languages: French, German, or Russian.

Admission and Financial Support

To be admitted to graduate study, you should have an undergraduate average of at least a B (3.0 on a 4.0 scale). Applicants admitted with deficiencies will be expected to make up the deficiencies during their first year.

Conferral of a graduate degree requires at least a B (3.0) grade-point average (g.p.a.) both in the courses taken towards satisfying the degree requirements as well as in all courses taken at Ohio University. Students whose overall g.p.a. stays below 3.0 in three consecutive quarters will be dropped from the program.

You may apply for admission for any quarter. To apply for financial aid for the following academic year, you should apply by February 1, although late applications will be considered if vacancies exist. Support is available in the form of Teaching Assistantships (TAs), Doctoral Fellowships, and Graduate Recruitment Stipends (GRS). Students in the M.S. program can receive financial support for up to six quarters.

For further information on our graduate program, see http://www.math.ohio.edu/math/programs/graduate.html.

Mathematics Courses (MATH)

500 History of Mathematics (4)
Main lines of mathematical development in terms of contributions made by great mathematicians: Euclid, Archimedes, Descartes, Newton, Gauss, etc.

506 Foundations of Mathematics II (4)
Introductory topics in set theory and axiomatic development of real number system.

507 Number Theory (4)
Prereq: 307. Topics in number theory.

510 Matrix Theory (4)
Primarily intended for science and engineering majors. Topics include matrix algebra and matrix calculus, matrix solutions of systems of linear equations, eigenvector and eigenvalue problems, quadratic forms, and inner product spaces.

511 Linear Algebra (4)
Vector spaces and linear transformations; matrices and determinants; characteristic roots and similarity; dual spaces; classification of quadratic and Hermitian forms.

512 Introduction to Algebraic Coding Theory (4)
Prereq: 211, 410. Encoding and decoding. Vector spaces over finite fields. Linear Codes, parity-check matrices, syndrome decoding, Hamming Codes, and Cyclic Codes.

513A Introduction to Modern Algebra (4)
Prereq: 511 or equivalent mathematical experience. Groups, permutation groups, subgroups, normal subgroups, quotient groups. Conjugate classes and class equation formula and its application to p-groups. Fundamental theorem on homomorphisms.

513B Introduction to Modern Algebra (4)
Prereq: 513A. Fundamental theorem on finite abelian groups and its consequences. Cauchy theorem and first Sylow theorem. Polynomial rings. UFD and Euclidean domains. Maximal ideals. Algebraic extensions and splitting fields. Fundamental theorem of Galois theory.

529 Topics in Mathematics of Elementary and Secondary Schools (1–5)
Selected topics related to teaching of mathematics in grades K–12. May be repeated for credit.

539 Topics in Geometry (1–5)
When demand is sufficient, a course in some phase of geometry will be offered under this number. May be repeated for credit.

540 Vector Analysis (4)
Vector algebra and its applications. Vector calculus and space curves. Scalar and vector fields, gradient, divergence, curl, and Laplacian. Line and surface integrals, divergence theorem, Stoke's theorem, and Green's theorem.

541 Fourier Analysis and Partial Differential Equations (4)
Representation of functions as sums of infinite series of trigonometric functions, Bessel functions, Legendre polynomials, or other sets of orthogonal functions. Use of such representations for solution of partial differential equations dealing with vibrations, heat flow, and other physical problems.

542 Theory of Linear and Nonlinear Programming (4)
Prereq: 510 or equiv; computer programming experience desirable. Minimization of functions subject to equality and inequality constraints. Kuhn-Tucker theorem, algorithms for function minimization, such as steepest descent and conjugate gradient, and penalty function method. (Not a course in computer programming.)

543 Mathematical Modeling and Optimization (4)
Investigation of differential equation and/or discrete optimization models of physical, social, biological phenomena, and large economic systems by qualitative analysis. Optimal criteria incorporated to convert models to optimal control problems. Pontriagin's maximal principle is used to find analytical solutions. Numerical solutions to optimal control problems also treated. Discrete optimization includes topics from linear and integer programming, network algorithms, and their analysis.

544 Introduction to Numerical Analysis (4)
Iterative methods for solving nonlinear equations, polynomial interpolation and approximations, numerical differentiation and integration, numerical solution of differential equations, error analysis.

545 Advanced Numerical Methods (4)
Prereq: (MATH 541 or EE 778) and (MATH 544 or CHE 501). Initial and boundary value problems; numerical solutions of parabolic, elliptic, and hyperbolic equations; stability; error estimates; applications to engineering problems. (Also offered as ET 545.)

546 Numerical Linear Algebra (4)
Prereq: MATH 510. Floating point arithmetic, numerical solution of systems of linear equations using Gaussian elimination and its variants, numerical techniques for eigenvalues, error analysis, and implementation of algorithms on computer.

548 Introduction to Waves and Wavelets wth Applications (4)
Prereq: MATH 510 or 511; MATH 541 or 544. An elementary introduction to Fourier and wavelet analysis and its applications in engineering, such

as data analysis and signal and image analysis. Focus on understanding basic mathematical conepts and methodology, developing related numerical algorithms and their implementation using computer software such as Matlab wavelet toolbox. Prior experience with computer software and computer algebra systems, such as Matlab and basic computer programming skills are required.

549 Advanced Differential Equations (4)
Prereq: 510 or 511. Introduction to theory of ordinary differential equations with special attention to oscillation, plane autonomous systems, Liapunov theory, and quadratic functionals.

550A Theory of Statistics (4)
Probability distributions of one and several variables, sampling theory, estimation of parameters, confidence intervals, analysis of variance, correlation, and testing of statistical hypotheses.

550B Theory of Statistics (4)
Prereq: 550A. Continuation of 550A. See 550A for description.

550C Theory of Statistics (4)
Prereq: 550B. Continuation of 550A-B. See 550A for description.

551 Stochastic Processes (4)
Prereq: 550B. Markov chains, Poisson process, birth and death process, queuing, and related topics.

552 Statistical Computing (4)
Prereq: 550B. Introduction to computational statistics; Monte Carlo methods, bootstrap, data partitioning methods, EM algorithm, probability density estimation, Markov Chain Monte Carlo methods.

555 Basic Principles of Actuarial Science (4)
Prereq: 550A. Basic concepts of risk theory and utility theory, applied calculus and probability models for the analysis of claims, frequency and severity of distributions, loss distributions, premium determinations, insurance with deductible, reinsurance , and self-insurance.

556 Theory of Interest and Life Contingencies (4)
Prereq: 550A. Theory of interest and contingent payment models. Mathematical models for the actuarial present value of a future set of payments contingent on some random event(s); life insurance, life annuities, benefit reserves.

560A Advanced Calculus (4)
Prereq: undergrad course in introductory analysis. Critical treatment of functions of one or several variables. Topics in the 560A-B-C sequence include the basic topological features of Euclidean spaces, a careful study of limits and continuity, Reimann-Stieltjes integration, uniform convergence, and multidimensional differentiation and integration.

560B Advanced Calculus (4)
Prereq: 560A. Continuation of 560A. See 560A for description.

560C Advanced Calculus (4)
Prereq: 560B. Continuation of 560A-B. See 560A for description.

570 Complex Variables (4)
Analytic and harmonic functions, Cauchy integral and residue theorems, contour integration, Taylor and Laurent expansions, conformality and linear transformations with applications.

580A Elementary Point Set Topology (4)
Topology of Euclidean spaces and general metric spaces.

580B Elementary Point Set Topology (4)
Prereq: 580A. Introduction to general topological spaces.

586 Introduction to Bioinformatics (5)
Prereq: Perm. Major topics and techniques in bioinformatics, including homology searches, sequence alignment, gene finding, phylogenetic trees. The course combines biological, mathematical, computational, and statistical approaches to the extraction of information from large sets of biomolecular data.

598 Internship (1)
Internship at an employer outside the university. Can be used to satisfy a CPT (Curricular Practical Training) requirement.

599 Selected Topics in Mathematics (1–15)
May be repeated for credit.

600A Set Theory (5)
Introduction to axiomatic set theory; ordinals and cardinals; equivalents of axiom of choice.

600B Set Theory (5)
Prereq: 600A. Introduction to combinatorial set theory, trees, partitions relations, closed unbounded and stationary sets, Martin's Axiom.

610 Topics in Applied Abstract Algebra (5)
Prereq: 513A or perm. Applications of abstract systems such as groups, rings, fields, vector spaces to problems in computer science, engineering, physical, biological, and social sciences. Topics may vary from year to year at the choice of the instructor. The following are some examples: Applications of Boolean algebra to switching circuits; Algebraic cryptography; Balanced Incomplete Block Designs.

611 Topics in Applied Abstract Algebra—Group Theory Applications (5)
Prereq: 513A or perm. Topics include: Polya's enumeration theory; color patterns; Burnside and Polya's theorems; cycle index polynomial and color pattern inventory; number of nonisomoporphic graphs on n vertices with m edges. Symmetry of groups of wallpaper patterns (two-dimensional crystals): group of symmetries of a plane; wallpaper pattern groups; point groups; crystallographic restrictions; classification of nonequivalent WP groups; seventeen types of symmetry.

613 Group Theory (5)
Prereq: 513A; no credit if 613A. G-sets. Orbits and stabilizers. Orbit decomposition formula. Permutation groups. Alternating groups. Simple groups. Composition series. Jordan-Holder Theorem. The Sylow Theorems. Fundamental theorem of abelian groups. Solvable and nilpotent groups.

614 Rings and Modules (5)
Prereq: 513B; no credit if 613B. Rings of power series and Laurent series. Division rings. Prime and maximal ideals in a ring (not necessarily commutative). Nil radical. Rings of quotients of domains (not necessarily commutative). Artinian and Noetherian rings and modules. Hilbert Basis Theorem. Completely reducible modules. Semi-simple Artinian rings. Free, projective, and divisible modules. Tensor product of modules and algebras.

615 Galois Theory (5)
Prereq: 513B; no credit if 613C. Polynomial rings. Irreducible polynomials. Quotient rings. Eisenstein Criterion. Algebraic extension. Algebraically closed fields. Splitting fields. Normal and separable extensions. Finite fields. Fixed fields. Fundamental Theorem of Galois Theory. Solvability by radicals. Constructability by ruler and compass.

630A Tensor Analysis on Manifolds (5)
Prereq: 511, 560C. Manifolds, tensor algebra, vector analysis on manifolds, differential forms, exterior derivatives, Stokes theorem, Riemannian and semi-Riemannian manifolds, curvature and torsion tensors.

630B Tensor Analysis on Manifolds (5)
Prereq: 630A. Continuation of 630A. See 630A for description.

630C Tensor Analysis on Manifolds (5)
Prereq: 630B. Continuation of 630A-B. See 630A for description.

640A Numerical Analysis (5)
Prereq: 511, 560A; 544 or 546. In-depth treatment of numerical aspects of linear algebra and nonlinear systems.

640B Numerical Analysis (5)
Prereq: 640A. In-depth treatment of numerical approximation techniques, including differentiation and integration.

640C Numerical Analysis (5)
Prereq: 640B. In-depth treatment of numerical methods for ordinary differential equations; introduction to methods for partial differential equations.

641A Methods of Applied Mathematics (5)
Prereq: 560C, 510 and 340. Course content varies. May be repeated for credit.

641B Methods of Applied Mathematics (5)
Prereq: 641A. Course content varies. May be repeated for credit.

641C Methods of Applied Mathematics (5)
Prereq: 641B. Course content varies. May be repeated for credit.

642A Optimization Theory (5)
Prereq: 560A,B,C; 510; 340. Classical problems of calculus of variation; Euler-Lagrange, Dubois-Reymond, Legendre, and Weierstrass necessary conditions; formulation of classical problems as nonlinear programming problems in function space.

642B Optimization Theory (5)
Prereq: 642A, 660C, FORTRAN. Numerical solutions of boundary value problems; formulation and solution of optimal control problems with set, equality, and inequality constraints; applications to economics, classical mechanics, and engineering.

642C Optimization Theory (5)
Prereq: 642B. Pontriagin's maximal principle is derived and applied to optimal control problems. Numerical solutions considered more fully.

645A Differential Equations (5)
Prereq: 510, 560C. Gronwall's inequality, existence and uniqueness, linear equations and systems, stability, periodic solutions, special topics in ordinary differential equations.

645B Differential Equations (5)
Prereq: 510, 541, 560C. First-order partial differential equations, Laplace's equation, the wave and heat equations, second-order elliptic, parabolic and hyperbolic equations, maximum principles, special topics.

645C Differential Equations (5)
Prereq: 645B. Continuation of 645B.

647A Special Functions (5)
Prereq: 560C and 570, or 670A. Infinite products; Gamma, Beta, and Zeta functions; asymptotic series; cylindrical functions; spherical functions; orthogonal polynomials; Legendre, Hermite, and Laquerre polynomials.

647B Special Functions (5)
Prereq: 647A. Continuation of 647A. See 647A for description.

651A Linear Models (5)
Prereq: 550C; 510 or 511. Simple linear and multiple regression models, one-sample and one-factor analysis of variance, analysis of residuals, generalized linear models, analysis of deviance as a generalization of the analysis of variance.

651B Time Series Analysis (5)
Prereq: 651A. Introductory examples and models, autocorrelation, stationary processes, ARMA models, spectral analysis, nonstationary time series, state-space models, further topics and applications.

652 Experimental Design (5)
Prereq: 550C. Randomization, blocking, Latin squares, balanced incomplete block designs, factorial experiments, confounding and fractional replication, components of variance, orthogonal polynomials, response surface methods.

660A Real Analysis (5)
Prereq: 560C. Abstract measure and integration, Lebesgue measure on real line; Lp-spaces; Fubini and Radon-Nikodym theorems; differentiation theory.

660B Real Analysis (5)
Prereq: 660A. Continuation of 660A. See 660A for description.

660C Real Analysis (5)
Prereq: 660B. Continuation of 660A-B. See 660A for description.

670A Complex Analysis (5)
Prereq: 560C. Analytic functions, multivalued analytic functions, power series, complex integration, Cauchy integral theorem, its extensions and consequences. Residue theorem, Taylor and Laurent expansions, max-modulus principle and its generalizations, elementary conformal mapping, conformal representations, Riemann surfaces, Weierstrass and Mittag-Leffler's factorization theorems, simple periodic functions, simple properties of elliptic functions. Dirichlet problem.

670B Complex Analysis (5)
Prereq: 670A. Continuation of 670A. See 670A for description.

670C Complex Analysis (5)
Prereq: 670B. Continuation of 670A-B. See 670A for description.

671A Potential Theory (5)
Prereq: 560C and 570, or 670A. Newtonian and logarithmic potentials, their continuity and discontinuity properties, Dirichlet problems, subharmonic functions, harmonic functions, etc.

671B Potential Theory (5)
Prereq: 671A. Continuation of 671A. See 671A for description.

680A Point Set Topology (5)
Prereq: 560C. General topological spaces, product and quotient spaces, convergence, separation, countability properties, compactness and paracompactness, connectivity, metric spaces, completion, metrization, completely regular spaces, uniform spaces.

680B Point Set Topology (5)
Prereq: 680A. Continuation of 680A. See 680A for description.

680C Point Set Topology (5)
Prereq: 680B. Continuation of 680A-B. See 680A for description.

