

College of Liberal Arts and Sciences

Anthropology

ANTH 110 - Cultural Anthropology 4 hours. This introductory course surveys the human condition in anthropological perspective. Emphasis is on the nature of culture, sociocultural evolution, human ecology, theoretical strategies, kinship, descent, gender, language, and belief systems. (E3) (GP)

ANTH 120 - Human Origins 4 hours. An introduction to physical anthropology surveying evolutionary theory as applied to humans. Special emphasis on non-human primates, fossil man (hominid evolution) and the diversity of modern human populations. (E3)

ANTH 200, 300 - Special Topics 1-4 hours. An open course varying in content from year to year which allows concentration in specialized areas.

ANTH 302 - The Nacirema 4 hours. American culture and society in cross-cultural perspective. This course emphasizes themes observed by international visitors and by anthropologists in cross-national studies. ANTH 110 recommended as a prerequisite.

ANTH 303 - Health and Culture 4 hours. An examination of the interaction of culture and biology in the broad realm of physical and mental health and illness. Topics include non-Western healers and healing practices, theories of disease and healing, cultural psychiatry, and epidemiology. Prerequisite: ANTH 110. (GP)

ANTH 304 - Language and Culture 4 hours. An introduction to anthropological linguistics emphasizing the origin, nature and evolution of human language; the Sapir-Whorf hypothesis, sociolinguistics (especially the linguistic aspects of gender and class), and nonverbal behavior. Prerequisite: ANTH 110. Recommended: 200-level foreign language course. (GP)

ANTH 305 - Belize and the Caribbean 2 hours. (See BIOL 305)

ANTH 311 - Nip, Tuck, Perm, Pierce, Tattoo, Embalm: Adventures with Embodied Culture 2 hours. People the world over modify their bodies in prescribed ways. This course examines the body from head to toe in far-flung cultures, but especially in the U.S., asking, "How?" "Why?" and "What does it mean?" (Cross-listed as GLBS 311)

ANTH 312 - Violence and Culture 4 hours. Investigates violence in traditional and modern societies. Topics include ritualized violence, gender, the sociocultural construction and reinforcement of violent behavior in the United States, and programs aiming to reduce levels of violence. Prerequisite: ANTH 110 or SOCI 110 and junior or senior standing. (GP)

ANTH 400 - Special Problems in Anthropology 1-4 hours. An open course varying in content from year to year which allows concentration on such specialized areas as gender and society, anthropological theory and methods, native cultures of North America, demography, and the like. Prerequisites: SOCI 110 or ANTH 110 and junior or senior standing or permission of instructor. (Sufficient demand)

ANTH 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

ANTH 470 - Field Work 2-4 hours. Supervised on-site field work on an approved topic. Prerequisites: ANTH 110, junior or senior standing, and permission of instructor.

ANTH 495 - Global Issues Seminar 4 hours. (See GLBS 495)

Astronomy

ASTR 103 - Introductory Astronomy 4 hours. This course is a general survey of astronomy including our solar system, the nature of stars, the structure of galaxies, and cosmology, including the nature of Dark Matter and Dark Energy. (F2) (F-II)

ASTR 107 - Elementary Astronomy Lab 2 hours. Observation, supplemented by discussion of topics such as types of telescopes and auxiliary equipment, use of the Observatory, celestial coordinates and the use of reference materials, astronomical photography. (F1) (F-I)

ASTR 200 - Special Topics in Astronomy 1-4 hours. Topics vary from year to year. (Sufficient demand)

ASTR 302 - Planetary Science 2 hours. A quantitative and comparative study of the planets, moons and small bodies of the Solar System, this course includes the physics of the interiors, surfaces, and atmospheres of the terrestrial planets/moons, and of the atmospheres and rings of the Jovian planets. Also includes the physics of planetary formation and the latest findings of probes currently exploring the Solar System. Prerequisite: One year of college level physics. (Sufficient demand)

ASTR 303 - Stellar Astronomy 3 hours. Part of an astronomy sequence recommended for students in the physical sciences and area science teachers. Emphasis on the observational and theoretical basis for understanding stellar structure and evolution, beginning with the Sun. Prerequisite: One year of college level physics and MATH 151. (Sufficient demand)

ASTR 304 - Galactic Astronomy and Cosmology 4 hours. Part of an astronomy sequence recommended for students in the physical sciences and area science teachers. Emphasis on the observational and theoretical basis of our knowledge of the Universe on the large scale. Topics include the structure of the Milky Way Galaxy, active and passive galaxies, and Cosmology. Prerequisite: One year of college level physics and MATH 151. (Sufficient demand)

ASTR 307 - Observational Astronomy 2 hours. An introduction to astronomical observing techniques and data reduction. Emphasis placed on image acquisition and manipulation to determine things like the morphologies, distances, motions, and luminosities of various objects. This course is intended for students with interest in astronomy and some background in physics and mathematics. Prerequisite: One semester of college level physics; pre-or co-requisite: MATH 151. (Sufficient demand)

ASTR 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

Biology

BIOL 106 - Field Botany 4 hours. Introduction to the taxonomy and adaptations of native and introduced plants in western New York ecosystems. Students will learn identification of species through laboratory and field studies. Biodiversity of natural ecosystems will be investigated and compared. Biology majors may receive Biology elective credit by fulfilling additional requirements. (F1) (F-I)

BIOL 107 - Human Anatomy and Physiology I 4 hours. This course examines the bases of the human body in health and disease. Dissection of the cat and other mammalian organs, and a series of physiology exercises investigate structure and function from cell to organ system of the integumentary, skeleto-muscular, nervous-sensory and endocrine systems. Three lecture/discussions and one three-hour laboratory. This course is offered as part of the BOCES New Visions Medical program. (F1) (F-I)

BIOL 108 - Human Anatomy and Physiology II 4 hours. A continuation of Biology 107 with a focus on the 'internal' organ systems, including the circulatory, lymphatic, respiratory, digestive, urinary and reproductive. Three lecture/discussions and one three-hour laboratory. This course is offered as part of the BOCES New Visions Medical program. (F1) (F-I)

BIOL 119 - Physiology of Aging 4 hours. Examines both the expected changes in normal human aging as well as the pathologies of the aging process. Topics covered include digestive, cardiovascular, sensory, hormonal, musculoskeletal and urogenital systems as well as cellular metabolism and drug absorption. Required of Gerontology majors. Four lectures. (F2) (F-II) (Alternate years)

BIOL 130 - Introduction to Human Genetics 4 hours. A look at human genetics from the human genome project and biotechnology to inheritance of traits. Emphasis will be placed on understanding current and past discoveries in genetics, how those discoveries may impact our lives, and what they mean for the non-scientist. Class will meet for 3 lectures and one two-hour lab per week. (F1) (F-III)

BIOL 150 - Biological Foundations 4 hours. This course introduces both biology majors and non-majors to the core concepts of biological literacy (evolution, structure and function, genetics and information flow, metabolism and energy, and living systems) and the competencies that underlie the disciplinary practice of Biology. (F2) (F-I)

BIOL 207 - Introduction to Anatomy and Physiology I 4 hours. Introduction to the structure and function of the human body focusing on general biology, chemistry, and physics by exploring the integumentary, skeletal, muscular, and nervous systems. (This course meets NYSED certification knowledge in scientific concepts). Three lectures and a laboratory. (F2) (F-II)

BIOL 208 - Introduction to Anatomy and Physiology II 4 hours. Introduction to the structure and function of the human body focusing on the cardiovascular, respiratory, digestive, lymphatic, and reproductive systems, with special attention given to nutrition. Three lectures and a laboratory. Prerequisite: BIOL 207 or instructor permission.

BIOL 211 - Cell Biology 4 hours. The first course in a core sequence for biology majors, this course focuses on the molecular foundations of life, enzymology, metabolism, and cell ultrastructure, organization and function.

Laboratory focuses on basic techniques including microscopy, micropipetting and the use of model organisms. C or better in BIOL 150 and in CHEM 105, CHEM 106 is recommended as a pre- or co-requisite.

BIOL 212 - Principles of Genetics 4 hours. Students who complete this course will have a fundamental knowledge of the principles of transmission, molecular and population genetics. Application of concepts through investigative laboratories. A required core course for biology majors. Three lectures and one three-hour laboratory per week. Prerequisite: 'C' or better in BIOL 211 and CHEM 106.

BIOL 213 - Structure and Function of Organisms 4 hours. Using one or more model systems (e.g. humans, plants), students will be able to explain structure-function relationships; how form follows function in animals and plants. Application of concepts through investigative laboratories. A required core course for biology majors. Three lectures and one two-hour laboratory per week. Prerequisite: 'C' or better in BIOL 211.

BIOL 226 - Biostatistics 4 hours. Application of statistics to experimental design, data analysis, and decision making in the biological sciences. Prerequisites: (BIOL 201/202) or BIOL 211 as Pre- or Co-requisite. (III)

BIOL 300 - Topics in Biology 1-4 hours. This course provides opportunities for examining areas not covered in the regular offerings. Topics vary each semester.

BIOL 302 - General Microbiology 4 hours. This course surveys the microbial world, with an emphasis on bacteria and viruses. The student will gain an understanding of how the study of microorganisms has paved the way for important advances in human health, agriculture, and food science. Major topic areas include structure/function, metabolism, genetics, biotechnology, and host-parasite relationships. The laboratory offers experience in aseptic handling of bacterial cultures as well as applications of classical and modern techniques for microbial identification and characterization. Three lectures and one three-hour laboratory. Prerequisites: (BIOL 201/202, or BIOL 211) and (CHEM 310 or 315).