690 Independent Study (1–15)
Independent study of topics under guidance of faculty member. May be repeated for credit.

692 Project in Computational Mathematics (5)
Students complete an individual project such as design, implementation, testing, or analysis of an algorithm.

695 Thesis (arranged)
May be repeated for credit.

699 Topics in Mathematics (1–15)
May be repeated for credit.

710A Group Theory (5)
Prereq: 613C. Abelian groups, permutation groups, Sylow theorems, solvable groups, group extensions, free groups and free products, group representation, and characters.

710B Group Theory (5)
Prereq: 710A. Continuation of 710A. See 710A for description.

711A Theory of Rings and Modules (5)
Prereq: 613C. Rings with minimum condition, Wedderburn theorems, Jacobson radical, Jacobson density theorem, commutativity conditions, algebras, Goldie theorems, modules, and chain conditions.

711B Theory of Rings and Modules (5)
Prereq: 711A. Continuation of 711A. See 711A for description.

730A Differential Geometry—Classical (5)
Prereq: 613C, 660C, 680C. Local geometry of curves, local geometry of surfaces, tensors, Riemannian geometry, differential geometry in the large, applications.

730B Differential Geometry—Classical (5)
Prereq: 730A. Continuation of 730A. See 730A for description.

731A Differential Geometry—Modern (5)
Prereq: 613C, 660C, 680C. Differentiable manifolds, calculus of variations, lie groups, differential geometry in Euclidean spaces, g-structures.

731B Differential Geometry—Modern (5)
Prereq: 731A. Continuation of 731A. See 731A for description.

740A Ordinary Differential Equations (5)
Prereq: 645B. Advanced topics in ODEs.

740B Ordinary Differential Equations (5)
Prereq: 740A. Continuation of 740A. See 740A for description.

740C Ordinary Differential Equations (5)
Prereq: 740B. Continuation of 740A-B. See 740A for description.

741A Partial Differential Equations (5)
Prereq: 645C. Advanced topics in PDEs.

741B Partial Differential Equations (5)
Prereq: 741A. Continuation of 741A. See 741A for description.

741C Partial Differential Equations (4)
Prereq: 741B. Continuation of 741A-B. See 741A for description.

760A Measure and Integration (5)
Prereq: 613C, 660C, 680C. Various types of measures and integrals in modern research.

760B Measure and Integration (5)
Prereq: 760A. Continuation of 760A. See 760A for description.

761A Functional Analysis (5)
Prereq: 660A. Normed linear spaces, Hilbert spaces, Hahn-Banach extension theorems, Banach-Steinhaus theorem, closed graph theorem, applications to differential and integral equations.

761B Functional Analysis (5)
Prereq: 761A. Topics selected from spectral theory, Banach algebras, integration in Banach spaces, linear topological vector spaces, and other topics.

761C Functional Analysis (5)
Prereq: 761B. Continuation of 761B. See 761B for description.

780A General Topology (5)
Prereq: 680C. Continuation of main line of development of 680A-B-C, but at deeper and more advanced level. Offered especially for students who intend to specialize in general topology.

780B General Topology (5)
Prereq: 780A. Continuation of 780A. See 780A for description.

780C General Topology (5)
Prereq: 780B. Continuation of 780A-B. See 780A for description.

809 Topics in the Foundation and History of Mathematics and in Number Theory (1–15)
Selected topics not offered in normal course offerings. May be repeated for credit.

819 Topics in Algebra (1–15)
Detailed study of advanced topics not covered in other algebra courses. May be repeated for credit.

829 Topics in the Teaching of Mathematics (1–15)
Selected topics not covered in regular course offerings. May be repeated for credit.

839 Topics in Geometry (1–15)
Selected topics not covered in regular offerings. May be repeated for credit.

849 Topics in Applied Mathematics (1–15)
Selected topics not covered in regular offerings. May be repeated for credit.

859 Topics in Probability, Statistics, and Stochastic Processes (1–15)
Selected topics not covered in regular offerings. May be repeated for credit.

869 Topics in Real Analysis (1–15)
Selected topics not covered in regular offerings. May be repeated for credit.

879 Topics in Complex Analysis (1–15)
Special topics not ordinarily covered in other courses. May be repeated for credit.

889 Topics in Topology (1–15)
Special topics not covered in other courses. May be repeated for credit.

890 Independent Study (1–15)
Independent study under guidance of faculty member. May be repeated for credit.

891 Seminar (1–15)
May be repeated for credit.

895 Dissertation (arranged)
May be repeated for credit.

Modern Languages

See Foreign Languages and Literatures.

Molecular and Cellular Biology

http://www.biosci.ohiou.edu/mcb/

The Molecular and Cellular Biology Program offers graduate study leading to the Ph.D. in a broad range of areas in molecular and cellular biology. M.S. degrees with a concentration in molecular and cellular biology are also available in the Departments of Biological Sciences, Chemistry and Biochemistry, and Environmental and Plant Biology. The program provides and encourages an interdisciplinary approach to these studies.

Admission to the program requires simultaneous admission to the M.S. concentration in molecular and cellular biology or the Ph.D. program in the Department of Biological Sciences Chemistry and Biochemistry, or Environmental and Plant Biology. You must have a B.A., B.S., or M.S. in a biological or physical science. Criteria considered are coursework completed, grades, letters of recommendation, and scores on the Graduate Record Examination.

Unconditional admission requires an overall grade-point average of 3.0 on a 4.0 scale. Financial aid is contingent upon unconditional admission. International students for whom English is not the primary language are required to have earned a minimum grade of 620 on the Test of English as a Foreign Language (TOEFL). Although applications are considered at any time, to maximize the possibility of financial aid, submit completed applications and supporting materials before February 1.

Ph.D. study and research are guided by a doctoral advisory committee, which is formed by the end of the third quarter of study in the program. A great deal of the responsibility for determining the program of study is left to the committee. However, a required core curriculum consists of a year of biochemistry (CHEM 590, 591), cell biology (MCB 760), molecular biology (MCB 720), molecular and cellular biology laboratory (MCB 730), and scientific writing (PBIO 518). You are required to register for MCB 741 Seminar in Molecular and Cellular Biology when offered and must present at least one seminar each year. You must receive doctoral advisory committee approval of a written research proposal by the fifth quarter in the program and pass written and oral qualifying examinations by the end of the seventh quarter of study. Students receiving support from the Molecular and Cellular Biology Program are required to serve as a teaching assistant for at least two quarters per academic year. You must defend your dissertation before the doctoral advisory committee at a public forum. In addition, you are required to present the dissertation research as a program seminar.

Study and research in the M.S. concentration in molecular and cellular biology are guided by a master's advisory committee, which is formed by the end of your third quarter of study in the program. The required core curriculum consists of biochemistry (CHEM 590), cell biology (MCB 760 or PBIO 531 as appropriate), molecular biology (MCB 720), and molecular and cellular biology laboratory (MCB 730). You are required to register for MCB 741 Seminar in Molecular and Cellular Biology when offered and present at least one seminar each year. Additional course requirements for M.S. students admitted through the Department of Biological Sciences include biostatistics (BIOS 670); the Department of Chemistry and Biochemistry include additional biochemistry courses (CHEM 591 and 592); and in the Department of Environmental and Plant Biology a minimum of 15 of the 30 graded credits of coursework must be from PBIO. You must receive master's advisory committee approval of a written research proposal within one year after entry into the program; this research proposal must also be approved by the graduate chair of your home department. You also must pass a written qualifying exam immediately after your third quarter of academic study. If you are receiving support from the Molecular and Cellular Biology Program, you are required to serve as a teaching associate for at least two quarters per academic year. You are required to present your thesis at a public forum and orally defend it before your master's advisory committee.

Molecular and Cellular Biology Courses (MCB)

710 Advances in Signal Transduction (5)
Prereq: CHEM 592. Introduction to the advanced concepts in the area of agonist-receptor mediated biochemical signalling mechanisms. The topics include principles, experimental techniques and quantitative analysis of agonist-receptor interaction, ion channels, adrenergic and cholinergic receptors, classical and low molecular weight G proteins, second messengers, oncogenes, growth factors, steroid receptors, and signal transduction in bacteria and yeast. *Evans, Colvin, James; Sp.*

720 Molecular Biology (4)
Prereq: CHEM 590. Introduction to the basic concepts and techniques used in molecular biology. Topics include nucleic acid and chromatin structure, replication, recombination, the processes of transcription and translation and their regulation, plasmids, viruses, transposable elements, and techniques used in molecular biology. *James, Kopchick, Showalter; W.*

730 Molecular and Cellular Biology Laboratory (4)
Prereq: 720, 760, or PBIO 531. Exposes the MCB student to a wide variety of laboratory techniques used in the broad field of molecular and cellular biology by allowing the student to carry out these techniques in the laboratory. *Showalter; Sp.*

741 Seminar in Molecular and Cellular Biology (1)
Involves student presentation and discussion of seminars on topics of current interest in the area of molecular and cellular biology. *F, W, Sp.*

751 Topics in Molecular and Cellular Biology (2–6, max 12)
Designed for the presentation of significant current topics in molecular and cellular biology in response to specific student demand. *D.*

760 Advanced Cell Biology (4)
Prereq: CHEM 590; MCB 720 or MICR 526. A discussion of current research directions in cell biology. Topics include, but are not limited to, protein transport and targeting, cell cycle, membrane transport and excitability, and cellular differentiation. Emphasis on current research directions of these topics. *Horodyski; W.*

Ohio Program of Intensive English

http://www.ohiou.edu/opie/

OPIE Courses (OPIE)

521 Elementary Core Skills (9)
Prereq: perm. 12-hour core component of a full time (20 hours/ week) course in English as a second language for students at the elementary level whose ultimate aim is academic study. Core Skills class focuses on basic grammar and communication skills. Writing sometimes included. Focus is on American English for effective communication both inside and outside the classroom.

522 Elementary Listening/Speaking (4)
Prereq: perm. This course is one component of full time study of English as a second language for students at the elementary level whose ultimate aim is academic study. Four hours of classroom instruction are designed to provide students with instruction and practice in basic listening and speaking for everyday communication.

523 Elementary Reading/Writing (4)
Prereq: perm. This course is one component of full time study of English as a second language for students at the elementary level whose ultimate aim is academic study. Four hours of classroom instruction are designed to provide students with instruction and practice in reading and vocabulary. Students build their reading skills by learning reading strategies and practicing with readings and exercises from the textbook. Students build their vocabulary by learning new words and learning to determine the meaning of words from context clues and word analysis. Students work to develop sentence-level writing skills and may begin practice writing simple paragraphs.

526 Intermediate Core Skills (9)
Prereq: perm. Twelve-hour core component of a full time (20 hours/ week) course in English as a second language for students aiming at academic study. Students at this level do not take academic courses. Paragraph level writing

competency is developed as students expand grammatical knowledge and explore the process of writing. Instruction and practice includes an introduction to the three-paragraph essay.

527 Intermediate Listening/Speaking (4)
Prereq: perm. This course is one component of full-time study of English as a second language for students at the intermediate level whose ultimate aim is academic study. Four hours of classroom instruction are designed to provide students with instruction and practice in listening and speaking.

528 Intermedieate Reading/Vocabulary (4)
Prereq: perm. This course is one component of full time study of English as a second language for students at the intermediate level whose ultimate aim is academic study. Four hours of classroom instruction are designed to provide students with instruction and practice in reading and vocabulary. Students build their reading skills by learning reading strategies and practicing with readings and exercises from the textbook. Students build their vocabulary by learning new words and learning to determine the meaning of words from context clues and word analysis. This course includes instruction and practice in using an English-only dictionary.

531 Advanced Core Skills A (9)
Prereq: perm. The Advanced CORE Skills A is a 12-hour CORE component of a full time (20 hours/week) course of study in English as a second language for students preparing for academic study in an American university. Students incorporate understanding of grammatical structures, appropriate vocabulary, and organization into formally developed essays. More emphasis is placed on rhetorical modes and developing editing skills. Reading comprehension and lexical skill development is emphasized along with the improvement of reading rate. Students learn to synthesize the various skills and strategies to which they have been exposed. Listening and speaking skill activities rely more heavily on academic task simulations and university level expectations.

532 Advanced Core Skills B (9)
Prereq: perm. The Advanced CORE Skills B is a 12-hour CORE component of a full time (20 hours/week) course of study in English as a second language for students preparing for academic study in an American university. Students incorporate understanding of grammatical structures, appropriate vocabulary, and organization into formally developed essays. More emphasis is placed on rhetorical modes and developing editing skills. Reading comprehension and lexical skill development is emphasized along with the improvement of reading rate. Students learn to synthesize the various skills and strategies to which they have been exposed. Listening and speaking skill activities rely more heavily on academic task simulations and university level expectations.

533 Academic Listening/Note-taking/ Speaking (4)
Prereq: perm. This OPIE part time level elective class aims to improve students' listening, note- taking, and speaking skills needed for successful academic work. Class time is spent on listening to academic mini-lectures, note-taking, discussions, and oral presentations.

534 Academic Reading Skills (4)
Prereq: perm. Provides students with both an understanding of the reading process and intensive practice in developing advanced level reading strategies and skills. Designed to improve reading comprehension, reading speed, academic vocabulary, and awareness of text structures and rhetorical patterns.

541 American Culture (4)
Prereq: perm. A general overview of American culture to increase awareness and understanding of the cultural values of the United States and other cultures. Provides cross-cultural activities for small group and class discussions, and topics for oral presentations, research, and writing projects. Academic English skill building through reading, writing, listening and speaking activities, vocabulary study, summarizing, research and oral reports, and group activities.

542 Stories in the News (4)
Prereq: perm. Students in this four-hour per week course will work to improve reading, writing, listening, and speaking skills while they study and report on a) current news stories and b) contemporary world issues.

543 U.S. Cities: New York and Los Angeles (4)
Prereq: perm. Through instruction in the history and cultural geography of two U.S. cities: New York City and Los Angeles, students improve their academic English language skills in grammar, reading, writing, listening, and speaking. Students practice language skills through discussion, oral presentations, written assignments, journal and essay writing, and completing reading logs. Students also learn and develop research skills by accessing and gathering information from a variety of sources.

544 Native Americans of the U.S. (4)
Prereq: perm. This course will help students further develop all English language skills while learning about Native American history, culture, and current social and political issues. Students will gather information from a variety of sources including newspaper and magazine articles, the internet, videotapes, guest speakers, and field trips; they will use this information in discussions, presentations and papers.

546 Ecology and the Environment (4)
Prereq: perm. This course will help students further develop all language skills as well as learn about local ecology and worldwide environmental issues. Students will gather information from a variety of sources including newspaper and magazine articles, the internet, videotapes, guest speakers, and field trips; they will use this information in discussions, presentations and papers.

547 English through Music (4)
Prereq: perm. This course is one component of either full time or part time study of English as a second language for students whose ultimate aim is full time academic study. Four hours of classroom instruction are designed to provide students with instruction and practice in listening/speaking and reading while exploring American musical genres and American culture.

551 Academic Core Skills 1 (8)
Prereq: perm. Academic Core Skills 1 is a part time integrated core in English as a Second Language for students who are also permitted to take one academic course. Eight hours of classroom instruction (two hours a day, four days a week) focus on the development of academic English language skills including reading and writing, study skills, and academic performance skills needed for success in an academic program in the US. Listening and speaking will also be addressed, and grammar will be addressed as needed.