BIOL 305 - Belize and the Caribbean 2 hours. This course provides an overview of the insular and mainland region known as the Caribbean, with emphasis on the nation of Belize. Topics surveyed include flora and fauna, prehistory, colonial and modern history, social structure, and recent developments. (Cross-listed as ANTH 305, GLBS 305) (GP)

BIOL 307 - Anatomy and Physiology: Nerves, Muscles, Skeleton 4 hours. This course examines the bases of the human body in health and disease. Using dissections of mammalian specimens, students investigate structure and function from cell to organ system of the integument, skeletal-muscular, and nervous-sensory systems. Three lectures and one two-hour laboratory per week. This course is part of the Anatomy and Physiology series. Prerequisite: BIOL 201 or 202 or 211.

BIOL 308 - Anatomy and Physiology: Viscera 4 hours. This course examines the bases of the human body in health and disease with a focus on 'internal' organ systems, including the circulatory, lymphatic, respiratory, urinary, and reproductive systems. Students engage in dissections of mammalian specimens. Three lectures and one two-hour laboratory per week. This course is part of the Anatomy and Physiology series. Prerequisite: BIOL 307.

BIOL 311 - Invertebrate Zoology 4 hours. An extensive study of selected species to illustrate invertebrate structure, biological relationships and adaptations to their habitats. Three lectures and one two-hour laboratory. Prerequisite: BIOL 201/202. (Alternate years)

BIOL 314 - Community and Systems Biology 4 hours. Living systems are interconnected and interacting. Living organisms must be able to perceive and respond to changes in their diverse and dynamic environments. Therefore, we consider biological systems at multiple functional scales to fully understand how organisms and their environments interact with and modify each other. Prerequisite: 'C' or better in BIOL 212 and BIOL 213.

BIOL 315 - Genetics and Evolution of Populations 4 hours. This course investigates modern evolutionary theory at the macro- and micro-evolutionary scale. Topics include historical perspectives, basic principles of evolution, mechanisms of evolution, genetics of populations, quantitative genetics and phylogenetics. Four hours of lecture per week. Prerequisites: BIOL 212 or BIOL 201/202; BIOL 213 recommended.

BIOL 322 - Botany 4 hours. A phylogenetic exploration of plants, with emphasis on adaptation of structure and function to different environments. Topics include anatomy, physiology, evolution, ecology, and economic botany. Three lectures and one two-hour laboratory period. Prerequisites: BIOL 201/202 or BIOL 211.

BIOL 345 - Vertebrate Biology 4 hours. A study of the systematics, adaptations, and ecological relationships of vertebrates. Topics focus on ichthyology, herpetology, ornithology, and mammalogy. The laboratory includes examination of specimens, field identification of animals, and methods of data collection. Prerequisite: BIOL 226.

BIOL 346 - Animal Nutrition 4 hours. Basic principles of animal nutrition, emphasizing characteristics and metabolism of nutrients, these nutrients in terms of feedstuffs, anatomy and physiology of gastrointestinal tracts, and nutritional lifecycles of various animals. Four lectures. Prerequisites: BIOL 201/202 or BIOL 211.

BIOL 348 - Animal Behavior 4 hours. A look at the study of animal behavior to interpret genetic, environmental, and physiological influences on development, control, adaptation and evolution of behavior. 4 lectures. Prerequisites: (BIOL 201/202 or BIOL 211) and BIOL 226.

BIOL 354 - Ecology 4 hours. Interactions of organisms and their environment with emphasis on populations, communities, and ecosystems. Three lectures and one three-hour laboratory. Prerequisite: BIOL 150 or 201 or ENVS 101. (Fall, alternate years)

BIOL 356 - Aquatic Ecology 4 hours. Introduction to ecology of lakes, streams, and wetlands. Three lectures and one three-hour laboratory. Prerequisite: BIOL 201 or ENVS 101. (Fall, alternate years)

BIOL 357 - Conservation Biology 4 hours. This course focuses on the biology that underlies our efforts to conserve genetic, species, and community diversity and the community/ecosystem/landscape dynamics that sustain them. We will review concepts of genetics, population biology, and landscape ecology to understand threats to populations and species and the techniques used to sustain them. Prerequisite: BIOL 150 or 201 or ENVS 101. (Cross-listed as ENVS 357)

BIOL 358 - Biogeography 4 hours. Biogeography looks at patterns of living things in space and time. By combining ecological, evolutionary, and geographic points of view, we will see how life has evolved around the globe to exploit physical differences such as soils and climate. Landscape ecology quantifies spatial structure, especially as affected by humans, in regions comprising one or more ecosystems. Relating the two approaches helps us to appreciate how populations have survived geographical constraints in the past and to predict how they might fare in the future. Geographic information systems will be demonstrated as an important contemporary tool in spatial ecology. Prerequisites: BIOL 226 and (BIOL 213 or 354).

BIOL 375 - Comparative Vertebrate Anatomy 4 hours. A comprehensive review of the structure, taxonomy, evolution, and biological relationships of vertebrates. Two lectures and two two-hour laboratories. Prerequisites: BIOL 201/202 or BIOL 211. (Alternate years)

BIOL 376 - Animal Physiology 4 hours. Principles and problems concerned with the physiochemical responses and functioning of animal tissues and organs. Three lectures and one three-hour laboratory period. Prerequisite: BIOL 375.

BIOL 390 - Junior Seminar 1 hour. Development of writing and interviewing skills critical in applying to graduate and professional schools, internships, and for employment. Students write and critique cover letters, resumes, essays and sample applications, take sample entrance examinations, interview a professional in a career of interest, and receive phone and face-to-face mock interviews with feedback on appropriate dress, mannerisms, and ability to respond to questions. Emphasis on professionalism. Prerequisite: (BIOL 201/202) or BIOL 211 as Pre- or Co-requisite.

BIOL 400 - Research Topics 4-5 hours. Offerings are research-intensive courses that vary from year to year.

BIOL 402 - Immunology 4 hours. In this course students learn what makes up the immune system, and how it works in keeping us healthy. We'll also look at some of the more complex issues surrounding the immune system such as vaccination, autoimmune disease and transplantation. Upon completion of the course students will be able to name and describe the cells and organs of the immune system and understand the function of each. Students will also be able to describe the normal processes of immunity and regulatory controls, explain the results of immune component deficiencies and understand how normal immune function can cause disease. Prerequisite: BIOL 211 or 362; BIOL 302 recommended.

BIOL 410 - Endocrinology 4 hours. A study of endocrinology from molecular to organismal levels. Emphasis is placed on categories of hormones and receptors, regulation of physiological responses, and mechanisms of endocrine dysfunction. Four lectures. Prerequisites: BIOL 201/202; BIOL 376 or BIOL 252 recommended.

BIOL 420 - Biochemistry: Proteins and Metabolism 4 hours. Properties, biosynthetic pathways, and metabolism of carbohydrates, lipids, and nitrogenous compounds with related units on physical biochemistry, protein structure, bioenergetics and enzyme kinetics. Laboratories reinforce theoretical concepts and provide hands-on experience with modern biochemistry techniques and instrumentation. Three lectures and one three-hour laboratory. Prerequisites: Either [BIOL 362 and CHEM 315/316] or [(BIOL 202 or 211) and (CHEM 343 or CEMS 235), and (CHEM 310 or CHEM 315)]. (Cross-listed as CHEM 420)

BIOL 422 - Biochemistry: Nucleic Acids 4 hours. This course surveys the biochemistry of the gene, with an emphasis on protein/nucleic acid interactions. Topics include nucleic acid structure, regulation of DNA replication and transcription, post-transcriptional modification of RNA, recombinant DNA techniques, and genetic engineering methods. Three hours lecture and one three-hour laboratory. (Students who wish to take only one semester of Biochemistry should take BIOL/CHEM 420.) Prerequisite: BIOL 212 or 362 and either CHEM 310 or 315. (Cross-listed as CHEM 422)

BIOL 425 - Physiological Plant Ecology 4 hours. An exploration of plant function from the tissue to the whole organism level, with emphasis on interactions with the environment. Topics include plant-water relations, nutrition, energy and carbon cycling, development, and stress physiology. Three lectures and one three-hour laboratory. Prerequisites: (BIOL 201/202 or 213), BIOL 226, and (CHEM 310 or 315). (Alternate years)

BIOL 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required. Independent Study is required of all students who are candidates for graduation with honors in Biology.

BIOL 485 - Internship in Biology 1-6 hours. Off-campus research in consultation with faculty and project advisors. Open to junior, senior and graduate biology students.

BIOL 490 - Biology Research Seminar 1 hour. An advanced topics seminar held once a week, conducted by enrolled students, local speakers, and outside speakers. Weekly topics and discussion will represent current research in a wide range of biological sciences. Prerequisites: BIOL 226 and at least one 300-400 level BIOL course.

Chemistry

CHEM 105 - General Chemistry I 4 hours. A systematic study of the fundamental principles, theories and calculations involved in chemistry. Basic concepts of bonding, chemistry of selected elements and their compounds, states of matter, stoichiometry, solution reactions, equilibrium, kinetics, electrochemistry, thermodynamics, nuclear chemistry, and an introduction to organic chemistry. Laboratory work includes experiments in stoichiometry, qualitative and quantitative analysis. Required for pre-health professionals and engineering, biology, and chemistry majors. Two lectures, one demonstration, one laboratory and one quiz per week. (F1) (F-I)

CHEM 106 - General Chemistry II 4 hours. CHEM 106 is a continuation of CHEM 105. Two lectures, one demonstration, one laboratory and one quiz per week. Prerequisite: CHEM 105 or CHEM 115. (F1) (F-I)

CHEM 116 - General Chemistry-Advanced II 4 hours. CHEM 116 is a continuation of CHEM 115. Prerequisite: CHEM 115 or 105. Students may not receive credit for both CHEM 106 and CHEM 116. (F1)

CHEM 200 - Special Topics in Chemistry 1-4 hours.

CHEM 300 - Special Topics in Chemistry 1-4 hours. This course explores special topics in chemistry appropriate for sophomore, junior, and senior level students majoring in chemistry or related fields. Contact the course instructor for additional information about any CHEM 300 course offering. Prerequisites: CHEM 105 and CHEM 106, or permission of instructor.