552 Americans at Work (4)
Prereq: perm. This course focuses on improving students' academic reading, composition, and presentation skills by introducing them to work as a cultural phenomenon, to the history of work in the U.S., and to American cultural values and beliefs about work.

553 Adventures in Mythology (4)
Prereq: perm. Students in this course will work on improving their academic reading, writing, listening and speaking skills through simulated academic study of mythology.

554 Public Speaking (4)
Prereq: perm. The Public Speaking Class develops speaking, listening and presenting skills through discussion, demonstration and extensive practice. This course is useful for both academic work and the workplace.

556 Academic Core Skills 2 (8)
Prereq: perm. Academic Core Skills 2 is a part time level integrated core in English as a Second Language for students who are also permitted to take one or two academic courses simultaneously. Eight hours of classroom instruction (two hours a day, four days a week) are designed to provide students with high-level language skills development, with a specific focus on academic reading and writing skills, as well as academic performance and study skills. Students also work on academic listening and speaking skills.

557 Pronunciation through Current Events (4)
Prereq: perm. This course will focus on improving the accuracy of students' speaking abilities. Students will have the opportunity to learn and practice the individual sounds, rhythm, intonation and stress associated with spontaneous and planned spoken English. In addition students will study current issues through the use of news related listening materials and class discussions. These discussions of current events will provide the primary means for student improvement by enabling students to practice speaking in a relevant and engaging context.

558 College Vocabulary (4)
Prereq: perm. This course is designed to engage students in improving their vocabulary and using it accurately and fluently for academic purposes.

561 Academic Core Skills 3 (8)
Prereq: perm. This course is a part time support course(s) in English as a Second Language for students who are also permitted to take two academic courses. Eight hours of classroom instruction (two hours a day, four days a week) are designed to provide students with high-level language skills development, with a specific focus on academic reading and writing skills, as well as academic performance and study skills.

562 Intercultural Communication (4)
Prereq: perm. This course focuses on improving students' academic reading, composition, and presentation skills by introducing them to the fundamental concepts of intercultural and interpersonal communication and the problems of intercultural conflict.

564 Grammar (4)
Prereq: perm. Through this OPIE part time level elective class, students will increase their ability to use a variety of grammatical patterns and structures to express original ideas, to edit written text and to paraphrase, summarize, and synthesize information and ideas in order to perform extended academic tasks orally and in writing.

565 Composition (4)
Prereq: perm. Through this OPIE part time level elective class, students will increase their ability to write about familiar or prepared topics (up to three typed pages) with some precision and sufficient support. They will increase their ability to synthesize, summarize and paraphrase information from articles and academic texts. Students will perform various academic writing tasks such as writing persuasive essays and

integrating paraphrased or summarized sources into a text. They will increase their ability to use a variety of grammatical patterns and structures to express original ideas in writing.

566 Issues through Film (4)
Prereq: perm. Students in this five session per week course (ordinarily six hours of class) will work to improve speaking, reading, and writing as well as listening skills through a study of some of the traditional themes of USA cinema, and of movies that exemplify those themes.

567 Information Gathering (4)
Prereq: perm. This OPIE part time level elective class on Information Gathering (Techniques for Gathering and Evaluating Research Information) aims at providing international students with basic and, in some cases, advanced level information gathering and evaluation skills while at the same time improving their English language ability, particularly in the areas of reading, listening/ speaking, and classroom interaction skills.

573 Introduction to Graduate Writing (3)
Prereq: perm. This required course is for graduate students whose first language is not English and whose writing assessment reveals serious weakness in acceptable standard English for academic purposes. This course addresses critical reading and written communication of information for academic purposes—from the paragraph to the research paper. Grammatical and vocabulary issues are also addressed.

574 Advanced Graduate Writing (3)
Prereq: perm. For graduate students whose first language is not English, this course addresses how to organize and present written information in acceptable academic English. Students practice discourse skills that include but are not limited to word choice clarity, emphasis and subtleties of expression. Coherence in writing will be emphasized. Practice in the critical discourse modes of graduate writing and editing are addressed.

575 Writing a Thesis (3)
Prereq: perm. Given the understanding that language and writing are cultural phenomena, this course is designed for international students who have mastered content of a discipline but are unfamiliar with the constraints of writing a proposal or writing up the results of the extended research for a thesis.

580 ITA Preparation (Pronunciation Emphasis) (4)
Prereq: perm. The major emphasis in this course is on improving pronunciation for overall intelligibility and for comprehension in the classroom, although some attention will also be given to teaching skills and cultural awareness.

581 ITA Preparation (Classroom Communication Skills) (4)
Prereq: perm. The major emphasis in this class is on developing the language skills necessary for effective teaching, which include fluency, use of discourse markers, and the structural control needed for defining and explaining. In addition, considerable attention will also be given to the language necessary for effective interaction with undergraduate students, to meeting the pronunciation needs of both the class as a whole and the individual student and to the awareness of expectations for TAs and the academic situation in the United States generally.

582 Oral Communication in Graduate Studies (3)
Prereq: perm. The goal of this course is to improve students' oral communication skills in English for success in the US academic community. Students explore aspects of language, the US academic culture, and strategies for effective discussion and presentation. Students will have the opportunity to learn and practice the individual sounds, rhythm, intonation and stress associated with spontaneous and planned spoken English.

583 Oral Communication in Graduate Studies 2 (3)
Prereq: perm. The goal of this course is to further improve students' oral communication skills in English for success in the US academic community. Students continue to explore aspects of language, the US academic culture, and strategies for effective discussion and presentation. Students will have the opportunity to learn and practice the individual sounds, rhythm, intonation and stress associated with spontaneous and planned spoken English.

599 Special Studies (1-15)
Prereq: perm. Individual or small group independent or tutorial study classes set up to meet the needs of students unable to participate in standard classes. Content and objectives taken from standard classes but adapted to the individual or small group independent or tutorial method of delivery.

Philosophy

http://www.philosophy.ohiou.edu/

Only students who have earned at least a 3.0 (B) average in their undergraduate courses will be admitted unconditionally into the graduate program in philosophy. It is expected that you will have taken at least 28 quarter hours in philosophy. Students who have not had a course each in value theory, symbolic (predicate) logic, ancient philosophy, and modern philosophy must take courses in these areas during the first two quarters in residence or as soon as possible. Applications, along with official transcripts and GRE scores, should be submitted to Graduate Studies. At least three letters of reference as well as a sample of original philosophical writing should be sent directly to the department graduate chair. All application materials must be received by March 1 for fall admission.

The Master of Arts in philosophy is granted upon the satisfaction of the following requirements:

1 Completion of 45 quarter hours in addition to any course taken to compensate for deficiencies in undergraduate preparation. At least 35 of these hours must derive from classroom courses at the 500-level or above. Independent or arranged studies such as PHIL 692 and PHIL 694, as well as PHIL 685, 690, and 693, do not count toward the 35 course hours. These hours must include at least one course from each of the following groups:

a 518 Plato, 519 Aristotle;

b 528 Continental Rationalism, 529 British Empiricism, 538 Kant

c 514 Analytic Philosophy, 544 Philosophy of Marxism, 548 Pragmatism, 558 Contemporary European Philosophy, 568 Phenomenology

d 530 Contemporary Ethical Theory, 531 History of Aesthetic Theory, 532 Problems in Aesthetics, 534 Metaethics 540 Contemporary Social Theory, 542 Philosophy of Law

e 516 Philosophy of Science, 517 Philosophy of Logic, 520 Symbolic Logic II, 550 Theory of Knowledge, 551 Metaphysics

f 502 Techniques in Formal Analysis

2 Enrollment in 693 Seminar each fall and spring, 685 Forum each winter in, and 690 Supervised Teaching each quarter in residence.

3 Enrollment (especially in the second year) in a suitable number of hours of 695 Thesis.

4 Submission of an acceptable thesis on an approved topic, and an acceptable defense of it during an oral thesis examination. During a student's six-year term of admission, he or she may attempt a thesis defense no more than twice. If the second attempt is unsuccessful, the Graduate Committee will meet to decide whether to terminate the student from the program.

Policy Regarding Adequate Progress Toward the Degree

Graduate students are expected to make continuous and adequate progress toward the degree. Progress is defined as:

1 Enrolling in appropriate philosophy graduate courses (15 hours per quarter).

2 Maintaining a 3.0 G.P.A.

3 Avoiding grades of "I"

4 Avoiding any more than two grades of "PR."

5 Arranging for a thesis advisor and a committee of two other readers by the end of fall quarter of the student's second year.

6 Submitting a thesis proposal by the end of the first week of winter quarter of the student's second year.

7 Evidence of regular progress in completing the thesis (e.g., the submitting of drafts, frequent meetings with thesis advisor, etc).

Failure to satisfy any of these conditions can result in dismissal from the program.

Philosophy Courses (PHIL)

502 Techniques of Formal Analysis (5)
Philosophical application of techniques of modern symbolic logic. *F, W, Sp; Y.*

510 Emergence of a Science (4)
Prereq: 1 yr univ-level science. For both science and nonscience majors interested in historical and philosophical influences that led to present concept of chemistry as science. Chronological survey, largely nontechnical, of developments in chemistry from antiquity to present, combined with discussions of philosophers of science from Thales to Russell. *Zucker; Y.*

512 Philosophy of Biology (5)
Some specific questions to be addressed include: what are species; how best to do taxonomy; must any theory of evolution be holistic? *Zucker; A.*

513 Philosophy and Freudian Analysis (5)
Prereq: PSY 233 or 332. The philosophical and scientific presuppositions of Freudian psychology, including Freud's methodology, are identified and subjected to rigorous philosophical analysis. Freud's early thought on hysteria, dreams, sexuality, and psychoanalysis are emphasized. Recent attacks on the legitimacy of psychoanalysis are examined. Alternative schemes for understanding human behavior also discussed. *Zucker; D.*

514 Analytic Philosophy (5)
Selected topics in contemporary Anglo-American philosophy. *Bender; D.*

516 Philosophy of Science (5)
Analysis of selected problems in logic and methodology of sciences. *Zucker; Y.*

517 Philosophy of Logic (5)
Prereq: 320 or 502. Provides a survey of issues in the philosophy of logic. Topics include formal theories of truth, logical and semantical paradoxes, modal logic, conditionals, interpretations of quantifiers, and philosophical implications of Godel's incompleteness theorem.

518 Plato (5)
Carson; Y.

519 Aristotle (5)
Carson; Y.

520 Symbolic Logic II (5)
Prereq: 320 or 502 or Math 306 (or equiv.) or CS 300. Focuses on the completeness of first-order logic, Gödel's incompleteness theorems, axiomatic set theory, and Cantor's and Dedekind's theories of the infinite.

525 Philosophical Problems in Quantum Physics (5)
Interpretation and paradoxes of quantum theory. Topics include the problem of measurement, the Bohr-Einstein debates, Schrodinger's cat paradox, the Einstein-Podolsky-Rosen paradox, and Bell's Theorem and its implications.

526 Philosophy of Space and Time (5)
In addition to classical topics, issues in the philosophy of space and time that have been greatly influenced by the emergence of Einstein's theory of relativity will be discussed. Topics to be covered include the nature of geometry and its relation to the world, absolute vs. relational theories of space, time, and space-time, and Zeno's paradoxes of motion and extension. Contemporary and classical thinkers will be examined.

527 Philosophy of Mathematics (5)
An in-depth examination of a major work in the philosophy of mathematics or of a particular concept that plays a central role in mathematical philosophy, such as the concept of number, the concept of mathematical proof, and the concept of the mathematical infinite.

528 Continental Rationalism (5)
Descartes, Spinoza, Leibniz. *Petrik; A.*

529 British Empiricism (5)
Locke, Berkeley, Hume. *A.*

530 Contemporary Ethical Theory (5)
Current literature in selected topics in moral and social philosophy. *LeBar; A.*

531 History of Aesthetic Theory (5)
Readings from Plato to Dewey and relation of these theories to selected arts and recent criticism. *Bender; Y.*

532 Problems in Aesthetics (5)
Writing drawn from modern sources on theory of art, aesthetic criticism, interpretation, creativity, truth in art, and aesthetic value. *Bender; Y.*

534 Metaethics (5)
This course focuses on the nature of ethical judgments and claims, their truth status, and their connection with motivation. *Lebar; A.*

538 Kant (5)
Kant's *Critique of Pure Reason* with attention given to his ethical theory. *Petrik; A.*

540 Contemporary Social Philosophy (5)
Consideration of various issues in contemporary social, political, and legal philosophy. Possible topics: theories of distributive justice, culpability, causality and responsibility, legal and moral rights. *D*

542 Philosophy of Law (5)
Consideration of nature and justification of law and examination of some specialized topics in philosophy of law including ascription of responsibility, civil disobedience, theories of punishment, liberty, etc. *Y.*

543 Liability and Responsibility in the Law (5)
Prereq: 240, 330, 430, or 440. Study of some of major problematic areas in ascription of legal liability and responsibility. Chief areas of concern: (1) grounds on which courts determine who or what is causally responsible for what occurred; (2) extent to which finding of legal responsibility should take account of intentions, knowledge, recklessness, etc., of accused; and (3) whether only sane individuals should be held legally responsible. *Y.*

544 Philosophy of Marxism (5)
Philosophical inquiry into classical and contemporary Marxist thought stressing Marx, Engels, Lenin, Stalin, Mao, and several contemporary Marxists such as the "Praxis group" of Yugoslavia. *Borchert; A.*

548 Pragmatism (5)
Peirce, James, Dewey, and other American thinkers. *D.*

550 Theory of Knowledge (5)
Critical examination of various views of what knowledge is and how it is attained. *Bender; Y.*

551 Metaphysics (5)
Basic alternative conceptions of world and such topics as substance, causality, self, freedom, space, and time. *Bender; Y.*

553 Philosophy, Science, and World Views (5)
Transformation of ideas from one discipline to another, especially from philosophy to science and from science to generalized world-view. Emphasis on two case studies on moral and social views derived from Newtonian mechanism and Darwin's theory of evolution, with applications to recent religious and metaphysical implications drawn from physics of Einstein and Heisenberg. *D.*

554 Semiotics in Communication (5)
Introduction to the structures and processes of communication through the use of semiotics. Semiotics is concerned with systems of signs, their interrelationships, and the images used to transmit such systems. Since semiotics is being used widely in the analysis of literature, film, and other social means of communication, the course would acquaint the student with current modes of understanding the communicative process. *Y.*

558 Contemporary European Philosophy (5)
Phenomenology and existentialism as seen in Husserl, Heidegger, Scheler, Hartman, Dilthey, Cassirer, Gebser, Ingarden, Sartre, Camus, Marcel, Merleau-Ponty, and Ricoeur. *Y.*

568 Phenomenology (5)
Method and philosophy of phenomenological movement from Husserl to Merleau-Ponty. *Y.*

575 Chinese Philosophy (5)
Major Chinese philosophers and schools of thought from earliest times to present day. *D.*

576 Indian Philosophy (5)
Classical Hinduism. *D.*

577 Buddhist Philosophy (5)
Abhidharmika, Madhyamika, Yogacara, Zen, and other philosophical doctrines of Buddhism. *D.*

578 African Philosophy (5)
Critical examination of question, debated today among African philosophers, whether traditional African thought systems should be regarded and developed as philosophical systems, and survey of most significant of these thought systems. *Y.*

591 Seminar in Philosophy (1–15, max 15)
Prereq: perm. Selected problems.

592 Applied Ethics (5)
Prereq: 2 courses from 130, 235, 330, 331, 430. An examination of the relationship of applied ethics to ethics as a branch of philosophy, as well as a survey of the major areas within applied ethics (medical, business, journalistic, etc.), and a consideration of selected problems in each. *Y.*

685 Forum in Contemporary Philosophy (3)
Seminar required of all full-time graduate students to study the book to be discussed with the author during the spring quarter Philosophy Forum.*W; Y.*

690 Supervised Teaching (2)
Supervised experience, including observation, discussion, and counsel. *Y.*

691 Seminar in Philosophy (1–5, max 15)
Selected problems. *D.*

692 Special Studies (1–5, max 15)
Advanced specialized study in an area related to, but not necessarily that of, student's thesis. *Y.*

693 Seminar in Philosophy (1–3, max 6)
Seminar intended for all philosophy graduate students. *F, Y.*

694 Advanced Readings in Philosophy (1-5, max 15)
Supervised readings in specific areas beyond coursework. *D.*

695 Thesis (1–15, no maximum) *Y.*

696 Topics in Applied Ethics (5)
A seminar on selected topics in the area of applied ethics (medicine, journalism, computer, etc.). Each student writes a paper on the resolution of one such problem area. *Y.*

Physics and Astronomy

http://plato.phy.ohiou.edu/

Degree Programs

Graduate study and research leading to the Master of Arts, Master of Science, and the Doctor of Philosophy degrees are offered in the Department of Physics and Astronomy. The research activities of the department are broad and currently include nuclear and particle physics, condensed matter and surface physics, acoustics, biophysics and astrophysics. Both experimental and theoretical studies are in progress in these areas. Interdisciplinary and inter-departmental programs of study are also possible.