CHEM 310 - Basic Organic Chemistry 3 hours. A descriptive study of the structure and reactions of common aliphatic and aromatic compounds of carbon. For students interested in ceramics, materials science, environmental science, or ecology, but not suitable for chemistry majors or those interested in biochemistry, molecular biology, or the health professions. Prerequisite: CHEM 106 or CHEM 116 or permission of instructor.

CHEM 313 - Environmental Chemistry 4 hours. This course discusses the chemical fundamentals underlying important issues related to the environment and environmental policy in detail. Topics include the chemistry of ozone holes, smog, acid rain, natural waters, soil chemistry, climate change, pollution, remediation, and energy science. Prerequisites: CHEM 105 and CHEM 106.

CHEM 315 - Organic Chemistry I 4 hours. An introduction to organic compounds. Topics include structure identification using modern spectroscopic methods, bonding and reactions such as nucleophilic substitutions, eliminations and additions to alkenes. Laboratory topics include extraction/washing, recrystallization, TLC, melting points and distillation. Prerequisite: CHEM 105 and 106.

CHEM 316 - Organic Chemistry II 4 hours. An in-depth exploration of the chemistry of carbon-based compounds. Topics include enolates, reductions, oxidations, additions to the carbonyl, the Diels-Alder reaction, radicals Aromatic reactions, aromaticity, carbohydrates and amino acid chemistry. Laboratory topics include instrumentation and varying reactions. Prerequisite: CHEM 315.

CHEM 321 - Introduction to Analytical Chemistry 4 hours. A study of classical analytical techniques involving equilibria of aqueous systems as well as simple modern analytical techniques involving the methods and instrumentation of spectrophotometry and separation science will be presented. Laboratory exercises will include inorganic synthesis, "traditional wet methods of analysis," and instrumental methods of analysis. Two lectures and two three-hour laboratories per week. Prerequisite: CHEM 106 or CHEM 116.

CHEM 343 - Physical Chemistry I 4 hours. The first semester of our physical chemistry sequence covers thermodynamics from a combined classical/statistical perspective and chemical kinetics. Pre-requisite: CHEM 106, MATH 152, and PHYS 112 or 126.

CHEM 345 - Physical Chemistry Laboratory 1 hour. This course explores concepts in thermodynamics, kinetics, and quantum mechanics through seven laboratory experiments performed as teams in a simulated corporate research environment. Students are strongly encouraged to co-enroll in CHEM 346 or the equivalent. Prerequisites: CHEM 343 or CEMS 235.

CHEM 346 - Physical Chemistry II 3 hours. The second semester of our physical chemistry sequence covers quantum mechanics and spectroscopy. Prerequisite: CHEM 343 or CEMS 235.

CHEM 370 - Chemistry Projects 1 or 2 hours. Laboratory work or literature review involving a chemical topic of interest to the student and not covered in any of the regular course work. A final written report is required. CHEM 370 cannot be substituted for any of the required courses in the chemistry major and cannot be used to fulfill the additional credits needed for an ACS certified degree. A chemistry minor may count up to three credits of CHEM 370 toward the minor. Laboratory work that can be considered original research in chemistry should be performed as an Independent Study or an ARGUS project (CHEM 450). Prerequisites: Permission of instructor, a study plan approved by the Division Chair, and CHEM 106.

CHEM 372 - Inorganic Chemistry 3 hours. Principles of inorganic chemistry with emphasis on periodicity, symmetry and group theory, molecular orbital theory, bonding, acid/base chemistry, coordination chemistry, organometallic compounds, and catalysis. Prerequisite: CHEM 343 or CES 235.

CHEM 374 - Inorganic Chemistry Laboratory 1 hour. Eight to ten experiments designed to demonstrate the synthetic techniques used in modern inorganic chemistry. Inert atmosphere techniques will be included. Co-requisite: CHEM 372.

CHEM 400 - Advanced Chemistry Topics 1-4 hours. Special topics not covered by regular course work. All special topics courses must have the written approval of the Division Chair and should in general meet the criteria of the American Chemical Society's requirements for an advanced course. Prerequisite: CHEM 346, although this can be waived at the discretion of the Division Chair.

CHEM 420 - Biochemistry: Proteins and Metabolism 4 hours. (See BIOL 420)

CHEM 422 - Biochemistry: Nucleic Acids 4 hours. (See BIOL 422)

CHEM 423 - Instrumental Analysis 3 hours. The theory and practice of modern instrumentation techniques and methods used in chemistry are presented. An in-depth look at spectroscopic, separation, and electrochemical methods and their associated instrumentation follow an introduction to instrumentation; interpretation of results is also covered. Required for chemistry majors. Prerequisites: CHEM 321 and CHEM 346 or equivalent.

CHEM 450 - Independent Study 1-4 hours. Original chemical research under faculty guidance. The work must have the potential to be published. An Approved Plan of Study and a written final report are required. Oral reports may also be required.

CHEM 461 - Advanced Chemistry Laboratory I 2 hours. A laboratory course integrating synthesis, purification, analysis, and characterization of chemical species. Synthetic work includes use of controlled atmospheres, high temperatures and non-aqueous systems. Purification of compounds is by distillation and recrystallization, as well as by various chromatographic techniques. Analysis and characterization include both wet chemical and instrumental techniques. Co-requisite: CHEM 423. Prerequisites: CHEM 321 and CHEM 346 or equivalent.

CHEM 485 - Internship in Chemistry 2-6 hours. Off-campus research in consultation with faculty and an off campus project advisor. An approved plan of study and a written final report are required. Oral reports may also be required. The work must represent original research in chemistry and have the potential to be published. Open to juniors and seniors. Prerequisites: Permission of instructor, a study plan approved by the Division Chair and in general, CHEM 343 although this can be waived by the Division Chair.

CHEM 490 - Chemistry Seminar 0 hours. The Chemistry Seminar is a three semester advanced topics course with a varied format ranging from outside speakers to development of skills such as literature searches, resumes, poster presentations and oral presentations.

Chinese

CHIN 101 - Chinese I 4 hours. This course is an introduction to the Mandarin Chinese language and cultures of the People's Republic of China. (II)

CHIN 102 - Chinese II 4 hours. The further development of basic language skills introduced in CHIN 101. A continuation of the study of the cultures of the People's Republic of China. Prerequisite: CHIN 101 or permission of the instructor. (II)

CHIN 200 - Special Topics 1-4 hours. Content varies. Prerequisite: CHIN 102 or permission of instructor.

CHIN 201 - Chinese III 4 hours. In this course students continue development of Chinese language skills, with attention to listening, speaking, reading and writing Mandarin. Students become more familiar with Chinese characters and gain a deeper understanding of China, its people and cultures. Prerequisite: CHIN 102 or permission of instructor. (II)

CHIN 202 - Chinese IV 4 hours. This course is the next phase for students who have completed CHIN 201. It continues in the strengthening of students' knowledge of and proficiency in Chinese. It enhances students' oral expression, reading comprehension, and cultural understanding. Prerequisite: CHIN 201. (II)

Communication Studies

COMM 101 - Introduction to Communication Studies 4 hours. An introduction to communication studies in a variety of contexts: intrapersonal, interpersonal, small group, and public. The class improves the student's understanding of communication as a process and facilitates day-to-day interactions.

COMM 110 - Mass Media and American Life 4 hours. An examination of the evolution of American mass media and their cultural, economic, and social implications. Students analyze varied media vehicles (including newspapers, books, magazines, sound recordings, films, and television programs) with regard to content, form, and demographic impact.

COMM 200, 300, 400 - Special Topics in Communication 1-4 hours. This course provides opportunities for examining communication studies areas not covered in the regular offerings. Topics vary each semester.

COMM 205 - Introductory Newswriting and Reporting 4 hours. An introductory journalism course emphasizing news gathering and reporting a variety of basic news stories, including hard news, features, and enterprise stories. Basic newswriting skills covered, including developing news judgment, style, structure, sources, and interviewing techniques.

COMM 210 - Interpersonal Communication 4 hours. This course is designed to increase students' awareness of interpersonal communication theories, practices, and impact.

COMM 211 - Public Speaking 4 hours. Students in this course have numerous opportunities to construct and present various types of speeches. These experiences are driven by situational contexts (e.g. academic presentations, special occasions, debates, etc.). In addition to the act of speaking, students will also be introduced to techniques associated with the effective use of presentational tools.

COMM 220 - Understanding Popular Culture and Media 4 hours. We often refer to popular entertainment as escapist without fully considering what we are escaping from, where we are escaping to, or in what ways the experience affects us. This class ponders these topics through an introduction to the core concepts and approaches associated with critical/cultural studies. (C)

COMM 221 - Pop Culture Goes Global 4 hours. This course examines U.S. popular culture and the media and their sociological, economic and political influence on cultures at home and abroad. It offers students a deeper understanding of globalization and its effect on their lives. (Every year; Fall) (GP) (Cross-listed as GLBS 221)

COMM 237 - Media and Politics 4 hours. (See POLS 237)

COMM 301 - Broadcasters, Advertisers, and Audiences 4 hours. An overview of television and radio broadcasting and advertising in the United States. The course examines how a variety of factors--historical, cultural, political, legal, economic, and technological--affect the content and character of American broadcasting.

COMM 302 - Public Relations Principles 4 hours. Public relations is the values-driven management of relationships with groups of people that can influence an organization's success. This course examines how organizations can ethically and systematically build productive, mutually beneficial relationships with such groups. To accomplish this, we discuss: (1) the historical antecedents and contemporary practice of public relations in America; (2) the day-to-day tasks and communication responsibilities of public relations practitioners; and (3) the various challenges PR practitioners encounter in their careers. No prerequisite; COMM 205 recommended.

COMM 309 - Persuasion: Reception and Responsibility 4 hours. This course provides majors in communication studies and related areas with a foundation for rhetorical thinking. Critical issues in persuasion are addressed, along with a historical survey of rhetorical philosophy and theory. Students successfully completing the course will know expert opinions on issues concerning persuasive communication.