Expected Student Preparation

Students entering these degree programs are normally expected to have successfully concluded undergraduate work in mechanics, electricity and magnetism, thermodynamics, statistical mechanics and quantum mechanics, and should also possess a working knowledge of mathematics including calculus, ordinary differential equations, Fourier series, vector analysis, and the elements of partial differential equations. It is recommended that applicants take the Graduate Record Examination, including the advanced test for physics. Deficiencies of undergraduate preparation should not deter a prospective student with an otherwise good record, as these may be made up during the first year of graduate study.

Degree Requirements

General Requirements
Participation in the weekly colloquium, PHYS 891, is required of all graduate students. Participation in one of the area-specific seminar series and in special topics course offerings is encouraged.

Requirements for the M.S. and M.A. Degree
The M.S. degree can be earned by submission of a research thesis with an oral examination and at least 20 credit hours of graduate level lecture or laboratory courses in physics and astronomy. It can also be obtained under a non-thesis option which requires satisfactory completion of a faculty-approved project (of two to six credits), and must include a core set of courses consisting of one quarter of Classical Mechanics (605), two quarters of Electrodynamics (607 and 608), two quarters of Quantum Mechanics (611 and 612), one quarter of Mathematical Methods (615), and one quarter of Statistical Mechanics (512), or their equivalents. The M.A. is an option reserved for special cases and usually involves substantial work in other fields. Candidates must follow an approved program filed with the Departmental Graduate Committee and submit a scholarly paper based on these studies for approval by at least two readers. For either the M.A. or M.S. degree, a candidate is required to earn at least 45 graduate credits in physics, astronomy, and approved electives.

Requirements for the Ph.D. Degree

Course Requirements
Students in pursuit of a Ph.D.in physics are required to pass the core set of courses (PHYS 512, 605, 607, 608, 611, 612, and 615 described in the previous section) with a B (3.0) average. First and second year graduate students consult with assigned advisors to determine a program of study. Course requirements may be waived with adequate evidence of equivalent work elsewhere. In addition to the core courses, Ph.D. students must take a graduate level laboratory course (ASTR 510, PHYS 531, 601, 604) and seven of the following courses: ASTR 501, 502, 503, PHYS 520, 523, 553, 571, and non-core courses numbered 600 and higher. Research courses PHYS 696 and 895 are excluded from this list. At least one of the seven courses must be in an area outside the student's area of specialization. Courses or Labs offered by other departments may substitute for a limited number of these requirements with the approval of the student's advisor and the Graduate Chair. Typically a student would take the core courses in the following order:

First Year:
Fall: (551 QM), 607 ED, 615 MM
Winter: 611 QM, 608 ED, 512 St M
Spring: 612 QM, LAB, 605 Cl M

Students requiring additional preparation in statistical mechanics or quantum mechanics are advised to take PHYS 511 or PHYS 551; however, these courses do not count toward the seven required courses.

Ph.D. Comprehensive Examination
A written exam is given at the beginning of both the fall and winter quarters to students who have attended a full year of graduate study at Ohio University. The exam is based on undergraduate physics, and first-year graduate-level topics taken from the areas of: classical mechanics, electricity and magnetism, quantum physics, thermodynamics, special relativity, and mathematical physics. Well-prepared incoming students may choose to take the exam in their first year at the beginning of the first winter quarter. An unsuccessful attempt in the first year will not adversely affect the student's record. At the beginning of the fall quarter of the second year, all students must take the exam if they have not already passed it. If a student is admitted in the winter or spring quarter of a given year, they must take the exam the first time it is offered after the student has been enrolled in the graduate program for one full year. Three outcomes are possible for the written exam. The student may pass the exam, in which case the requirement of the Comprehensive Exam is successfully concluded. The student may fail the written exam, in which case the student is required to take the exam the next time it is offered (normally only one additional attempt is allowed after the first required attempt). In some cases, the faculty may feel that the results of the written exam are ambiguous, and require an oral exam to decide if the student passes or fails the Comprehensive Exam. The oral exam will consist of general questions at the first-year graduate level and possibly those related to the student's proposed area of study. Based upon performance on the oral exam, the committee makes

a recommendation to the faculty, which decides whether the student passes or fails the Comprehensive Exam.

Dissertation Prospectus
After passing the Comprehensive Exam, students form a Dissertation Committee in consultation with their research advisor. Students must prepare a Dissertation Prospectus for approval by this committee within one year of passing the Comprehensive Exam. The Prospectus is a written document, typically 5-10 pages in length, prepared in consultation with the research advisor, which outlines the student's plan for their dissertation research. Approval of the Prospectus by the Dissertation Committee will occur after the student meets privately with the committee and has answered any questions or concerns the committee may have about the proposed research. If the plans for the student's Dissertation change substantially from the Prospectus, the student's Dissertation Committee must be informed. The Graduate Chair may convene the Dissertation Committee for advice should problems arise.

Dissertation Defense
The remainder of the Ph.D. program consists of research, advanced coursework, and other studies relevant to the Dissertation. Upon completion of the Dissertation, the student gives a public presentation of the findings. The Ph.D. is awarded following the successful defense of the Dissertation before the Dissertation Committee.

There are no specific deadlines, but most applications for financial aid are received by March 1 and most offers are made by April 15. Most students enter the physics program in the fall; although some add the preceding summer session. Entry during the academic year is possible although not generally encouraged. For all details concerning graduate programs, write to the Physics Graduate Committee.

Astrophysics Graduate Study

Students interested in pursuing advanced study and research in astrophysics at Ohio University must fulfill general **physics course requirements** specified by the department, and are encouraged to complete additional coursework providing a solid background in contemporary astrophysics. A suggested course sequence for the first two years is provided below for students interested in pursuing this option.

First Year:
Fall: (551 QM), 607 ED, 615 MM
Winter: 611 QM, 608 ED, 512 St M
Spring: 612 QM, Astro Lab, 605 Cl Mech

Second Year:
Fall: 623 St M[1], 650 G Rel[1], 501 Stellar Astro[4]
Winter: 617 M[1], 696 Spec Study[3]
Spring: 553 or 571[2],609 ED[1], 502 Gala and ISM[4]

Notes:
[1]Recommended electives. (617 = Methods of Theoretical Physics, 650 = General Relativity)

[2]All graduate students are expected to complete either 553 (Nuclear and Particle Physics) or 571 (Solid State Physics).

[3]May include material covered in ASTR 305.

[4]501 (Stellar Astrophysics), 502 (Galactic and Interstellar Astrophysics), 503 (Extragalactic Astrophysics and Cosmology), and 510 (Observational Astrophysics) are offered on a rotating basis in the winter and spring quarters; consequently most students will need to take one of these courses in the Fall quarter of their third year.

[5]The Colloquium (891) must be attended by all students.

Students should also plan on participating in **PHYS 897F, Astrophysics Research Seminar**.

The detailed course of study and choice of electives may be adjusted, based on the student's level of background and interests. Students wishing to pursue the astrophysics option should meet with Profs. Böttcher, Mcnamara, Shields, or Statler for further information and discussion of research possibilities.

Astronomy Courses (ASTR)

501 Stellar Astrophysics (3)
The physics of stellar atmospheres and interiors. Mathematical treatments of radiative transfer, hydrodynamics, and stellar structure; stellar atmospheres and spectra; stellar interiors; and nuclear energy sources. Stellar evolution, red giant stars, pulsating variables; physics of degenerate gases, white dwarfs, neutron stars, pulsars, black holes.

502 Galactic and Interstellar Astrophysics (3)
Structure and evolution of the MIlky Way galaxy and the interstellar medium. Stellar populations and orbits of stars in the galaxy; galactic dynamics, evolution of the galactic disk and star clusters. Physics of the interstellar gas, absorption and emission processes, HI and HII regions, molecular clouds. Hydrodynamic instabilities, star formation; supernova explosions and shockwaves.

503 Extragalactic Astrophysics and Cosmology (3)
Physics of galaxies and evolution of the universe. Dynamics of galaxy structure, formation, and interaction. Dark matter. Active galactic nuclei, radio galaxies, and quasars. Galaxy clusters and large-scale structure. Cosmological distance measurements, expansion of the universe. Introduction to general relativity; cosmological models, observational tests, cosmic microwave background. Primordial nucleosynthesis.

510 Observational Astrophysics (3)
Modern observational techniques and instrumentation. Planning and execution of observational programs, data aquisition, reduction, and analysis; presentation of scientific results.

Physics Courses (PHYS)

503 Digital Computing Methods in Physics (5)
Practical computer programming (FORTRAN, etc.) with special emphasis on problems in physics.

505 Mechanics (3–5)
Prereq: degree in area outside physics. For students with graduate rank, especially in multidisciplinary programs, whose preparation does not include equiv of 311.

506 Mechanics (3–5)
Prereq: degree in area outside physics. For students with graduate rank, especially in multidisciplinary programs, whose preparation does not include equiv of 312.

507 Electricity and Magnetism I (3–5)
Prereq: degree in area outside physics. For students with graduate rank, especially in multidisciplinary programs, whose preparation does not include equiv of 427.

508 Electricity and Magnetism II (3–5)
Prereq: degree in area outside physics. For students with graduate rank, especially in multidisciplinary programs, whose preparation does not include equiv of 428.

509 Electricity and Magnetism III (3–5)
Prereq: degree in area outside physics. For students with graduate rank, especially in multidisciplinary programs, whose preparation does not include equiv of 429.

511 Thermodynamics (4)
First and second laws of thermodynamics, phase changes, and entropy. Temperature, thermodynamic variables, equations of state, heat engines. 3 lec, 1 rec, problems.

512 Kinetic Theory and Statistical Mechanics (4)
Kinetic theory, transport phenomena, and introduction to classical and quantum statistics. 3 lec, 1 rec, problems.

514 Dynamic Meteorology I (5)
Prereq: perm., no credit if 513. Basic conservation laws, elementary fluid dynamics, circulation and vorticity. Mathematics related to coordinate systems related to meteorology. Thermodynamics of the atmosphere.

515 Dynamic Meteorology II (5)
Prereq: 514. Continuation of 514. Energy balance in the atmosphere, thermal physics of the atmosphere. Synoptic scale motions, atmospheric oscillations, numerical methods. Special topics in dynamical meteorology.

520 Acoustics (3)
Vibration, sound radiation, sound propagation, and practical aspects of sound. 3 lec. *A-odd.*

523 Geometrical and Physical Optics (4)
Reflection, refraction, lenses, polarization,

birefringence, interference, diffraction, coherence, and selected introductory topics in modern optics. 4 lec, problems.

529 Topics in Science for Elementary and Secondary Schools (1–5)
Selected topics related to the teaching of natural science in grades K–12. May be repeated for credit. May not be used for credit toward a physics degree.

531 Electronics Laboratory (3)
Experiments in electronic measurement techniques from simple AC and digital circuits to microprocessors and analyzers. 6 lab.

551 Quantum Physics (4)
Classical background, observables and operators, representations, symmetry and conservation laws, one- and two-dimensional problems, philosophical issues, quantum paradoxes. 4 lec, problems.

553 Nuclear and Particle Physics (4)
Descriptive treatment of nuclear phenomena. Elementary theory of nucleon-nucleon interaction. Systematics of nuclear structure (shell model and collective model). Properties and interactions of fundamental particles. Devices and techniques of nuclear and high energy physics. 3 lec, problems.

571 Solid State Physics (4)
Fundamental properties of solid state of matter. 3 lec, problems.

601 Graduate Laboratory (1–4)
Selected experiments from condensed matter and surface physics requiring accurate measurements with refined apparatus.

604 Experimental Techniques (1–5)
Introduction to experimental techniques of physics including experiments of particular focus.

605 Classical Mechanics (5)
Basic analytical techniques for point mass systems and rigid bodies in traditional and contemporary perspective; mathematical complements. 3 lec, intensive problems.

606 Classical Mechanics (5)
Continuation of 605. See 605 for description. 3 lec, intensive problems.

607 Electrodynamics (5)
Deductive development from Maxwell's equations, including recent advances; special theory of relativity and applications to charged particle problems; mathematical complements. 3 lec, intensive problems.

608 Electrodynamics (5)
Continuation of 607. See 607 for description. 3 lec, intensive problems.

609 Electrodynamics (5)
Continuation of 607-608. See 607 for description. 3 lec, intensive problems.

611 Quantum Mechanics (5)
Brief review of Schroedinger equation; elements of scattering theory, phase shift analysis, and Born approximation; operators, matrices, angular momentum, and spin; basic semi-classical, perturbation, and variational techniques; exchange and symmetry effects; atomic spectra and electromagnetic transitions; diverse applications; introduction to second quantization; mathematical complements. 3 lec, intensive problems.

612 Quantum Mechanics (5)
Continuation of 611. See 611 for description. 3 lec, intensive problems.

613 Mathematical Physics Practicum (2)
Selected mathematical techniques important to physicists.

615 Mathematical Methods in Physics (5)
Contemporary and classical mathematics to complement basic graduate courses, particularly series, series solutions of differential equations, Fourier series and integral transformations, complex variables, and special functions. 3 lec, intensive problems.

616 Mathematical Methods in Physics (5)
Continuation of 615. See 615 for description. 3 lec, intensive problems.

617 Methods of Theoretical Physics (5)
Selected advanced mathematical and computational methods employed in theoretical physics.