COMM 315 - Understanding Global Media and Cultural Change 4 hours. In this course students analyze global media (news and entertainment) in order to better understand how global media messages influence societies and audiences worldwide. Students also develop an understanding of how to create their own objective and persuasive global media messages. (Cross-listed as GLBS 315) (Every other year; Spring) (GP)

COMM 321 - Public Relations Writing 4 hours. This writing course focuses on providing students with hands-on experience promoting organizations (non-profits, businesses, etc.) through PR releases and other promotional material aimed at targeted audiences via print, radio and TV. Students are also introduced to the art of writing advertisements for the print and broadcast media. Prerequisite: COMM 205 or permission of instructor. (Every other year; Spring)

COMM 401 - Technology and Communication 4 hours. An exploration of questions raised by the introduction of new communication technologies with particular emphasis on the social, economic, and aesthetic impact of these emerging technologies, and their roles in education and national development. Prerequisite: junior/senior standing, or permission of instructor.

COMM 404 - Media Criticism 4 hours. An exploration of the communicative dimensions of media artifacts: magazines, newspapers, films, television programs, and popular music recordings. Analyses are conducted from rhetorical, semiotic, genre, auteur, feminist, psychoanalytic, and Marxist perspectives. Prerequisite: junior/senior standing, or permission of instructor.

COMM 405 - Television Criticism 4 hours. TV Criticism examines the medium by analyzing its industrial purposes, narrative structures, and the application of mise-en-scene, videography, editing, and sound. Students will familiarize themselves with several critical approaches such as semiotics, genre study, ideological criticism, gender and race studies. Prerequisite: COMM 110.

COMM 409 - Organizational Communication 4 hours. This course introduces students to major concepts regarding communication in organizations, including the professional environment.

COMM 410 - Communication Ethics 4 hours. An exploration of ethical perspectives that pertain to communication in a variety of contexts, including interpersonal, small group, organizational, public and mass. Students learn to become more responsible senders and receivers of communication. Prerequisites: COMM 101 and COMM 110.

COMM 411 - Media Law 4 hours. This course examines the legal concepts, processes, and foundations that govern American media and other forms of public expression. The First Amendment will form the basis for most topic areas covered in this course. Prerequisite: COMM 110 or permission of instructor.

COMM 412 - Gender and American Film 4 hours. This course is an overview of how mainstream, artistically and/or popularly successful Hollywood films reflect gender images expressed in stereotypes, power relationships, and sexuality. The class examines gender as a social construct. The goal is to amass a working knowledge of the theories associated with gender and film criticism as well as to determine how students have been influenced by these cinematic representations. (Cross-listed as WGST 412)

COMM 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

COMM 465 - Gender, Race, Class and Media 4 hours. This course investigates how women and minorities (including sexual minorities) are covered/portrayed by the news and entertainment media and how underlying economic, political and sociological factors affect such coverage. It explores how media portrayals influence the public's views regarding women and minorities and how women and minorities view themselves. And it examines critics' charges that the media portray women and minorities in a negative light and strategies used to counteract possible resulting harm. Prerequisite: COMM 110 or permission of instructor. (Cross-listed as WGST 465)

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COMM 475 - Specialized Reporting 4 hours. A workshop course in which students select and pursue an area of interest. Students, working in a simulated newsroom environment, will cover beats ranging from the courts to the Arts. Emphasis on developing quality beat coverage. Prerequisite: COMM 205 or permission of instructor.

COMM 485 - Internship in Communication 1-4 hours. This course entails a workplace experience that extends what is learned within the Communication Studies curriculum. Interns report to their COMM advisor and a counselor from the Career Development Center throughout the process. Interested COMM majors and minors should consult with their advisor for additional information prior to enrolling in this course. Maybe be repeated up to a total of 8 earned credit hours. Prerequisite: COMM 101 and permission of instructor.

Computer Science

CSCI 156 - Computer Science I 4 hours. This course develops the fundamental concepts of computer programming including conditional statements, loops, procedural programming, scope of variables, GUI programming, and objects.

CSCI 157 - Computer Science II 4 hours. This course develops more advanced programming concepts including continued development of object oriented programming, inheritance, creating and using Python packages, GUI programming. Prerequisite: CSCI 156 or permission of instructor.

CSCI 205 - Introduction to MySQL Programming 4 hours. This course is an introduction to MySQL database programming. Set up of a SQL database, programming MySQL using PHP, and MySQL database maintenance are all covered. Prerequisite: CSCI 157.

CSCI 220 - Introduction to GIS 4 hours. (See ENVS 220)

CSCI 320 - Advanced GIS Applications 4 hours. (See ENVS 320)

CSCI 331 - LAMP Server Administration 4 hours. This course covers the basics of LAMP server administration and webpage design using open source tools. Topics include Linux system administration, setting up Apache, MySQL administration, and PHP development. Prerequisite: CSCI 205.

Criminal Justice Studies

CRIM 322 - Juvenile Justice 2 hours. This course analyzes the philosophies that have influenced juvenile justice policy implementation. The course uses a text and supplemental readings to illustrate the processing system that funnels juveniles from the time of their arrest to their release. Prerequisite: SOCI 245.

CRIM 332 - Focusing on Police 2 hours. This course gives students an in-depth analysis of police operations. Discussions are centered on police operations and the social process involved in police-citizen contacts. Prerequisite: SOCI 245.

CRIM 340 - Concepts of Penology 4 hours. A survey of correctional concepts and philosophy with emphasis on the correctional institution as a community and the sociology of confinement. Additional focus on penal reform, correctional administration and innovation. Prerequisites: SOCI 110 and SOCI 245.

CRIM 351 - Seminar in Criminal Behavior 4 hours. Specific problems and issues concerning criminal behavior are examined in depth. The area of investigation varies with the disciplinary orientation of the instructor.

Includes analysis of the causes of particular kinds of behavior, examination of methods of control, and consideration of current approaches to rehabilitation.

Prerequisites: SOCI 245; junior or senior standing.

CRIM 400 - Special Topics 1-4 hours. An open course varying in contents from year to year, which allows concentration on such special topics as terrorism, white-collar crime, drugs and crime.

CRIM 450 - Independent Study 1-4 hours. Individual research by a Criminal Justice Studies major with senior standing into an area of interest. Research topics are chosen to complement material covered in other courses and to provide the student with additional information relevant to career or graduate interests. Approved Plan of Study required.

CRIM 470 - Field Work in Criminal Justice Studies 2-4 hours. Students work with criminal justice related agencies, normally in the Alfred area, and are expected to apply their theoretical knowledge to the practical experience gained from field work. Prerequisite: Senior Criminal Justice Studies major and permission of instructor.

Dance

DANC 120 - Fundamentals of Dance 2 hours. Introduces new and continuing dance students to the art of dance with an emphasis on alignment, strength, and flexibility of the whole body. Dancers are challenged to develop their physical intelligence and artistic expression in center and across the floor combinations using a wide range of dynamics and rhythms. (C) (PE Requirement)

DANC 200 - Special Topics in Dance 1-4 hours. Courses offered according to students' interests. Topics vary from year to year. (Sufficient demand)

DANC 211 - Dance History 4 hours. A study of the historical development of dance from mid-eighteenth century to the twenty-first century with an investigation of the dance works, artists, and the historical context in which the works were created. Course will include discussion, viewings of live performance and videos, lectures, and experiential activities.

DANC 221 - Ballet I 2 hours. An elementary course in ballet technique including a ballet barre, with the traditional adagio tournament and allegro center floor work. Emphasis on placement and correct turn-out. (C) (PE Requirement)

DANC 222 - Modern Dance I 2 hours. An introductory course in various modern dance techniques including some improvisational work. Prerequisite: DANC 120 or permission of instructor. (C) (PE Requirement)

DANC 223 - Jazz Dance I 2 hours. An introductory course in jazz dance technique incorporating performing aspects of the jazz medium. (C) (PE Requirement)

DANC 224 - Contact Improvisation 2 hours. Students learn to use the physical properties of weight, momentum, countertension and speed to provoke spontaneous, fully-embodied dancing. This studio class introduces basic principles and patterns, such as exchanging weight with a partner, that lead to increasingly complex and daring movement. Working individually, with partners, and in groups, students learn to make alert and intelligent movement decisions as they improvise. Prerequisite: DANC 120 or permission of instructor. (C) (PE Requirement)

DANC 230 - Improvisation/Composition I 3 hours. A laboratory for developing skills as a choreographer and improviser. Emphasis on generating movement vocabulary through improvisation and understanding of dance elements (time, space, energy) for composition. Dance studies are created and performed throughout the semester. Prerequisite: DANC 120.

DANC 270 - Alfred University Dance Theatre 2 hours. The AU Dance Theatre presents students with the opportunity to engage in learning and performing a variety of dance works choreographed by faculty, guest artists and fellow students. AU Dance Theatre presents one work-in-progress "showing" and one concert each year. Participation is open to all students. Prerequisites: DANC 230 and DANC 330, or permission of instructor.

DANC 322 - Modern Dance II 2 hours. An extension of the beginning course, continued instruction is given in dance forms, movement, awareness, technique and patterns. May be repeated 4 times for credit to a maximum of 10 credit hours. Prerequisite: DANC 222 or equivalent experience to be judged by the instructor. (PE Requirement)

DANC 323 - Jazz Dance II 2 hours. A continuation of the beginning course for students already able to move within the jazz idiom. It includes more advanced work in jazz technique as well as combinations. May be repeated 4 times for credit to a maximum of 10 credit hours. Prerequisite: DANC 223. (PE Requirement)

DANC 330 - Improvisation/Composition II 3 hours. A laboratory for developing skills as a choreographer. Dance compositions are created and performed at the end of the semester. Emphasis on continuing development of the individual "voice" of the choreographer and the ability of the choreographer to "see" dance. Prerequisites: DANC 230 or 330 and one of the following: DANC 120, 221, 222, or 223; or permission of instructor.