623 Statistical Mechanics (5)
Review of ensembles, noninteracting classical, Fermi, and Bose systems, theory of phase transitions, and introduction to renormalization group methods, Monte Carlo techniques, classical theory of fluids, and a brief introduction to nonequilibrium statistical mechanics. 4 lec, intensive problems.

650 General Relativity (5)
Introduction to general relativity, Einstein's field equations, gravitational waves, singular solutions, elements of relativistic cosmology. 4 lec.

695 Thesis (as recommended by dept)

696 Special Study (1–15)
Supervised individual study at beginning grad level. Can be used for writing M.S. or M.A. paper.

721 Physical Acoustics (4)
General principles of interactions of sound with matter; thermoacoustics. 3 lec, problems.

726 Particles and Nuclei (4)
Experimental and basic theoretical aspects of elementary particles and nuclei and their interactions. Elements of nuclear structure and nuclear reactions. 3 lec, problems.

727 Particles and Nuclei (4)
Continuation of 726. See 726 for description. 3 lec, problems.

728 Particles and Nuclei (4)
Properties and interactions of subnuclear particles. The static quark model. Experimental basis of the Standard Model of particles and their interactions including electroweak and quantum chromodynamics. 3 lec, problems.

731 Condensed Matter Physics (4)
Structure, dynamics, electronic, thermal, transport and materials properties, and collective phenomena (magnetism, superconductivity, superfluidity, patterning) in bulk and surface condensed matter systems. 3 lec, problems.

732 Condensed Matter Physics (4)
Continuation of 731. See 731 for description. 3 lec, problems.

733 Condensed Matter Physics (4)
Continuation of 731-732. See 731 for description. 3 lec, problems.

735 Relativistic Quantum Theory (4)
Relativistic quantum mechanics; Dirac and Klein-Gordon equations; second quantization; diagrammatic techniques; applications. 3 lec, problems. *F; Y.*

736 Quantum Many-Body Theory (4)
Basic techniques of quantum many-body theory; applications. 3 lec, problems.

737 Quantum Field Theory (3)
Basic quantum field theory: quantum electrodynamics, introduction to gauge fields. 3 lec. *Sp; A.*

741 Statistical Mechanics and Thermodynamics (2–4)
Selected topics.

742 Statistical Mechanics and Thermodynamics (2–4)
Continuation of 741. See 741 for description.

744 Methods in Condensed Matter Theory (3)
Selected topics in modern quantum methods applied to condensed matter systems. Examples: density functional, ab initio molecular dynamics, thermal Green functions, Monte Carlo, with applications to superconductivity, liquids, glasses, surface phenomena, etc. 3 lec.

751 Particle Theory (3)
Theoretical formulations and current questions regarding nature of, and interactions between, subnuclear particles. 3 lec.

755 Nuclear Theory (3)
Theory of nuclear reactions and nuclear models. 3 lec.

871 Advanced Quantum Theory (3)
Selected topics. 3 lec.

875 Advanced Nuclear Theory (3)
Selected topics of current interest. 3 lec.

877 Advanced Condensed Matter Theory (3)
Selected topics of current interest. 3 lec.

891 Colloquium (1)
Selected topics of current interest. Required of all graduate students.

893 Seminar (1–4)
Thorough study of important area. Experimental techniques, classic experiments, and statistical methods discussed.

894 Special Topics (1–4)
Lectures on special topics such as optical physics, continuum mechanics, advanced quantum theory, or other subjects not specified under regular course headings.

895 Doctoral Research and Dissertation (as recommended by dept)

896 Special Study (1–15)
Supervised individual study in preparation for research.

897 Research Seminar (1–4)
Intensive study of selected subjects by special groups: (A) nuclei and particles, (B) high energy, (C) acoustics, (D) condensed matter and surface science, (E) theoretical, (F) astrophysics.

899 Problems in College Teaching (1–3)
For all graduate students assigned to teaching duties.

Political Science

http://www.ohiou.edu/pols/

The Department of Political Science offers two graduate degrees: the Master of Arts in political science and the Master of Public Administration.

To begin work on either degree, you should have the equivalent of 27 hours of undergraduate work in political science and/or public administration, but applications are also considered from persons with academic backgrounds in closely related areas or with relevant practical experience, especially for admission to the M.P.A. program.

Master of Arts

The M.A. program encompasses four subfields of political science: American politics, comparative politics, international relations, and political theory. General requirements are a minimum of 50 quarter hours of graduate work, of which at least half must be in your subfield specialization. In addition, you must complete 600 and either 601 or 602, the required graduate seminars in your subfield specialization, and one seminar outside your subfield specialization.

You may choose either a thesis or a nonthesis option. The requirements for the thesis option include the submission of a master's thesis to a committee of three faculty members and an oral defense of the thesis. The requirements for the non-thesis option include the submission of two approved research papers (starred papers) to a committee of three faculty members as well as a written comprehensive examination. The written examination covers your starred papers and a reading list compiled by your committee. A complete description of requirements for the M.A. is available in the department office.

For admission to the M.A. program, you must submit the application form together with transcripts of previous academic work, three letters of recommendation, and Graduate Record Exam scores. You should plan to begin coursework fall quarter; exceptions are made only with the approval of the graduate chair.

Master of Public Administration

The M.P.A. is a specialized, professionally oriented degree. It requires 70 hours of graduate work in public policy and administration, including an administrative internship or practicum. Requirements include the submission of a portfolio to a committee of two public administration faculty members. Detailed program requirements are available in the department office.

To apply to the M.P.A. program, submit the application form together with transcripts of previous academic work, three letters of recommendation, and either Graduate Record Exam or Graduate Management Admissions Test scores. You may begin coursework during any quarter of the academic year, but fall quarter is preferred.

Financial Aid

A number of graduate assistantships are available to qualified applicants in both degree programs. Graduate assistants in the M.A. program are normally expected to assist faculty members in the instruction of introductory courses or in their research. Graduate assistants in the M.P.A. program are normally expected to assist the Institute for Local Government Administration and Rural Development. Tuition scholarships are available to all graduate assistants; Recruitment stipends are available to a limited number of other students in both programs. To seek financial aid for the following academic year, fill out the appropriate section of the application and submit all application materials by February 15.

The Department of Political Science works closely with several interdisciplinary programs, including the Center for International Studies, Contemporary History Institute, Women's Studies Program, Environmental Studies Program, and the Center for Public and Environmental Affairs.

Political Science Courses (POLS)

501 American Constitutional Law (5)
Principles underlying American constitutional government. Consideration of leading cases with reference to interpretation of the U.S. Constitution. *Gilliom.*

502 American Constitutional Law (5)
Continuation of 501. See 501 for description. *Gilliom.*

504 Civil Liberties (5)
Examination of selected civil liberties issues such as freedom of expression, freedom of religion, equality, rights of criminally accused, and rights of indigent. *Henderson.*

505 American Political Parties (5)
Origin, growth, organization, and methods of parties. Suffrage, nominations, and elections. Role of parties in democracy.

506 Elections and Campaigns (5)
Examines nature of voter and rationality of voter decisions, impact of campaigns and their influence on election outcomes, techniques used in political campaigns, and role of elections in American society. *Burton.*

507 Politics of Urban Development (5)
Examines the causes and consequences of economic development, the politics and policies in urban America, and the multiple facets of urban development. *Randolph.*

508 Urban Public Administration (5)
Examines administration of urban programs, encounters between urban administration and program clientele. Focuses on agency-client relationships, professionalism, and public service. *Randolph.*

509 Criminal Procedure (5)
Role, function, and problems of American judicial, prosecutory, policing, and correctional systems in political process. Relationship of law and social organization. *Eslocker.*

510 Public Policy Analysis (5)
Examines stages of policy process, including policy formulation, implementation, and evaluation. Also discusses development and methods of policy analysis. *Mumper, Randolph.*

512 Public Personnel Administration (5)
Analysis of philosophy, problems, and procedures of public personnel management. Recruitment, training and promotion policies, position classification, and employer-employee relations.

513 Administrative Law (5)
Organization, function, and procedures of selected national regulatory agencies. Principles affecting administrative discretion, administrative power over private rights, enforcement, and judicial control of administrative decisions.

514 Organizational Theory and Politics (5)
Examination of central role of organizations in public life, presenting major theories of organizations, organizational behavior, and the individual's role in organization. *Burnier.*

515 The American Presidency (5)
Analysis of office of national chief executive and its place in American political system: constitutional status and powers, functional development, and interrelationship of person and office. *Tadlock.*

518 Interest Groups in American Politics (5)
Organization and tactics of pressure groups and their impact on the policy-making process. *Burnier.*

519 Gay and Lesbian Politics (5)
Explores emergence and ramifications of gay political activism in Western culture. Changing religious, psychological, legal, and political perceptions of homosexuality examined in historical perspective. *Hunt.*

520 Women, Law, and Politics (5)
Focuses on political and legal position of women in U.S. Covers women's legal status, feminist movement, current issues, and public policy responses concerning women's position such as Equal Rights Amendment, marriage and divorce laws, affirmative action, abortion, and pay equity.

521 The Politics of Law and Sexuality (5)
An exploration of the regulation of sexuality in the U.S. from legal and theoretical perspectives. Cases and other materials will address a variety of issues including the right to privacy, pornography, the right to marry, and gays in the military. *Burgess.*

522 Political Elites and Leaders (5)
Exploration of the phenomenon of elites and leadership in global perspective, including contemporary Asia, Africa, and Latin America. *Gagliano.*

524 Intergovernmental Relations in the U.S. (5)
Examines intergovernmental fiscal patterns among federal, state, and local governments and impact of fiscal transfers on local budgeting and finance administration. Also includes analysis of nonfiscal patterns such as federal program requirements, their impact on local administrative processes, and other pressures on local budgeting and finance. *Burnier.*

525 Environmental and Natural Resources Politics (5)
Examines history, influence, and tactics of the U.S. environmental movement and the nature of conflict in environmental policy making at the local, state, and national levels. Emphasis on current environmental issues including air pollution, waste disposal, and use of public land. *Manring.*

526 Politics of the Contemporary Environmental Movement (5)
Examination of the major segments of the contemporary U.S. environmental movement. Topics include the professionalization, activities, strategies, and criticisms of the mainstream environmental groups; radical environmentalism; grassroots environmentalism and the role of gender; environmental justice and the role of race; and the political implications of this diversity. *Manring.*

527 Formulation of American Foreign Policy (5)
Examines the domestic basis of United States foreign policy. Assesses how the foreign policy-making system operates within the Constitutional context. Considers the role of various governmental institutions, as well as the influence of public opinion, interest groups, and media in the foreign policy-making process. *Molineu.*

532 Policy Making in Russia (5)
Examines how Russian leadership deals with a number of major domestic problems. *Williams.*

533 Russian Foreign Policy (5)
Analysis of foreign policies of Russia. Historical, ideological, strategic, and other influences. *Williams.*

534 Government and Politics of Latin America (5)
Political systems of Latin America. Emphasis on power relationships and political obstacles to change in contemporary Latin America. *Walker.*

535 Revolution in Latin America (5)
Revolution as theoretical concept and as practical reality in several Latin American countries. Special emphasis on Cuban and Nicaraguan revolutions. *Walker.*

540 The Politics of Developing Areas (5)
Major theories and problems of political, sociocultural, and economic development in new nations of Asia, Africa, and Latin America, with special emphasis on heritage of colonialism, struggle for independence, and political adjustments to rapid social and technological change. *Abinales.*

541 African Politics (5)
Development and structure of modern African states with emphasis on political processes in tropical Africa. *Aubrey.*

542 Middle East Politics (5)
Major issues and concepts relating to contemporary Middle East politics: the Arab-Israeli conflict, Islamic political movements, Persian Gulf security and oil, and the role of women in Middle Eastern society. *Nojeim.*

545 Government and Politics of Japan (5)
Political institutions and processes of Japan with emphasis on developments since 1945. *Suzuki.*

546 Government and Politics of China (5)
Political institutions and processes and major political developments in China, with emphasis on recent events.

547A Government and Politics of Southeast Asia (5)
Traditional governments in southeast Asia, Western colonialism, rise of nationalism, achievement of independence. Malley.

547B Government and Politics of Southeast Asia (5)
Deals with political developments in states of Southeast Asia in post–WWII period. Sequel to 547A; 547A is not a prerequisite. Malley.

555 International Law (5)
International law in interstate relations and in international organization. *Kim.*

556 International Organization (5)
Nature, development, structure, and function of international organizations, with emphasis on United Nations. *Kim.*

557 National Security (5)
Examines the concepts and problems of attaining international security in an ever-changing world. Provides an overview of traditional and new sources of insecurity and the quest for security in the post-Cold War world. *Weitsman*.

563 The United States and Africa (5)
Origins and nature of American relations with African states, with emphasis on current American interests and policy. *Aubrey.*

564 OAU and Africa (5)
An examination of the Organization of African Unity, its actions on various issues of interest to Africa, and the foreign policies of selected African states. The culmination of the course is participation in the annual model OAU meeting in Washington, D.C. *Aubrey.*

571 Plato, Aristotle, and Premodern Political Thought (5)
Major figures and basic concepts characteristic of political thought in its ancient and medieval periods. Emphasis on original works of Plato, Aristotle, St. Augustine, St. Aquinas, and on developing one's own political values and theories. *White.*

572 Modern Political Thought (5)
Basic philosophic conceptions of modern nation state. Using original works, evolution of nation state traced through philosophical literature from its Renaissance origins. Attention on both formative and critical perspectives, such as Machiavelli, Rousseau, and Emma Goldman, with emphasis upon evaluation of norms associated with modern state. *Henderson, Hunt, White.*

573 Contemporary Political Thought (5)
Nineteenth- and twentieth-century political theory. Focus on such contemporary philosophical and political issues as emergence of European socialist tradition, origins of human aggression, and human alienation. Attention given to selected theorists such as Marx, Freud, Gandhi, and Sartre. *Henderson, Hunt, White.*

577 Legal Theory and Social Problems (5)
Examination of legal reasoning and normative values of judges, lawyers, legal theorists, and administrative agencies in shaping legal solutions to contemporary social problems. Emphasis on developing one's own political and legal values. *Henderson.*

578 Feminist Political Theories and Movements (5)
Explores issues of power, powerlessness, oppression, and transcending oppression in the context of feminism as a human rights movement. Topics include origins and history of sexism and feminism, classic treatises of feminist political theory, contemporary theories from conservative to anarchist, visions of post-sexist futures, "her-story" of feminist movements, movement strategies and tactics, practical applications. *White.*

579 Latin American Political Thought (5)
Evolution of Latin American political thought from conquest to present. Major emphasis on 20th century movements such as Democratic Left, progressive Catholic Left, and Marxist Revolutionary Left. *Walker.*

581 Modern Political Analysis (5)
Problems of knowledge in social sciences, with emphasis on political science. Analysis of recent major theories or approaches in political science. *Dabelko, Gordon, Shafie.*

582 Quantitative Political Analysis (5)
Relevance of scientific research techniques to study of politics. *Dabelko, Gordon, Shafie.*

583 Statistical Package for Social Sciences (5)
Prereq: 582 or equiv. Use of microcomputers with SPSS/PC+ for statistical data analysis. Fundamental data analysis problems are examined in the context of computer applications to survey, aggregate, and experimental data. Students taking this course cannot receive credit for CS 522 or SOC 550. *Dabelko.*

584 Management Skills for Public Administrators (5)
Practicum designed to introduce students to several management skills needed for success in public administration and to permit them to apply these skills in a classroom setting. *Baum.*

586 Public Budgeting (5)
Examines politics, techniques, and policy consequences of public budgeting processes at federal, state, and local levels. *Ryu.*

587 Financial Management in Government (5)
Examines financial aspects of state and local governments. Concentrates on financial reporting, capital budgeting and debt, and investment strategies. *Ryu.*

588 Public Dispute Resolution (5)
An introduction to the field of alternative dispute resolution. The course examines the dynamics and management of public disputes over issues such as the site selection of waste management facilities, prisons, low income housing, the use of natural resources, and the allocation of community financial resources. Students learn how to analyze public disputes, evaluate conflict management approaches, and practice conflict management skills and techniques including conflict assessment, negotiation, and mediation. *Manring.*

589 Nonprofit Management (5)
An introduction to the nonprofit sector and its role in society, the economy, and the delivery of human services. Includes an overview of principle management junctions as each applies to nonprofit organizations. *Miller.*

590 Studies in Political Science (1–5)
Intensive study of special topics, including American government, international relations, comparative politics, political theory, and public administration.