DANC 331 - Site Specific Composition 3 hours. In this studio course students explore place/space as inspiration for creating performance-based compositions. How can the specifics of a space inspire imagination to inspire movement composition and performance? Students also study the works of contemporary site-specific artists. Prerequisite: Completion of one art foundations course (ART 101 or IART 101), DANC 230, or permission of instructor.

DANC 340 - New and Existing Repertory 3 hours. In this course students learn existing dance repertory and are involved in creating new dance works. Through the rehearsal process, informal performances and research students explore a variety of rehearsal techniques, explore the varying roles of the dancer in the creative process, develop performing skills, and deepen their understanding of the choreography and the choreographers who created the work. Students are required to perform these works for the AU community throughout the semester. Prerequisite: Two dance courses or permission of instructor.

DANC 370 - Choreographic Practicum 1-3 hours. This course provides the advanced student with the opportunity to choreograph new dance works under faculty supervision. Prerequisites: DANC 230 and permission of instructor. Repeatable up to six credits.

DANC 385 - Dance Internship 4 hours. An off-campus, independent study project in which the student gains insight from experiencing actual tasks and responsibilities undertaken and performed by persons in the dance field.

At completion, a journal and final report is submitted to the faculty sponsor.
Prerequisites: junior standing and permission of instructor.

DANC 450 - Independent Study 1-4 hours. Specialized pursuit of a subject within an area of dance not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

Economics

(Offered by the Business School in the College of Professional Studies. See p. 277 for course descriptions.)

English

ENGL 101 - Writing I 4 hours. Study and application of the basic principles of written communication: correctness, clarity, concreteness, effective organization, and accepted forms of documentation. (I)

ENGL 102 - Writing II 4 hours. This course offers intensive experience in essay writing. Through the close reading of literature and the practical experience of writing, students explore rhetorical strategies, learn accepted forms of documentation, develop a sense of voice, and deepen their responses to the written word. (ENGL 102 is prerequisite to 300 and 400-level studies in English.)

ENGL 200 - Special Topics in Writing 2 or 4 hours. A series of introductory writing courses, each being a study of a subject not covered in other 200-level courses. Topics may include feature writing, magazine writing, or writing in other specialized areas.

ENGL 202 - Fiction Workshop 4 hours. For beginning prose writers, a course on the elements, styles, and techniques of contemporary fiction and narrative. Students experiment with subject and voice with an emphasis on creating characters. Portfolio exam. (C)

ENGL 204 - The Art of the Personal Essay 2 hours. An examination of the best contemporary essayists. Students develop their own essays after reading and discussing these works. (Cross-listed as WGST 204)

ENGL 205 - The Play's the Thing! - Playwriting 4 hours. This team-taught course combines beginning acting exercises with improvisations in writing. Texts include full-length plays and one-acts. Students are expected to write and revise one-act plays over the course of the semester. (Cross-listed as THEA 205) (C)

ENGL 206 - Poetry Workshop 4 hours. A beginning writing course in poetry with an emphasis on originality and freshness of language and a basic understanding of poetic form. Required work includes extensive reading of contemporary poets, weekly writing, peer review, and a final portfolio of revised poems. (C)

ENGL 211 - The Short Story 2 or 4 hours. This introductory course may adopt one or more of the following approaches: an historical survey of the genre, examining the emergence and growth of this literary form; an aesthetic treatment; a cultural stance, illustrating how class, gender, and ethnicity influence literary texts; a thematic ordering, revealing how different works treat familiar themes. (A)

ENGL 213 - Introduction to Poetry 2 or 4 hours. This course introduces students to the main traditions of English verse and the fundamentals of poetic form. Selections include the major poets of the English language, as well as contemporary British, Irish, and American poets. (A)

ENGL 214 - Introduction to Drama 2 or 4 hours. A study of plays as literature, parallel to other genres, but unique by way of staging and performance. The course examines comedy and tragedy as well as less traditional dramatic forms. Readings are drawn from plays of ancient Greece and Rome, the Middle Ages and the Renaissance, the Neoclassical Period, and the twentieth century. (A)

ENGL 216 - 20th Century Poetry 4 hours. In this course we will read some of the best known 20th-Century American, British, and Irish poets: Robert Frost, ee cummings, Sylvia Plath, Thomas Hardy, W. B. Yeats, and Seamus Heaney among others. (A)

ENGL 218 - Autobiography 2 or 4 hours. "[O]ne never finds truth; one creates it" (Lillian Smith). What does it mean when an individual writes his/her life? This course combines the study of literary autobiography with traditional critical approaches to the genre. Readings include stories, letters, diaries, poems, memoirs, and criticism. (A)

ENGL 219 - British Literature(s) 4 hours. This course examines British literature from one of several possible perspectives: cultural, aesthetic, historical, thematic, and political. Literary periods or scope of reading may vary according to the perspective. (A)

ENGL 220 - Special Topics in Literature 2 or 4 hours. A series of introductory courses, each being a study of literature not covered in other 200-level courses. (A)

ENGL 221 - Tales of King Arthur 2 or 4 hours. This course examines King Arthur from his historical origins, to both his glorious and not-so-glorious medieval forms, and finally to his modern incarnations. It introduces students to medieval romance, the concept of chivalry, and the transmission of the Arthurian legend from one culture to another. (A)

ENGL 225 - Shakespeare and Cinema 2 or 4 hours. This course explores some of Shakespeare's most popular plays and their film adaptations. Students focus on the literary analyses of character, theme, and language in the written texts. We also compare the cultural contexts of representative comedies, tragedies, and histories, with their contemporary film settings. (A)

ENGL 226 - The Holocaust and Literature 4 hours. In this course students examine the Nazi destruction of the European Jews through diaries, survivors' memoirs, novels, poetry and drama. Additionally, representations of the Holocaust in art, recorded testimony, public memorials, film and music are explored. (A) (GP)

ENGL 230 - Special Topics in Film 2 or 4 hours. A series of introductory courses, each being a study of film not covered in other 200-level film courses. (C)

ENGL 233 - Film Criticism 4 hours. An introductory course examining narrative films for their basic elements in order to perceive the ways they convey values and experiences and solicit aesthetic response. (C)

ENGL 240 - American Literature(s) 4 hours. This course examines American literature from one of several possible perspectives: cultural, aesthetic, historical, thematic, political. Literary periods or scope of reading may vary according to the perspective. (A)

ENGL 243 - Lunatics, Lovers, and Poets: Southern Storytellers 2 or 4 hours. Southerners don't hide their skeletons in closets; they invite them into the living room to entertain at tea. This course focuses on works which examine what Flannery O'Connor defined as the Southern grotesque-individuals "forced to meet the extremes of their own nature." Exploring the world created when tragic merges with comic, other writers might include Faulkner, Williams, Welty, Percy, Crews, Dickey, and Tyler. (A)

ENGL 254 - Women Writers 2 or 4 hours. A course that examines issues of language, gender, and culture portrayed through the lens of the woman writer. Texts may include novels, stories, autobiographies, essays, letters, and poetry. (Cross-listed as WGST 254) (A)

ENGL 256 - Multicultural American Literature 4 hours. This course explores the rich diversity of American literature, focusing either on one cultural tradition or on different ethnic communities in relation to one another. African American, Asian American, Latino/a, Jewish American, Italian American, or Native American literatures may be included. (Cross-listed as WGST 256) (A)

ENGL 278 - The Middle Ages in Literature and Film 4 hours. This course examines the use and abuse of medieval concepts such as the quest, Christian morality, and courtly love, as well as of specific medieval characters and events by authors and filmmakers such as J.R.R. Tolkien, C.S. Lewis, T.H. White, John Cleese, Walt Disney, and Quentin Tarantino. (A)

ENGL 281 - Literature and Science 2 or 4 hours. "Three quarks for Muster Mark" (James Joyce). This course will explore and challenge the boundaries separating disciplines. Fictional representations of emerging technologies, medical nightmares, and futuristic utopias and dystopias are all possibilities for discussion. (A)

ENGL 292 - Tales of Terror 2 or 4 hours. "Only the perverse fantasy can save us" (Goethe). If you like women in white, gray castles, and dark secrets, this course is for you. An exploration of the conventions and tropes in Gothic literature. (A)

ENGL 293 - Writers Gone Wild: Literature and the Environment 4 hours. We explore representations of the natural world in literary texts, asking questions like "does my dog really love me or am I anthropomorphizing?" "Is gardening an act of love, ownership, creativity, or something else entirely?" "Are we really leading lives of quiet desperation, and how can hoeing beans help?" (A)

ENGL 325 - Survey of British Literature I 3 hours. This course provides an overview of early British literature: from Beowulf to Milton, it also includes Chaucer; 16th and 17th Century Poetry and Drama; Shakespeare and the Jacobean. Prerequisite: One 200-Level Literature course.

ENGL 326 - Survey of British Literature II 3 hours. This course provides an overview of British literature after 1660: from the Restoration to the Modernists, it also includes 18th-Century Poetry, Drama, and Prose; 19th and 20th-Century Novels; Romantic, Victorian, and 20th-Century Poetry. Prerequisite: One 200-level Literature course.

ENGL 327 - Survey of American Literature 4 hours. This course introduces students to American literature in cultural context, with particular attention to constructs of Americanness as they appear in or are challenged by literary texts. Students further develop analytical reading and writing skills through weekly one-hour workshops. Prerequisite: One 200-level Literature course.

ENGL 328 - The Language of Literary Art 4 hours. This course introduces students to the elements of literary art. Through a sequence of readings and problems, students gain an understanding of diction, figuration, genre, point of view, and context as shaping components of literary form. Prerequisite: ENGL 102.

ENGL 400 - Major Figures in Literature 2 or 4 hours. A series of courses, each being a detailed examination of the work of a single major writer. Currently these include: Homer, Dante, Swift, Hardy, Lawrence, Cather, Hemingway, Faulkner, and Morrison. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 406 - A Medieval Bookshelf 4 hours. This course introduces students to the connections between medieval English literature, its classical sources, and medieval European literatures. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 407 - Chaucer 4 hours. This course introduces students to Chaucer's works. All readings are in Middle English, and students will gain competence in reading and pronouncing Chaucer's English. Readings include "The Book of the Duchess," excerpts from "The Legend of Good Women," "Troilus and Criseyde," and excerpts from "The Canterbury Tales." Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 408 - Women Writers in the Middle Ages 4 hours. This course examines the writings of medieval women - abbesses, merchants, wives, mothers, and mystics - to explore the challenges female writers such as Heloise, Margery Kempe, Julian of Norwich, and Christine de Pizan presented to orthodox Christianity, to gender stereotypes, and to medieval political and social structures. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course. (Cross-listed as WGST 408)

ENGL 410 - English Renaissance Literature 4 hours. This course focuses on the poetry and drama of the sixteenth and seventeenth centuries. The Elizabethan, the metaphysical, and the classical traditions of poetry are represented by Spenser, Shakespeare, Donne, Jonson, and Milton; the Elizabethan-Jacobean drama is presented by such dramatists as Marlowe, Jonson, and Webster. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 411 - Shakespeare's Comedies and Histories 4 hours. This course introduces theories of comedy and explores Shakespeare's development as a comic dramatist as students read the festive and romantic comedies, comparing his early efforts with his mature plays. It also examines Shakespeare's dramatization of English and Roman history, the genre of the history play, and the playwright's adaptation of history to the comic and tragic modes. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 412 - Shakespeare's Tragedies 4 hours. This course focuses on Shakespeare as a tragic artist. It introduces theories of tragedy, explores the playwright's experimentation with the genre, comparing his early efforts with his mature accomplishments, and examines some tragi-comedies. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 413 - The Eighteenth Century 4 hours. This course explores the works of such authors as Jane Austen, Oliver Goldsmith, Matthew Lewis, Lady Mary Wortley Montagu, and Jonathan Swift against the background of eighteenth-century values and ideas. Genres include the novel, drama, and poetry. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 414 - English Romantic Movement 4 hours. This course focuses on the well-known works of Blake, Wordsworth, Coleridge, Byron, Shelley, and Keats as well as on the less well known but important works of writers such as Anna Barbauld, Mary Robinson, and John Clare. Poems will be supplemented by works of fiction associated with British Romanticism such as Mary Shelley's "Frankenstein." Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 415 - Victorian Literature 4 hours. This course focuses on major Victorian poets and novelists such as Alfred Lord Tennyson, Matthew Arnold, Robert Browning, Elizabeth Barrett Browning, Christina Rossetti, Gerard Manley Hopkins, Charles Dickens, the Brontes, Thomas Hardy, and Oscar Wilde. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 422 - Irish Literature: 1690-Present 4 hours. A nation rich in song and story, Ireland has produced a distinctive national literature. This course explores three centuries of Irish writing. Genres include narrative, drama, and poetry. Selections include Swift, O'Rathaille, O'Bruidair, Mangan, Wilde, Shaw, Pearse, Yeats, Joyce, Heaney, and Kavanagh. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 424 - Life and Art of James Joyce 4 hours. This course focuses on Joyce's fiction, including "Dubliners," "A Portrait of the Artist as a Young Man," "Ulysses," and selections from "Finnegans Wake." Biographical readings will accompany the literature, and Homer's "Odyssey" will be studied in parallel with Joyce's "Ulysses." Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 431 - 19th Century American Literature 4 hours. This course explores the diverse literary experiments of a nation striving toward cultural and aesthetic independence. Readings and critical perspectives vary according to instructors. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 432 - 20th Century American Visions 4 hours. This course examines modern and postmodern literary experiments as manifested in American culture. Readings and critical treatments vary according to instructors. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 433 - Voices in British and American Poetry 4 hours. The "experience of each new age requires a new confession, and the world seems always waiting for its poet" (Emerson). Selected readings introduce representative poetic voices throughout each British and American age, from the Middle Ages to the present, from Beowulf to Pruffrock. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

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ENGL 434 - African-American Literature 4 hours. This course traces the directions of African-American literature from the slave narrative through the Harlem Renaissance to contemporary fiction, drama, and poetry. Writers such as Frederick Douglass, Jean Toomer, Zora Neale Hurston, Langston Hughes, Richard Wright, Ralph Ellison, Lorraine Hansberry, James Baldwin, Alice Walker, and Toni Morrison are included. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 442 - Modern and Contemporary Drama 2 or 4 hours. This course begins with the birth of the modern play in the late 19th century, then traces the evolution of dramatic literature to the present time. Readings selected from such playwrights as Ibsen, Strindberg, Chekhov, Shaw, O'Neill, Williams, Miller, Ionesco, Albee, Baraka, Pinter, Stoppard, Shepard, Shaffer, Norman, and Mamet. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 445 - Modernism 4 hours. An examination of innovative poetry, fiction and drama produced in the first half of the twentieth century in England, Ireland, and America, with selected texts in translation when appropriate. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

ENGL 459 - Literary Criticism and Theory 2 or 4 hours. This course examines how literature has been approached and understood from the time of Plato to the present day. Readings are selected from those critical and theoretical statements which have most profoundly influenced literary response and even literature itself. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 460 - Special Topics Seminar-Writing 1-4 hours. A series of courses, each being an advanced study of a subject not covered in detail by other 400-level courses. Prerequisite: ENGL 328 or one 200-level creative writing course (ENGL 200-206).

ENGL 461 - Special Topics Seminar-Literature 1-4 hours. A series of courses, each being an advanced study of a subject not covered in detail by other 400-level courses. Prerequisite: ENGL 325/326 or ENGL 327 or one 200-level Literature course.

ENGL 472 - Dramatis Personae 4 hours. An advanced poetry writing course for students interested in exploring character dynamics through the vehicle of the persona. Each student is expected to invent several personae and to write in the voices of those characters. The primary focus of the course is the writers' workshop. Prerequisite: ENGL 328 or one 200-level creative writing course (ENGL 200-206).

ENGL 473 - Auto/Biographical Acts: Studies in Creative Non-Fiction 4 hours. Students consider the moral and aesthetic decisions that writers make in the process of writing lives and rendering images of the world. Focus is on autobiographical and biographical writing. Portfolio exam. Prerequisite: ENGL 328 or one 200-level creative writing course (ENGL 200-206).

ENGL 474 - Writing the Short Story 4 hours. This course is an intensive writing workshop with an emphasis on the dynamics of the short story. Students are encouraged to experiment with form while learning the techniques of the well-crafted story. Portfolio exam. Prerequisite: ENGL 328 or one 200-level creative writing course (ENGL 200-206).

ENGL 475 - Writing Formal Poetry 4 hours. This advanced creative writing course focuses on the appreciation and craft of formal poetry. Students will learn to write in iambic meters, and will learn definitions and read examples of traditional forms such as blank verse, sonnets, sestinas, villanelles, triolets, and ghazals. The primary focus on the course will be the writers' workshop, in which students compose and critique poems written in traditional forms. Prerequisite: ENGL 328 or one 200-level creative writing course (ENGL 200-206).

ENGL 476 - Writing the Long Poem or Poetic Sequence 4 hours. This creative writing course explores long poems and poetic sequences by reading and analyzing examples, then using those models to create our own poems. Through workshop and revision, students will write either a long poem or sequence of shorter poems. Prerequisite: ENGL 328 or one 200-level creative writing course (ENGL 200-206).

ENGL 481 - International Women Writers 4 hours. In this course we explore literature written by contemporary women from different cultures. Study focuses on voice, content, and style, with some attention to the conditions in which the work was produced and to its reception. Prerequisite: ENGL 325/326 or ENGL 327. (GP) (Cross-listed as WGST 481)

ENGL 485 - Internship in English 1-4 hours. An off-campus independent study project under the direction of a faculty sponsor. Students gain exposure to possible careers related to English studies. Requirements for this project include a journal, job evaluations, and a final report. May be taken during the summer or semester abroad.

ENGL 496 - English Honors Thesis 2 hours. To graduate with Honors in English, students must attain a cumulative GPA of 3.30 in their major, successfully complete this senior project, and pass an oral examination. Eligible seniors should discuss their project plans with the Division Chair before registering for ENGL 496.

English as a Second Language

ESL 400 - Special Topics 1-4 hours.

ESL 401 - Speaking and Listening 2 hours. This course will help non-native English speakers improve their speaking and listening skills. Students will work on pronunciation, oral presentation, and extracting meaning from conversations and other kinds of extended discourse.

Environmental Studies

ENVS 100, 200, 300, 400 - Special Topics 1-4 hours. Further consideration of environmental issues and topics introduced in other courses. Topics vary from term to term.

ENVS 101 - Environmental Studies I - Natural Science 4 hours. An introductory science course for environmental studies majors, which may also be used by other students to fulfill graduation requirements in natural sciences. This course provides an understanding of basic ecological principles and an awareness of the interaction of physical, chemical, and biological forces on Earth. (F2) (F-III) (GP)

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ENVS 102 - Environmental Studies I - Social Science 4 hours. This interdisciplinary social science course examines the environmental implications of various socio-cultural, economic and political patterns in primitive, agricultural and industrial settings. These problems in contemporary America receive special attention. (GP)

ENVS 105 - Atmosphere, Humans, Ecosystems 4 hours. Life forms have been influencing the nature of the atmosphere for millions of years, but in recent centuries, human activities have caused profound changes in the atmosphere that are now affecting ecosystems. These include emissions that have caused acid rain, global climate change, damage to the ozone layer, and mercury pollution. This course will explore the effects humans (and other biota) have had on the atmosphere and the results that these changes have had on ecosystems. (F2) (F-III) (GP)

ENVS 120 - Hazardous Materials 3 hours. This course will acquaint the student with the complexities and dangers of environmental work involving hazardous wastes. Aspects of hazardous materials chemistry, legal and regulatory aspects of hazardous materials, safe work practices, and basics of toxicology will be covered.