591 Research in Political Science (1–5, max 10)
Individual supervised research.

592A Research in International Relations (1–5)
Individual supervised research or directed readings on selected aspects of international relations based on student's special interest. *Kim, Molineu, Weitsman.*

592B Research in American Politics (1–5)
Individual supervised research or directed readings on selected aspects of American government and politics based on student's special interest. *Burnier, Dabelko, Gilliom, Mumper, Richard.*

592C Research in Comparative Government (1–5)
Individual supervised research or directed readings on selected aspects of comparative government and politics based on student's special interest. *Aubrey, Suzuki, Walker, Williams.*

592D Research in Public Administration (1–5)
Individual supervised research or directed readings on selected aspects of public administration based on student's special interest. *Baum, Burnier, Mumper, Randolph, Weinberg.*

592E Research in Political Theory (1–5)
Individual supervised research or directed readings on selected aspects of political theory based on student's special interest. *Henderson, Hunt, White.*

595 Internship Program (max 15)
Burton.

600 Scope and Theory in Political Science (5)
Aquaints graduate students with the field of political science and is organized around issues in the philosophy of social science. Provides students with the tools to frame research questions within the field of political science and to go about answering them. *Mosher.*

601 Quantitative Research Methods (5)
This course provides graduate students with a foundation for understanding the use of quantitative methodology in political science. Upon completion of the class, students will be well equipped to undertake their own research and better able to evaluate the research of others. *Dabelko, Gordon, Shafie.*

602 Advanced Quantitive Analysis (5)
The purpose of this course is to instruct students in advanced quantitative data analysis. We will explore techniques ranging from bivariate statistics to multivariate analysis such as multiple regression. Students will learn to evaluate the scholarly literature that relies on such methods. Students will also learn how to conduct secondary data analysis and will complete their own original research. *Dabelko, Gordon, Shafie.*

610 Seminar in American National Government (5)
Selected topics.

620 Public Administration (5)
An examination of the fundamental concepts and issues in the field of public administration.

630 Seminar in Comparative Politics (5, max 15)
Selected topics.

648 Politics of Southeast Asia (5)
Analysis of major themes such as boundary problems, corruption, military, regional cooperation.

650 Seminar in International Relations and Organization (5)
Selected topics and theoretical issues.

652 Research Seminar in International Relations (5)
Selected topics and theoretical issues for research in International Relations.

670 Seminar in Political Theory (5)
Selected topics.

680 Seminar in Public Administration (5)

695 Thesis (1–10)

Psychology

http://www/psych.ohiou.edu/

The Department of Psychology offers doctoral programs in clinical, industrial-organizatinoal, and experimental psychology. The clinical program is accredited by the American Psychological Association (APA) and is based on the scientist-practitioner model of training. All doctoral programs offer the master's degree as a step toward the Ph.D. and require a research thesis for the master's degree. For the Ph.D., you must satisfactorily complete a comprehensive examination, a scholarly tool, and a research dissertation. A one-year internship at an APA-accredited facility is also required for the clinical Ph.D. All doctoral candidates are required to do teaching, professional, or clinical work under supervision, the specific amount to be determined by past experience and needs, but not less than the equivalent of three academic quarters of work.

When you apply for graduate study, you are expected to have completed a minimum of 27 quarter hours of undergraduate psychology, including a course in statistics and one in experimental psychology. You must submit scores on the Graduate Record Examination (including the general test and the subject test in psychology), transcripts of all academic work, three letters of recommendation from psychologists, and a statement of your personal goals and interests. You also must have a minimum overall undergraduate average of 3.0 (on a 4.0 scale) and a 3.3 in psychology. If you apply for the doctoral program with a master's degree from another university, you must have a minimum graduate average of 3.4.

The department strongly encourages you to begin your graduate program in the fall quarter. Application materials must be received by January 1.

Psychology Courses (PSY)

520 Elementary Statistics (5)
First statistics course for graduate students who have not had such an undergraduate course. (Does not carry degree credit. Not open to students who have had PSY 221.)

525 Elementary Experimental Psychology (5)
First course in designing experiments for graduate students who did not have such an undergraduate course. (Does not carry degree credit. Not open to students who have had PSY 226.)

541 Behavioral Measurement (4)
Prereq: 520 or EDRE 720 or equiv. Testing and measurement; basic criteria including objectivity, reliability, validity. Methods of test construction and validation for students who have not had such an undergraduate course. (Does not carry degree credit. Not open to those who have had PSY 341.)

588 Clinical Orientation (1)
Orientation to research, training, and practice issues in clinical psychology for first-year clinical graduate students.

590 Readings in Psychology (1–5, max 20)
To broaden training of master's or doctoral students in areas in which they need further work that cannot be obtained through specific courses.

592 Preparing Psychology Papers (2)
Preparation of professional papers in psychology: application of technical style principles to experimental papers and psychological reports. Tasks include writing and rewriting psychological information aimed at an informed reader and reviewing psychological writings that illustrate both correct and incorrect psychological style.

621 Intermediate Statistics for Behavioral Sciences (5)
Statistical inference and most commonly used tests of hypotheses involving normal curves, *t* test, chi-square, and *F* distributions; introduction to probabilistic classification and Bayesian statistics.

622 Intermediate Correlation and Regression (4)
Prereq: 621. Two-variable correlation and regression, partial and multiple correlation, and nonlinear relationships.

623 Design and Analysis of Experiments (5)
Prereq: 622 or EDRE 721. Independent groups, repeated measures, and mixed analysis of variance designs. Matching statistical analyses to experimental procedures.

626 Advanced Experimental Psychology (3)
Prereq: 621. Experimental design and techniques. Individual experiments.

633 Psychology of Personality (4)
Development and organization of personality; evaluation of major theoretical viewpoints; relationship of personality theories to various psychotherapy approaches.

637A Clinical Psychopathology (3)
Survey of theoretical and empirical literature on abnormal behavior. Emphasis on concepts and principles of disorder.

637C Psychopathology of Childhood (3)
Characteristics, correlates, and etiology of childhood disorders including pervasive developmental disorders, schizophrenia, anxiety disorders, depression, conduct disorder, attention deficit hyperactivity disorder, eating disorders, learning disorders, and mental retardation.

640 Clinical Skills (4)
Supervised practice in clinical skills relevant to assessment interviewing and psychotherapy, differential application of a variety of clinical interventions to meet specific goals of the interview, diagnostic decision making, illustrations of advantages and disadvantages of techniques in context.

641 Individual Intelligence Testing (4)
Prereq: 637A or concurrent. Overview of theories of intelligence and issues relevant to the assessment of intellectual functioning; supervised practice in administration, scoring, and interpretation of selected tests of intelligence for both adults and children; combination of information about cognitive functioning obtained from standardized tests with other information (e.g., interview) in the writing of integrative psychological assessments.

641A Psychoeducational Assessment (3)
Prereq: 637A, 640, or concurrent. Supervised practice in diagnostic interviewing techniques and mental status assessment, introduction to written documentation of intake interview and mental status information, introduction to use of assessment instruments commonly used in psychoeducational referrals.

642 Personality Assessment I (4)
Prereq: 633, 637A, 640 or concurrent. Introduction to both objective and projective personality assessment with focus on basics of personality assessment; psychometric properties of tests and criteria for selecting among tests; and practical experience in administration, scoring, and interpretation of test results and report writing.

643 Personality Assessment II (1–5)
Prereq: 642. Advanced topics in personality assessment including integrating results from various tests, integrative report writing, and assessment-treatment linkage. Practical experience completing psychological batteries in clinical settings.

644 Behavioral Assessment (1–5)
Prereq: 637A. Theory and practice associated with behavioral assessment. The use of direct observation methods and self-report scaling highlighted. Integrates behavioral assessment methods with clinical practice.

645 Clinical Assessment of Children and Adolescents (4)
Prereq: 637C, 641, 642. Administration, scoring, and interpretation of major intellectual and personality tests used with children and adolescents; diagnostic interviewing techniques with children; assessment of special problems; integrative report writing.

649 Assessment Practicum (1–5)
Supervised clinical experience in selected aspects of psychological assessment such as intelligence testing and personality assessment.

650 Treatment Survey (1–5)
Prereq: 637A. Basic treatment issues and approaches relevant to clinical psychology with emphasis on major schools of psychotherapy and short-term intervention approaches. Examination of appropriate assessment and methodological considerations associated with treatment.

674 Psychological Aspects of Aging (4)
Current theory and research on the changes and consistencies in behavior related to aging, including learning, memory, personality, motivation, interpersonal perception, and adaptation to change; implications of research findings for the daily functioning of the older person.

680 Health Psychology (4)
Overview of theory and research in health psychology; psychological factors in such disorders as hypertension, coronary artery disease, headache, chronic pain, asthma, and immune disorders; applications and effectiveness of psychological interventions.

688 Issues in Professional Psychology (3)
Prereq: grad in psychology. Examines educational, ethical, and professional issues associated with the field of clinical psychology.

692 Research Seminar (1, max 15)
Presentations by faculty, graduate students, and visiting lecturers. First-and second-year graduate students in experimental psychology are required to attend seminars and to give one research presentation each academic year during the seminar.

693 Seminar in Teaching of Psychology (2)
Issues in and approaches to teaching in the field of psychology. Includes such topics as characteristics of good classes and teachers, syllabus preparation, lecture and discussion techniques, exam preparation, and grading. Includes experiences with feedback.

695 Thesis (1–10)

701 Experimental Sensory Psychology (5)
Prereq: 712. Analysis of classical sensory systems (vision, audition, olfaction, somatic, regulatory, etc.) and their contributions to various behaviors.

703 Advanced Learning (5)
Lectures and readings covering theoretical works in field of learning.

704 Cognitive Processes (5)
Theory and research in human cognitive processes such as attention, memory, knowledge structures, language, reasoning, problem solving, and judgment and decision making.

706 Psychology of Communication (4)
Application of communication theory, psycholinguistic principles and readability measurement to process of communication, with emphasis on written communication.

707 Psycholinguistics (4)
How people produce, understand, and acquire language within framework of major psychological and linguistic theories of language. Emphasis on user of language rather than on language.

708 Psychology of Judgment and Prediction (5)
Examines normative and descriptive models of human judgment with emphasis on clinical judgment and prediction. Bias, diagnosis, selective information usage, and intuition also included.

710 Motivation (5)
Dynamics of motivation including treatment of traditional theories, as well as achievement and cognitive motivational theories.

712 Physiological Psychology (5)
Biological basis of behaviors with emphasis on central nervous system and neurological disorders.

714 Comparative Psychology (5)
Behavior of lower and higher organisms leading up to humans.

715 Psychology of Human Differences (5)
Methodology, basic principles, and general findings in individual differences in intelligence, personality, interests, and perception; group differences by sex, age, race, and socioeconomic class.

718 History and Systems of Psychology (5)
Historical review of major systematic position in psychology since the 18th century. Philosophy of science for psychology, including issues in theory construction and evaluation, consciousness, and reductionism.

727 Psychophysiology (4)
Human psychophysiology.

728 Applied Psychophysiology (4)
Prereq: 727. Theory and research on the application of psychophysiological procedures to assessment and intervention in behavior therapy and behavioral medicine.

735 Experimental Social Psychology (5)
Major theoretical and research trends with emphasis on attitudes, social perception, and small-group behavior.

736 Advanced Social Psychology (5)
Major research and theoretical trends in social psychology; observational learning and social motivation.

748A,B,C,D Neuropsychology (1–5)
Prereq: 637A. Didactic training in structure of central nervous system, types of organic disorders, and diagnosis of neurological disorders. Topics include neuroanatomy and functional approaches to spinal cord, brain stem, cerebral hemispheres, cortex, subcortex, limbic system, and cerebellar hemispheres. Brain-behavior and endocrine relationships are also reviewed. Clinical case material is presented.

750A,B,P Individual Psychotherapy (1–5)
Prereq: 637A. Theory, research, and practice of individual approaches to psychotherapy with adults; emphasis on brief and empirically supported therapies. Practicum involves supervised psychotherapy work with a client.

751A,B,P Behavior Therapy (1–5)
Prereq: 637A. Integrated treatment sequence in behavior therapy. Theoretical, empirical, and clinical basis for practice. Practicum gives supervised experience applying behavioral principles to clinical problems.

752A,P Cognitive Therapy (1-5)
Prereq: 637A. Didactic instruction and supervised clinical experience in cognitive-behavior therapy. Readings in clinical literature, instruction, and supervised clinical cases emphasizing the techniques and methods of cognitive-behavior therapy.

753A,B,P Community Psychology (1–5)
Prereq: 637A. Interventions and research in community psychology including consultation, mental health education, prevention of mental disorders, program evaluation, and services for underserved clinical populations. Practicum involves supervision of pertinent clinical experiences.

754A,B,P Group Therapy (1–5)
Prereq: 637A. Didactic instruction and supervised clinical experience in the techniques and methods of group psychotherapy. Typically one quarter of didactic instruction and readings in the clinical literature and two quarters of supervised experience as a group therapist.

755A,B,P Child Therapy (1–5)
Prereq: 637C. Didactic and practicum training in intervention with child and adolescent psychological disorders.

756A,B,P Family Therapy (1–5)
Prereq: 637A, 637C or concurrent. Survey of behaviorally-oriented family therapy approaches followed by an in-depth presentation of functional family therapy, a behavioral systems approach. Role playing, discussion, and supervised interventions with families are methods used to teach this model. Low-income, multiproblem families are typical clients in this sequence.

757A,P Interventions with the Aging (1–5)
Prereq: 637A. Review of psychological approaches to the understanding, assessment, and treatment of problems of the elderly. Practical, supervised experiences with an aging population are included.

758A,B,P Interventions in Health Psychology (1–5)
Prereq: 680. Application of psychological assessment and interventions to health psychology problems including chronic pain, headache, adaptation to chronic disease, psychological problems complicating medical treatment and compliance, stress-related disorders.

761 Survey of Industrial and Organizational Psychology (5)
Application of psychological theories and research to topics in organizational behavior and personnel psychology.