ENVS 204 - Environmental History 2 hours. This survey course looks at attitudes toward nature in American history, the evolution of mainstream and fringe environmental advocacy groups, and key people and events that have shaped the modern environmental movement.

ENVS 205 - Environmental Data Analysis 4 hours. Basic techniques and tools for manipulation of quantitative data, emphasizing environmental studies, data collection, analysis on spreadsheets and statistical packages, graphical presentation. Prerequisite: ENVS 101 or permission of instructor. (III)

ENVS 206 - Fieldcraft-Outdoor Proficiency 4 hours. This course helps students acquire basic skills to 1) use field tools and 2) build habits essential to the study of environmental and geological sciences. Topics include note taking, map reading, navigation, data collection and data sharing. Prerequisite: One Geology or Environmental Studies course plus permission of instructor. (Cross-listed as GEOL 206)

ENVS 210 - Ecology of the Bahamas 3 hours. We explore concepts central to ecology through the exploration of Bahamian plant and animal life, using an immersive, natural history approach. We observe connections between natural selection, biogeography, disturbances and historic land use. The course features a week-long field trip at the Gerace Research Center, Bahamas. Prerequisites: ENVS 101 or BIOL 201- plus permission of instructor. (GP)

ENVS 220 - Introduction to Geographic Information Systems 4 hours. This course engages students in spatial thinking while providing them with the fundamentals to manipulate geographic (geospatial) data and utilize the ArcGIS geographic information system (GIS) for map production, spatial analysis and problem solving. (Cross-listed as CSCI 220)

ENVS 240 - Environmental Research Procedures I 3 hours. In this course, students are taught contemporary methods for studying and solving environmental problems. These include geological, biological, and geographical methods. Students are given the opportunity in the course to learn and practice the procedures while working on relevant problems.

ENVS 241 - Environmental Research Procedures II 3 hours. Continuation of ENVS 240. In this course, students are taught contemporary methods for studying and solving environmental problems. These include geological, biological, and geographical methods. Students are given the opportunity in the course to learn and practice the procedures while working on relevant problems. Prerequisite: ENVS 240.

ENVS 245 - Spirituality and the Environment 2-4 hours. This course surveys past and present beliefs of major religions and spiritual movements in respect to the way those beliefs have shaped adherents' attitudes toward the environment. Readings include ancient creation myths, medieval mystical writings on nature and current interpretations and re-interpretations of religious beliefs about nature. The course focuses as well on the contemporary debate about religion and its place in the environment. (GP)

ENVS 320 - Advanced GIS Applications 4 hours. This course advances the learning outcomes of Introduction to GIS (ENVS 220); namely to engage in spatial thinking while utilizing the ArcGIS geographic information system (GIS). Advanced applications include the raster spatial data model, remote sensing and spatial statistics. Prerequisite: ENVS/CSCI 220 or permission of instructor. (Cross-listed as CSCI 320)

ENVS 351 - Environmental Biogeochemistry 4 hours. Transformation and movement of elements on Earth, with emphasis on effects of humans and potential global change. Projects involve field and instrumental analyses. Prerequisites: ENVS 101 and CHEM 105 or permission of instructor.

ENVS 357 - Conservation Biology 4 hours. (See BIOL 357)

ENVS 360 - Junior Seminar 1 hour. Students in this course attend weekly seminars on pertinent topics related to Environmental Studies. Required of all Environmental Studies majors.

ENVS 415 - Natural Resources Management 3 hours. An introduction to the pressures and principles guiding the management of land, plants and wildlife. We discuss the philosophical and policy contexts within which management decisions are made, the associated governance and stewardship issues, and the technical tools available.

ENVS 440 - Environmental Research Planning 2 hours. How research in environmental fields is developed, proposed, performed, and presented, with an emphasis on research projects to be conducted as required independent studies for Environmental Studies majors.

ENVS 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

ENVS 485 - Internship in Environmental Studies 1-4 hours. An off-campus independent study project. Students gain experience by serving as interns at public agencies or private firms which deal with environmental problems. Instructor permission required.

ENVS 490 - Senior Seminar 2 hours. Students in this course will be guided through some of the common aspects of their senior research projects, such as literature searches, task mapping, and development of analytical protocols. All students will be required to present a weekly report on the progress of their senior research. Students will also attend the weekly Environmental Studies seminar series and learn about research techniques and procedures used by professionals. Required of all ENVS majors.

ENVS 499 - Senior Project in Environmental Studies 2-4 hours. Independent research under an instructor's supervision. Presentation of project is required for graduation.

Equestrian

Activity Courses

Note: All 100-level EQU and some Dance courses can be applied to the University Physical Education requirement.

EQU 100 - Special Topics 2 hours. Offerings in riding or other equestrian physical activity which vary year to year. (PE Requirement)

EQU 101 - English Riding: Level I 2 hours. Open to students with little or no riding experience for basic hunter seat equitation taught at the walk, trot and canter. Topics include horse grooming, hoof care, safety procedures (on and off the horse), care of riding equipment, and a horse's health. (PE Requirement)

EQU 102 - English Riding: Level II 2 hours. Competent hunter seat flat riders are introduced to jumping, trail and recreational riding. The course emphasizes safety and training riders to recognize their own abilities in the ring, on the trail, or in the barn. Topics include horse care, cost and management of one's own horse. Prerequisite: EQU 101 or permission of instructor. (PE Requirement)

EQU 103 - English Riding: Level III 2 hours. Riders entering this course should have a secure hunter seat at the walk, trot and canter and should exhibit good control over single fences (maximum height two feet). This course further conditions riders for more strenuous exercises on the flat and the course requires riders to jump small courses. Prerequisite: EQU 102 or permission of instructor. (PE Requirement)

EQU 104 - English Riding: Level IV 2 hours. Riders at this level should be competent to walk, trot, canter, and jump with reasonably good equitation. This course furthers the riders' abilities over higher (maximum three feet) fences and more complex courses. Riders continue practice teaching and, time permitting, pleasure and practice sessions, as well. Prerequisite: EQU 103 and permission of instructor. (PE Requirement)

EQU 105 - Introduction to Dressage 2 hours. Open to students with intermediate experience in the English disciplines. Dressage is offered to equip students with a broad base of knowledge in classical horsemanship encompassing theory, philosophy, riding, and care of the horse. Students will be introduced to the basics of training level dressage. Prerequisite: EQU 102 or permission of instructor. (PE Requirement)

EQU 107 - Combined Training 2 hours. Concentrating on three areas: Dressage, Cross Country Jumping and Stadium Jumping Students are given an introductory working and riding knowledge in combined training. During the course students attend one clinic in each phase and a three day event. Prerequisite: EQU 103 or permission of instructor. (PE Requirement)

EQUUS 110 - Western Riding: Level I 2 hours. Open to students with little or no riding experience in the western disciplines. Skills taught include: bridling, saddling, and horsemanship for the walk, jog and lope. Topics include grooming, hoof care, lunging, safety procedures, care of horse and equipment. (PE Requirement)

EQUUS 111 - Western Riding: Level II 2 hours. Open to students with beginning experience in the western disciplines. Skills taught include: western pleasure, horsemanship and showmanship patterns. Topics include safety procedures, proper tack, attire, equipment, and care of horse. Prerequisite: EQUUS 110 or permission of instructor. (PE Requirement)

EQUUS 112 - Western Riding: Level III 2 hours. Open to students with intermediate experience in the western disciplines. Skills taught include: western pleasure, horsemanship, showmanship and introductory trail obstacles found on trail course patterns. Topics include showing the all-around horse at breed shows, safety procedures, care of horse and equipment. Prerequisite: EQUUS 111 or permission of instructor. (PE Requirement)

EQUUS 113 - Western Riding: Level IV 2 hours. Open to students with intermediate or above experience in the western disciplines. Skills taught include: speed events including barrel racing, pole bending, stake race, and goat tying. Topics include: safety procedures, care of horse and equipment and introductory knowledge of team penning. Prerequisite: EQUUS 112 and permission of instructor. (PE Requirement)

EQUUS 115 - Dressage II 2 hours. Theoretical and practical experience in effectively riding dressage at USDF Training Level and beginning First Level movements. The practical side of this course prepares the student for introduction to competition. The theoretical side develops the student's comprehension of the history and philosophy of dressage. Prerequisite: EQUUS 103 or 105; or permission of instructor. (PE Requirement)

EQUUS 118 - Introduction to Reining 2 hours. Designed for the advanced rider who wants to become proficient in riding reining patterns. Lecture topics include: general knowledge and observation of reining patterns, condition of the horse needed to compete in reining, health, safety issues, and the shoeing needs of reining horses. Lab skills include: loping circles, lead changes, spins, run downs, sliding stops, and roll backs. Prerequisite: EQUUS 112 or permission of instructor. (PE Requirement)

EQUUS 119 - Introduction to Reined Cow Horse 2 hours. The course builds on the skills taught in EQUUS 118-Introduction to Reining and includes the use of cows to further students' knowledge of Reined Cow Horse events and the rules and regulations of the events. Prerequisite: permission of instructor.

EQUUS 120 - Driving I 2 hours. Open to all students regardless of horse experience. Students learn safe ground handling practices and basic horse care as well as harnessing, hitching and driving single horses. Other topics include safely starting a horse in harness and exploring historical and current disciplines in driving. (PE Requirement)

EQUUS 121 - Driving II 2 hours. Students learn safe ground handling practices around draft horse pairs, including harnessing, line driving, hitching and driving implements. Additional topics include care and management of draft horses and draft horse showing. Prerequisite: EQUUS 120. (PE Requirement)

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EQUUS 122 - Driving III 2 hours. Students apply draft horse driving and management skills in hands-on field work. Course topics include the use of horses to do work, driving a variety of implements and tools, and the modern uses of draft horses in the industry. Prerequisite: EQUUS 121. (PE Requirement)

Theory/Classroom Courses

(These EQUUS Courses do not apply to the University PE Requirement)

EQUUS 200 - Special Topics 1-4 hours. An open theory/classroom course varying in content from year to year.