762A, B Organizational Psychology (4)
Prereq: 761. Study of behavior in organizations: (A) organizational behavior: motivation, social influence and groups, and leadership; (B) organizational theory: classical and contemporary perspectives on the process and structure of organizations.

763A Context Analysis (4)
Prereq: graduate standing. Introduces students to the theories and methods for analyzing contexts (e.g. environments, situations) for the purpose of selection, training, design, or diagnosis of individuals in these contexts. Methods of organizational, job, and task analysis will be emphasized.

764A, B Personnel Psychology (4)
Prereq: 622 and 761. Topics in personnel psychology: (A) criterion development and performance evaluation: theoretical and practical aspects of criterion development and performance evaluation; (B) selection and placement: psychological, measurement, and legal perspectives on selection and placement.

765 Practicum in Industrial and Organizational Psychology (1–5, max 15)
Prereq: 761, 762A or B, 764A or B. Supervised field experience in organizational settings.

773 Developmental Psychology (5)
Principles and research covering development of human abilities and behavior. Topics include developmental research methodology; basic processes in development; and physical, motor, perceptual, linguistic, emotional, motivational, social, and personality development.

775 Psychology of Exceptional Individuals (5)
Characteristics and problems of exceptional individuals: mentally retarded, mentally superior, sensory handicapped, emotionally disturbed, and culturally disadvantaged.

781 Pediatric Psychology (4)
Theory and research on the relationship between the psychological and physical well-being of children, behavioral and emotional concomitants of disease and illness as they affect children and their families, applications and effectiveness of psychological interventions.

788 Diversity Issues in Research and Clinical Practice (4)
Prereq: 637A and 640. Examination of the sociocultural context of human behavior and, in particular, issues of diversity in research and clinical practice. Three areas are discussed: (1) methodological and epistemological issues in the study of culture in psychology, (2) the influence of culture on psychiatric diagnosis and the prevalence of mental disorder, and (3) the effect of culture on the therapeutic relationship.

789 Clinical Practicum (1–5, max 20)
Prereq: 750A, 751A, 754A, 755A, 756A, or 758A. Practicum experience for graduate students in clinical psychology. Psychological services provided under supervision in a clinical setting.

790 Readings in Psychology (1–5, max 20)
To broaden training of master's or doctoral students in areas in which they need further work, which cannot be obtained through specific courses at present.

791 Research (1–5)
May be repeated.

796 Fieldwork in Psychology (1–15)
Supervised experience in applied setting approved by department. May be repeated. 1–15 lab.

825 Causal Modeling (4)
Prereq: 623. Linear models, path analysis, and causal modeling with emphasis on using the LISREL computer program.

826 Advanced Testing Principles (4)
Prereq: 623. Test theory and statistical considerations in construction, use, and interpretation of psychological measures.

827 Multivariate Statistics I (5)
Prereq: 623. Introduction to multivariate statistics. Topics covered are matrix algebra, multiple regression, canonical correlation, discriminant analysis and classification, and factor analysis. Variety of commercial computer programs used.

828 Multivariate Statistics II (4)
Prereq: 827. Advanced topics in multivariate statistics, including multivariate analysis of variance (MANOVA), confirmatory factor analysis and causal analysis (LISREL), and log-linear models. Variety of commercially available computer programs used.

833 Advanced Theories of Personality (5)
Prereq: 633. In-depth analysis of selected modern theories and related research, taken from ego psychology, cognitive-perceptual, dimensional, developmental, or social viewpoints.

884 Psychopharmacology and Psychotherapy (4)
Prereq: 637A, 650. Nature and clinical use of major types of psychotropic medications; emphasis on antidepressants, mood stabilizers, antianxiety, and antipsychotic agents and on the clinical use of these medications in combination with psychological treatments.

889 Advanced Clinical Practicum (1–5, max 20)
Prereq: 750P, 751P, 754P, 755P, 756P, 758P, or 789. Advanced practicum experience for doctoral students in clinical psychology. Psychological services provided under supervision in a clinical setting.

891 Research in Psychology (1–6)

894A-Z Advanced Seminar in Psychology (1–5, max 18)

895 Dissertation (1–15)

Social Sciences

http://www-as.phy.ohiou.edu/Departments/History/graduate/socialscience.html

The Master of Social Sciences degree is designed for graduate students who need to study two or more subjects within the social sciences field to earn a master's degree. Although most students are public school teachers, candidates in other occupations may apply. The degree is intended for students concluding their graduate education at the master's level.

The program is directed by a coordinator appointed by the dean of the College of Arts and Sciences. This coordinator supervises the policies that guide the program and coordinates admission, assignment of advisors with the social science departments, and the selection of a committee to administer the terminal oral examination.

Degree Requirements

To earn the Master of Social Sciences degree, you must complete a minimum of 50 quarter hours in a minimum of 10 graduate courses in two or more of the social science disciplines.

Major and minor fields and auxiliary areas are chosen from history, political science, economics, sociology-anthropology, and geography. Other subject fields such as psychology and social work that relate to your academic interest may be approved as minor or auxiliary fields.

Courses and credit are distributed as follows:

1 A major of five to seven courses equalling a minimum of 20 graduate credit hours.

2 A single minor, a minor and an auxiliary area, or two auxiliary areas. A minor consists of three to five courses for a minimum of 12 graduate credit hours. An auxiliary area consists of two courses for a minimum of 8 graduate credit hours.

3 Optional electives. One or two courses, for a maximum of 10 graduate credit hours, can be taken in other social science, science, or humanities areas if they relate to your academic program in the judgment of the coordinator.

4 Graduate survey requirement. You must complete one graduate survey course in your discipline designed to present a comprehensive survey of recent scholarship in that field.

5 Master's essay option. You can choose to write a master's research essay on a topic approved and directed by a graduate faculty member of your major field. The essay, taken for five hours of master's thesis credit, will count as one course in the major and as one of the 10 required courses.

6 Terminal examination. Upon completion of your studies, you must pass an oral examination designed and conducted by your examining committee. In composing this examination, the committee is guided by your program of courses and research so that the examination will be reasonable in scope.

Admission Requirements

You must have a bachelor's degree and at least one year of employment experience that is relevant to one or more social science disciplines. You should have an undergraduate grade-point average (g.p.a.) of 2.75 for unconditional admission. If your undergraduate g.p.a. is below 2.75, you are encouraged to apply but may be admitted conditionally or denied admission.

If you have 24 to 30 undergraduate credit quarter hours in an intended major, you may be required to undertake a minimum of seven courses and 28 quarter hours of graduate credit in your major. If you have fewer than 24 quarter hours of undergraduate credit in an intended major, you are required to register as a special student and take undergraduate courses required by the major department to qualify for graduate study in this program.

No more than 12 quarter hours in a maximum of three graduate courses passed with a grade of B or better can be accepted for this program from other colleges or universities. Credit earned in other Ohio University programs which, in the judgment of the coordinator, is appropriate for this program may be applied toward completion of the degree.

Social Work

http://www.as.phy.ohiou.edu/Departments/SocWrk/grad.html

The Master of Social Work (M.S.W.) program prepares students for clinical or administrative practice with a rural focus. A minimum of six quarters—90 credit hours—are required, including five quarters of field internship (one 160-hour quarter and four 200-hour quarters). The only exception is for Advanced Standing students, who must have a bachelor's degree in Social Work from a Council on Social Work Education-accredited program within the past five years, with strong grades and field evaluations. Advanced Standing students complete 47 credits over three quarters. A Modified Part-Time Program permits students to take the first year of full-time coursework over two years; the final year is identical to that of the full-time program. The program admits students only in the fall.

When applying, students are expected to have completed or nearly completed a bachelor's degree in a Liberal Art's discipline, with course work in quantitative analysis, human biology, the humanities, and at least four courses in at least three social science disciplines, with at least one course at the 300 or 400 level. Students must also submit official transcripts of all undergraduate work, evidence of paid or volunteer experience in human services, three professional references, and an essay. Students with less than a 3.0 g.p.a. must also submit scores from the general portion of the Graduate Record Examination (GRE). The form of the essay and specifics aobut other criteria can be obtained from the Department's Graduate webpages.

Social Work Courses (SW)

500 Social Work Orientation Seminar (3)
Introduces students to the unique geographic region of Central Appalachian Ohio through music, literature, films, folk art, and community exploration. Students explore values, cultural systems, and social issues and examine the historical, economic, sociological, educational, religious, and political aspects of the Appalachian region and their impact on social welfare institutions.

501 Human Behavior in the Social Environment I: Human Growth and Development (4)
Considers changing family, class, cultural, gender, racial, ethnic, age, and institutional experiences from biological, psychological, sociological perspectives a development framework.

502 Human Behavior in the Social Environment II: Biopsychosocial Interactions (4)
Explores the interaction among human biology, psychology, and social and cultural systems to develop knowledge and sensitivity to concepts of multicausality and human diversity.

510 International Social Work and Social Welfare (4)
Explores international social work and social welfare in the context of global social issues. Using Africa as a primary focus, presents an overview of the social work profession, the impact of global interdependence on social work practice, and historical and current social welfare challenges facing the developed and developing nations.

522 Social Welfare Policy and Services I: History of Social Welfare and Social Work (4)
Presents a multicultural historical review of social service delivery systems, and the development of the social work profession, with a focus on the historic lack of attention to rural needs and rural policy. Consideration is given to the structure, operation, implementation and outcomes of social services; values and ethics in social policy; the meaning of oppression and social justice; and the impact of social policy and social work practice on the needs of the poor and oppressed, including women, people of color, and other groups of particular concern to social work.

523 Social Welfare Policy and Services II: Special Topics in Social Welfare (4)
Theories and frameworks analyze the development, operation, impact and strategies for change in today's social welfare policies and services. Responding to contemporary policy development throughout the United States, with emphasis on federal, Ohio and Appalachian-targeted policies, explores settings, population groups and social policy. Students apply analytic skills to deepen their knowledge about how settings, populations and issues are influenced and shaped by social needs, social policy, ethical questions, oppression and concerns for social and economic justice.

540 Mental Health and Social Work (5)
Explores the history of mental health policies, stereotypes associated with mental illness, and social work practice based on a strengths perspective. Students assess and devise clinical or administrative interventions to mental health clients residing in rural communities.

541 Social Work Practice I: Foundations of Practice (4)
First of a three-course sequence providing foundation knowledge and skills for social work practice. Provides a conceptual framework for generalist practice. Maintaining a person-in-environment focus, students utilize a strengths-based problem-solving model that incorporates awareness of the impact of social work values and ethics on all levels of practice. Students develop an understanding of how various aspects of diversity impact practice and formulate a range of practice interventions based on empowerment and social and economic justice within a rural environment.

542 Social Work Practice II: Assessment and Intervention (4)
Integrates content on social work practice methods and biological, psychological and social theories of human behavior, to enable students to assess individuals, families and groups and the situations in which they are involved. The professional role, the nature of self-knowledge, self-discipline, and availability of other resources required for professional performance are emphasized.

543 Social Work Practice III: Community-Based Practice (4)
Examines large systems in which people live, work and are served, with a focus on rural social services. Centers on practice principles used to empower people to access, negotiate with, influence and change systems within communities and organiztions.

550 Social Work in Health Care (5)
Prepares students to provide social work services to individuals in health care settings. Incorporating micro- and macro-level content, enhances understanding of practice with diverse populations, health care policy and the role of social work values and ethics in health care.

551A Child Welfare I: Protecting Children by Strengthening, Supporting, and Empowering Families
This course is offered to provide knowledge, concepts, and fundamental skills, including skills in critical thinking and problem analysis, for students interested in the field of public and private child welfare, the course focuses on interventions to strengthen families in order to protect children from physical and sexual abuse and neglect.

551B Child Welfare II: Addressing Children's Developmental and Permanency Needs
This course is offered to provide knowledge, concepts, and fundamental skills, including skills in critical thinking and problem analysis, for students interested in public and private child welfare. The course focuses on the effects of child maltreatment and child disabilities including child welfare services for children with disabilities. Issues of placement and permanency are considered.

580 Child Abuse and Neglect (5)
Explores child abuse and neglect in an ecological, family systems perspective, focusing

on theories of causation, issues in recognition, assessment, intervention, treatment, follow-up and related issues of family violence and substance abuse. Incorporates discussion of social work values, historic child welfare practice, and diversity.

584 Social Welfare Law (5)
Explores NASW Code of Ethics and licensing requirements for social workers, legal rights of clients and working with the child protection, victim assistance and criminal justice systems.

586 Aging in American Society (5)
Explores knowledge on the social life and issues facing older people in the United States. Attention is devoted to social welfare policies and services designed to meet the needs of an aging population, with emphasis on the special needs of minority and disadvantaged older populations in rural communities.

591 Foundation Field I (4)
Prepares students to apply social work research and theory to practice and to develop roles and interventions for generalist practice. The student will be assisted in progressively building a solid substructure of knowledge, skills, values and ethics in social work practice, in conjunction with professional development within the context of an individual field placement in an agency in rural Appalachia. Requires 16 hours per week in a social agency.

592 Foundation Field II (4)
Continues the preparation of students to apply social work research and theory to practice and to develop roles and interventions for generalist practice. The student will be assisted in progressively building a solid substructure of knowledge, skills, values and ethics in social work practice, in conjunction with professional development within the context of an individual field placement in an agency in rural Appalachia. Requires 20 hours per week in a social agency.

598 Independent Studies (1-6)
Enable students to focus on the study of a topic of particular interest to them which may not be of broad enough interest to warrant the development of a standard elective. Individually designed by a student and faculty member to meet educational needs not met by existing core curriculum or elective courses.

600 The Rural Social Agency (4)
Emphasizes agency-based practice focused on bringing about planned change in the organization. Encourages students to be as analytical about their organizations as they are about individuals, groups, and communities, and emphasize the partnership that should exist between direct service practitioners and managers to develop a supportive and open problem-solving environment in the social service agency. Problem definition, problem assessment, identification of intervention, design of interventions, use of staff, intervention costs and intervention effectiveness are covered.

644 Social Work Administration (4)
Provides students with fundamental knowledge and skills in management and social work administration. Management theories consistent with social work values are provided for students to understand the roles and responsibilities of the social work administrator. Agency planning, program design, information management, decision making, leadership, supervision, staff development, board operations, and program evaluation are studied in the context of the rural environment, politics, ethics and values, race, and gender.

645 Resource Management (4)
Prepares students specializing in the administration of rural social service agencies to develop the varied skills needed for the management of resources , with particular attention to fundraising, budgeting, facilities management and information systems.

646 Designing Rural Services (4)
Prepares students specializing in the administration of rural social service agencies to practice community development skills. Focus is on community-wide planning and implementation processes to develop and improve the delivery and impact of social services in rural communities. Emphasizes social work values and ethics as a basis for emplowering and including diverse populations in community decision-making.

651 Direct Practice with Children and Adolescents (4)
Develop skills for social work practice with children and adolescents living in rural communities. Students will learn to evaluate a variety of intervention methods and theories, as applied to working with children and adolescents in individual and group settings. Focuses on diversity, gender and rural communities as contributors to child and adolescent development and incorporates environmental and systems perspectives.

652 Direct Practice with Adults (4)
Presents advanced clinical knowledge, assessment skills and individual and group intervention strategies for students in the clinical concentration of the MSW program. Includes understanding of psychopathology, psychotropic medications, and the roles of social workers working in a variety of mental health and other clinical settings that deal with the personal, interpersonal, and social issues faced by adult clients.

653 Strengthening Families in Rural Environments (4)
Prepares students to provide social work services to families in rural communities. It also integrates material from SW 651 and 652 such as assessment and intervention in rural environments. Enhances student understanding of practice with diverse populations, including non-traditional families in rural communities.

661 Social Work Research Methods (4)
Prepares students to write a research proposal, in conjunction with their field supervisors, to address a problem of concern to their field agency. Explores quantitative and qualitative research methods, and the components of a research proposal, including: problem formulation, development of hypotheses, and design of a sound, ethical study that conforms to IRB standards. The course also foreshadows data collection, analysis, interpretation and report writing

662 Computer Applications in Data Analysis (4)
Provides students with opportunities to conduct hands-on computer-based data input and data analysis using SPSS for quantitative analysis and an appropriate software for qualitative analysis. Students input and analyze existing data sets for the completion of the course.

663 Practice and Program Evaluation (4)
Students complete the research study proposed in SW 661, by collecting, analyzing and interpreting data relevant to their IRB-approved proposals. Students present the data orally and in a written research report.

690 A-Z: Special Topics (1-12)
Address emerging issues or newly recognized interests or needs, or can also highlight a portion of a course and be offered for fewer credits than the entire course.

691 Advanced Field Practicum I (4)
Continues the preparation of students to apply social work research and theory to practice and to develop roles and interventions for advanced practice. The student will be assisted in progressively building a solid substructure of knowledge, skills, values and ethics in social work practice, in conjunction with professional development within the context of an individual field placement in an agency in rural Appalachia. Requires 20 hours per week in a social agency.

692 Advanced Field Practicum II (4)
Continues the preparation of students to apply social work research and theory to practice and to develop roles and interventions for advanced practice. The student will be assisted in progressively building a solid substructure of knowledge, skills, values and ethics in social work practice, in conjunction with professional development within the context of an individual field placement in an agency in rural Appalachia. Requires 20 hours per week in a social agency.

693 Advanced Field Practicum III (4)
Continues the preparation of students to apply social work research and theory to practice and to develop roles and interventions for advanced practice. The student will be assisted in progressively building a solid substructure of knowledge, skills, values and ethics in social work practice, in conjunction with professional development within the context of an individual field placement in an agency in rural Appalachia. Requires 20 hours per week in a social agency.

694 Integrative Seminar (4)
This capstone course incorporates content from the entire MSW curriculum, including the field practicum. It also includes case analysis reflecting problem-based learning. Uses an action learning format with a theoretical base in cognitive constructionism, making use of projects and work tasks that simulate professional experiences. Students use the library, Internet and professional contacts to survey legislation, policies, theories, research, programs and practices.

Sociology

http://www.cas.ohiou.edu/socanth/

The M.A. program in sociology offers preparation for advanced graduate training, teaching, and employment in various government and private agencies.

The Department of Sociology and Anthropology has a policy document, available upon request, that describes the organization of the M.A. program. You consult with a faculty committee to design your program, which involves selecting courses and choosing between thesis and nonthesis options. A minimum of 50 hours of graduate coursework is required for the degree, plus examinations, a major paper, or a thesis. While the bulk of the course-work must be done in sociology, you also may take a limited number of

courses in related fields. The program is flexible and is designed to provide a fundamental grounding in theory and methods while allowing students to pursue specialized interests. The department has particular strengths in criminology, social inequality, gender studies, social psychology, and research methods. Upon request, a list of faculty members and their interests will be provided by the department. You should allow for four to six quarters of study.

You should have completed a minimum of 20 hours in sociology, including courses in statistics, methods, and theory. To apply, you should have an overall grade-point average (g.p.a.) of 3.0 on a 4.0 scale and at least a 3.0 g.p.a. in undergraduate courses in sociology. Submit to the Office of Graduate Studies an application for admission and transcripts of all academic work; submit to the Department of Sociology and Anthropology a written statement of the area or areas of the discipline in which you are interested and why you want to study sociology, a sample of your written academic work, and letters of reference from three persons qualified to evaluate your capacity for graduate study in sociology. International students whose native language is not English must also submit the Test of English as a Foreign Language (TOEFL) scores.

Applications for admission are accepted until six weeks before the beginning of a quarter (three months for applications from abroad). Applications for financial awards ordinarily must be completed by March 1.

A limited number of graduate assistantships and Recruitment stipends are available. For information, write to the chair of the sociology graduate committee.

Sociology Courses (SOC)

503 Development of Sociological Thought (5)
Major sociological concerns and concepts in their social-historical setting. Emphasis on 18th and 19th centuries.

504 Modern Sociological Theory (5)
Major sociological conceptual frameworks in 20th century.

505 Readings in Sociology (1–5, max 15)
Independent directed readings designed to expand understanding in selected areas of interest not covered in regular course offerings. Not for preparation for comprehensive exams, final paper(s), or thesis.

507 Feminist Social Theory (5)
This course provides a general overview of contemporary perspectives in feminist social theory and cultivates awareness of the implications these perspectives hold for sociology. It also provides an in-depth examination of some of the influential writings by feminist sociologists. The course focuses on the ways in which basic assumptions, concepts, and questions in sociology are brought to light from feminist points of view.

508 Latin American Society (5)
Intensive study of Latin American society from a sociological perspective. Emphasis on contemporary Latin American values, population problems, human-land relations, levels and standards of living, social institutions, urbanization, and social change.

512 Public Opinion Processes (5)
Attitudes and opinions in relation to formation of public opinion; political socialization and participation; social status, reference groups, decision making; role of mass media.

513 Mass Communication (5)
Personal and social functions of content in newspapers, radio, television, and films. Types of audiences and communication effects. Organization and control of mass media and problems in evaluation.

514 Contemporary Social Movements (5)
Organized movements resulting in major social changes; revolutionary, nationalistic, reform, religious. Agitation, leadership, ideology. Case studies of typical movements.

516 Society and the Individual (5)
Exploration of compatibilities and contradictions in psychological systems, culture, and social structure.

519 Group Processes (5)
Major theories and methods for study of small group as unit of social systems. Study of communication patterns, role definition, leadership, cohesion, and interaction are included in reviews of current literature.

522 The American Family System (5)
Evolution of American family from colonial to present time. Analysis of structural and functional trends in light of theory and research.

524 Urban Sociology (5)
Historical development and recent emergence of city as dominant feature of modern social life. Demographic and ecological patterns and social organization of urban region.

528 Sociology of Religion (5)
Interrelationship between religious institutions and social structure from comparative perspective but with particular reference to American society.

529 Sociology of Race, Ethnicity, and Class (5)
This course is designed with a concern for understanding racism and classism at the macro level of analysis. An interpretation of social forces affecting race and ethnicity as determinants of social class will be covered. The course will foster an understanding of racial and ethnic diversity.

530 Sociology of Organization (5)
Concentrates on structure and process of formal organizations. Modern society dominated by giant bureaucracies studied in detail. Various sociological perspectives for viewing organizations considered and evaluated. Impact of organizations on individuals discussed and problems of living in society dominated by organizations treated in depth.

532 Political Sociology (5)
Analysis of social, economic, and political sources of corporate domination of state, opposition to such domination, and strategies for reducing it.

533 Sociology of Occupations and Professions (5)
Professionalism as characteristic of modern economic and industrial complexes; popular conception and modern theory; social and technological preconditions; occupation-profession continuum; components, barriers, and strategy; mock-professionalism; motivation and satisfaction; controls; professionalism in particular professions.

535 Sociology of the Welfare State (5)
How proponents of sociological perspectives deal with the emergence, organization, growth, and contemporary issues of the U.S. social welfare systems. Some attention will also be paid to the social welfare systems of Sweden and other European countries.

550 Data Analysis (5)
Focuses on the ability to analyze research data in the social sciences. Linkages between measurement, statistics, and interpretation of results are stressed in exercises. Unscheduled computer laboratory commitment is required.

553 Research Problems in Sociology (1–5, max 15)
Individual research in specific problem areas in which student has demonstrated ability and interest. Not for preparation for comprehensive exams, final paper(s), or thesis.

564 Law and Social Control (5)
Explores the nature of institutional control and sociocultural constraint as they affect human behavior. Issues covered include the development of formal control mechanisms in societies, precursors of legislative and judicial law, the binding force and authority of law, the effectiveness of formal control mechanisms for reducing specific behaviors, how administrative agencies increase regulation of daily life and "net widening" occurs, and law's effectiveness as a social change agent. Reading material covers the U.S. and some other societies.

565 Social Change (5)
Prereq: 12 hrs. Dynamics and processes by which social change takes place, major theories of change, industrialization and modernization, planned change, social impact of change.

566 Penology (5)
History, practices, and purposes of punishment using organizational, criminological, and sociological perspectives. Effectiveness of rehabilitation programs explored. Alternatives to incarceration examined.

567 Violence Against Women (5)
Examines related forms of violence where women are the predominant victims: forcible rape, marital rape, incest, spousal assault, date rape and assault, and sexual harassment. Role of pornography examined. Emphasis on current theoretical and empirical findings and developments.

570 Sociology of Gender (5)
Prereq: 8 hrs sociology. Examination of social influences that affect lives and opportunities of females and males in society, how these social influences interact to foster gender inequalities, and changes that are occurring.

571 Gender and Justice (5)
Explores how the interpretation and application of criminal law reflect assumptions about men's/boy's and women's/girl's natures, appropriate roles, and positions in society. Readings highlight how structure at the societal and organizational level and interpersonal interaction contribute to legal gender effects in the justice system.

590 Special Studies (1–5, max 10)
Studies of special topics in basic sociological perspectives, theory, and methods.

600 Graduate Seminar (5)
Critical examination of selected topic.

601 Graduate Seminar (5)
Critical examination of selected topic.

602 Graduate Seminar (5)
Critical examination of selected topic.

603 Seminar: Crime and Deviance (5)
Critical examination of topics in area of crime and deviant behavior.

604 Graduate Seminar (5)
Critical examination of selected topic.

605 Graduate Seminar (5)
Critical examination of selected topic.

606 Graduate Seminar (5)
Critical examination of selected topic.

607 Graduate Seminar (5)
Critical examination of selected topic.

608 Graduate Seminar (5)
Critical examination of selected topic.

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Critical examination of selected topic.

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Critical examination of selected topic.

613 Graduate Seminar (5)
Critical examination of selected topic.

614 Graduate Seminar (5)
Critical examination of selected topic.

615 Seminar in Social Psychology (5)
Prereq: permission. Systematic examination of contemporary theoretical and research issues in social psychology. Topics may include theory and research on self, equity, expectations, exchange, and emotions.

616 Sociological Theory (5)
Systematic examination of sociological theory with an emphasis on current theoretical perspectives and debates.

620 Social Policy (5)
This seminar explores a number of domains of social policy. Questions include: How is social policy formed? What institutional processes result in the creation and alteration of social policy? How are members of the public involved in creation and alteration of policy? Do social policies achieve ends toward which they are directed? Where does social policy break down? How do we evaluate social policy analyses?

654 Social Research Methods (5)
Analysis of process of sociological research in terms of problem definition, research, design, data sources, and methods of data analysis.

690 Independent Study (1–5, max 10)
For graduate students in good standing who wish to undertake independent study toward M.A. degree under guidance of faculty member.

691 Seminar in Teaching Sociology (5)
Prereq: permission of instructor. This course is only for sociology graduate students engaged in the teaching internship process. The seminar will reinforce classroom experiences with discussion of teaching techniques and processes.

695 Thesis (1–10, max 10)

Women's Studies

http://www.ohio.edu/womenstudies/

The Women's Studies Program offers an interdisciplinary graduate certificate in women's studies. Students enrolled in any master's or doctoral program at the University may pursue this certificate by taking three of the courses listed below and WS 589 for a minimum of 17 credit hours. Two of the three courses must be outside the student's major field of study.

Women's Studies Courses (WS)

501 Fundamentals of Women's Studies (5)
This course is an introduction to theories and methods employed in the study of women and gender. Students will develop a critical framework for thinking and writing about gender, race, class, and sexuality.

510 Global Feminisms (5)
This course considers women's issues and feminist movements from a global and non-Western perspective. Includes discussion of the globalization of feminism; the relationship bewteen feminism and colonialism; the connection of women's movements to nationsl/indpendence movements and revolutionary movements; and specific issues such as work/labor, sexuality, reproduction, and religion.

511 Women and Globalization (5)
Explores how globalization has affected the social status of women, their economic resources, their rights, and their opportunities. Focus is on the economic effects of the spread of free market capitalism.

550 Advanced Feminist Theory (5)
An explanation of post-1980s feminist theory. Begins with key Continental thinkers and moves to American theorists. Course looks at important ways in which social construction has shifted the discussions of race, ethnicity, and postcoloniality away from identity and other concerns of the early Second Wave.

560 Gender, Sexuality, and Culture (5)
Course draws upon theoretical, historical, and aesthetic texts in order to discuss the relationship between gender, sexuality, and diverse forms of cultural representation.

561 Queer Theory (5)
This course examines the intellectual and activist roots of queer theory, some of its most consequential statements, and current issues and debates within this body of literature.

589 New Feminist Scholarship: Graduate Capstone Seminar in Women's Studies (5)
This course explores new scholarship on women and gender through critical analysis of the recent literature on these topics and through reflection on students' curent academic work and research.

590 Independent Reading (1-5, max 5)
Directed individual reading and research.

593 Special Topics (5)
This course will focus on specific topics focusing on women and/or gender.

In addition, the following courses also count for credit toward the certificate in Women's Studies. Descriptions are listed under the various departments.

AH 511	Representation of Gender in the History of Art
AAS 582	The Black Family
ANTH 545	Gender in Cross-Cultural Perspective
ANTH 549	Life History: The Individual and Culture
ANTH 563	Gender in Prehistory
COMS 621	Gender and Communications
COMS 622	Communication and the Family
COMS 742	Feminist Rhetorical Theory
ENG 537	History of Criticism: Contemporary Feminist Theory
FILM 572	Primitivism and Film
HCCF 562A	Diversity in Families
HIST 520A	Women in American History before 1877
HIST 520B	Women in American History since 1877
HIST 520C	Women's Health and Medicine in U.S. History
HIST 532	Women in the Middle East
HIST 553D	Studies in Medieval History: Women in Medieval Society
HIST 554A	Early Christianity
HIST 560A	Women in Early Modern European History
HIST 560B	Women in Modern European History 1800-Present
HIST 560C	Women Warriors
HIST 602/802	Colloquium on U.S. Women's History
INST 610Y	Women in African Development
PESS 500	Women in Sports
POLS 519	Gay and Lesbian Politics
POLS 520	Women, Law, and Politics
POLS 521	Politics of Law and Sexuality
POLS 578	Feminist Political Theories
POLS 590H	Women and Politics
POLS 590T	Feminist Legal Theory
SOC 507	Feminist Social Theories
SOC 522	The American Family System
SOC 567	Violence against Women
SOC 570	Sociology of Gender
SOC 571	Gender and Justice
TCOM 581	Women and Media
TCOM 586A	Age, Class, Gender, Race, and Sexual Orientation in the Media