EQUUS 205 - Introduction to Equine Science 4 hours. This course covers classroom studies of anatomy, nutrition, disease, and veterinary aspects of owning a horse or running a stable. Barn assignments deal with particular injuries and there are demonstrations with horses in terms of wrapping various wounds and treating common equine ailments.

EQUUS 212 - Methods of Teaching Riding 4 hours. This course covers various techniques and philosophy used in teaching riding for pleasure and beginning shows. Safety protocol, mounted and unmounted, is stressed along with basic horsemanship skills. Students have the opportunity to assist instructors with classes at the Equestrian Center. Prerequisite: permission of instructor.

EQUUS 215 - Equine Business Management 4 hours. Students learn about the management aspects of a stable including: the needs and basic care of the equine, layout and design of stables, and running a stable as a business.

EQUUS 218 - Judging Horse Shows 4 hours. Open to students with advanced level riding skills in either English or Western riding. Students will learn how to evaluate and place conformation, halter and performance classes according to the standards set by various organizations and breeds of horses.

EQUUS 223 - Hunter and Jumping Course Design 2 hours. Technical aspects and differences between hunter, jumper, equitation and stadium jumping courses will be discussed. Hands on application will be provided by assisting show managers with course design at shows at the Equestrian Center along with assisting instructors with setting jumps for jumping classes.

EQUUS 225 - Equine Nutrition 2 hours. This course examines digestive physiology; involving carbohydrates, proteins, fats, minerals and vitamins. Also, a practical approach to proper feedstuffs and use of quality feedstuffs to maintain health and productivity of horses.

EQUUS 226 - Caring for the Equine Anatomy 2 hours. Guest speakers introduce students to alternative equine anatomy care and caring for the equine anatomy in general. An equine chiropractor, a saddle fitter and farrier, among others, discuss the importance of their professions in caring for the horse's anatomy. Students learn the history and benefits of equine massage, study equine skeletal anatomy, connective tissue, muscle location (origin and insertion) and function.

EQUUS 228 - The Equine Industry in Ireland 2 hours. Students learn about the strategies for the development and promotion of the internationally competitive Irish Sport Horse Industry, which has evolved as a collaboration of the governing bodies of Ireland with Irish Sport Horse Breeders. Travel to Ireland for 10 days is a required part of the course. (GP)

EQU 385 - Internship in Equestrian Studies 1-4 hours. An off-campus project in the field serving as an intern in an area of equestrian studies. When the field experience is completed, a journal and final report is submitted.

EQU 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

French

FREN 101 - French I 4 hours. Introduction to the language and culture of the French-speaking world; speaking, reading, understanding and writing. Practice in language lab. Emphasis on communicative skills. Assumes no prior knowledge of the language. (II)

FREN 102 - French II 4 hours. Continuation and further development of the skills learned in FREN 101. Prerequisite: FREN 101, 41-60% on French Language Placement Exam, or permission of instructor. (II)

FREN 200, 300 - Special Topics 1-4 hours. Content varies. Prerequisite: FREN 102, 61% or higher on French Language Placement Exam, or permission of instructor.

FREN 201 - French III 4 hours. Continuation and further development of the skills learned in FREN 102. Prerequisite: FREN 102, 61% or higher on French Language Placement Exam, or permission of instructor. (II)

FREN 202 - French IV 4 hours. Continuation and further development of the skills learned in FREN 201. Prerequisite: FREN 201 or permission of instructor. (II)

FREN 210 - Global Perspectives: Paris 2 hours. A course enabling students to develop an understanding and appreciation of another culture, first in the classroom, and then two weeks in Paris. Focus is on history, art, and contemporary culture. Open to all students. (Cross-listed as GLBS 210) (GP)

FREN 301 - Advanced French Conversation 4 hours. Intensive practice in speaking French, with particular attention to the French sound system. Topics for conversation are taken from contemporary French journals, newspapers, films, etc. Prerequisite: FREN 202 or permission of instructor.

FREN 302 - Advanced French Grammar and Composition I 4 hours. An analysis of the grammatical structure of the French language with emphasis on the more complex problems in French syntax and usage, followed by practice in composition. The course is conducted in French. Prerequisite: FREN 202 or permission of instructor. (Alternate years)

FREN 305 - French Pronunciation and Phonetics 2 hours. This course focuses on oral proficiency and listening comprehension, as well as French phonetics. Students gain a better understanding of the phonetic structure of French and improve all aspects of their pronunciation, including intonation, phrasing, syllable structure and stylistic interpretation. Prerequisite: FREN 201.

FREN 311 - French Literature I 4 hours. A historical-critical view of French literature from the Middle Ages through the 18th century. Readings from anthologies and selected complete texts from each period. Discussion and reading in French. Prerequisite: FREN 310 or permission of instructor.

FREN 400 - Special Topics in French 1-4 hours. Content varies from year to year with topics such as French Women's Literature and Feminist Theory, Bilingualism in Quebec, Medieval French Literature, Ethnic Minorities in France, Caribbean French Culture. The course is conducted in French. Prerequisite: FREN 310 or permission of instructor.

FREN 410 - French Film Criticism 4 hours. Examines the basic elements of the art of French film in order to understand both the historical development of filmmaking in France and the personal vision of each director. Students view films by such filmmakers as Melies, Renoir, Carne, Truffaut, and Varda. (C) (GP)

FREN 420 - The Art of French Translation 4 hours. Intensive practice in translation from French to English, and from English to French. Current nonfiction, fiction, periodicals, and newspapers are materials for translation. The course is conducted in French. Prerequisite: FREN 303.

FREN 450 - Independent Study 1-4 hours. For students with a particular interest in an aspect of French language or literature not covered in any established course. Approved Plan of Study required.

FREN 485 - Internship in French 1-4 hours. An off-campus project in consultation with faculty in the Division of Modern Languages. Students gain experience in a variety of careers involving French and related fields. The internship must be conducted in French. Requirements for this project include a journal, job evaluations, and a final report. May be taken during the summer or semester abroad. FREN 202 or equivalent proficiency recommended. (GP)

FREN 490 - Modern Languages Senior Seminar 0 hours. In this seminar students have the opportunity to complete their electronic portfolio and prepare for an oral defense. In consultation with professors and peers, students select the documents to include in keeping with portfolio requirements. As part of this seminar, students write and revise their Senior Reflective Statement and their resume or curriculum vitae.

Geology

GEOL 101 - This Dynamic Earth 4 hours. An introduction to the nature of the materials that make up the earth, their genesis and arrangement (both inside the earth and at the surface) and to the physical processes that act upon them. Topics include: rocks and minerals, the structure of the earth, plate tectonics, land forms. Three lectures and a laboratory. (F1) (F-I)

GEOL 103 - Earthquakes and Volcanoes 4 hours. This course reviews what is presently known about earthquakes and volcanoes, investigates ways to reduce loss of life and property, and explores some current research which may lead to a better understanding of these violent natural events. (F2) (F-II)

GEOL 104 - Earth and Life through Time 4 hours. An introduction to the history of the earth and life on it, and to the techniques for "reading" these from the rock record. Topics include geologic time, sedimentary rocks and depositional environments, fossils, ancient and recent geologic events and the evolution of life. Three lectures and a laboratory. (F1) (F-I)

GEOL 106 - Elementary Oceanography 4 hours. A study of the major contemporary concepts of biological, chemical, geological, and physical oceanography.

The nature and origin of ocean basins, sea water composition, water masses, oceanic circulation, waves, tides, marine ecology, biological productivity, sedimentation, and plate tectonic theory are discussed. (F2) (F-II)

GEOL 110 - Lunar Geology 2 hours. Naked eye observations permit us to understand why the Moon appears where it does in the sky, how its appearance changes, and how it affects things on Earth. This course studies these data using computers, personal observations and models. (F2) (F-I)

GEOL 200 - Special Topics in Geology 1-4 hours. This course discusses topics of either general or specific nature not covered in detail in other 100 or 200-level courses, for example the evolution and extinction of the dinosaurs. (Sufficient demand)

GEOL 201 - Surficial Geology 4 hours. In this study of the earth's surface materials, major topics include weathering and soil formation, glacial deposits, aeolian deposits, surface water hydrogeology and related geomorphology. Three lectures and one laboratory per week. Prerequisite: One of GEOL 101, GEOL 104, ENVS 101; or permission of instructor.

GEOL 206 - Fieldcraft-Outdoor Proficiency 4 hours. This course helps students acquire basic skills to 1) use field tools and 2) build habits essential to the study of environmental and geological sciences. Topics include note taking, map reading, navigation, data collection and data sharing. Prerequisite: One Geology or Environmental Studies course plus permission of instructor. (Cross-listed as ENVS 206)

GEOL 301 - Structural Geology 4 hours. Students learn how to recognize deformational features such as folds, faults, joints and dikes; how to correlate these with three dimensional geometric techniques such as folding lines and stereographic nets; and how to derive from these features the important tectonic parameters active at the time of their formation: maximum stress direction, principal stress differences, confining pressure and strain rate. Prerequisite: one geology course.

GEOL 302 - Mineralogy and Petrology 4 hours. Description, classification, and genetic interpretation of the rock forming minerals and the igneous and metamorphic rocks which are formed from them. Focus will be on mineral and rock associations in space and time, with emphasis on tectonic and environmental interpretations. Prerequisite: one 100-level geology course or permission of instructor.

GEOL 307 - Stratigraphy and Sedimentation 4 hours. The chemical and physical processes leading to weathering, erosion, transport, deposition, lithification and alteration of sediments are considered along with the economic aspects of sedimentary rocks, such as the occurrence of oil, natural gas, and coal. Prerequisite: one geology course or permission of instructor.

GEOL 400 - Special Topics in Geology 1-4 hours. A discussion of topics appropriate to current geological phenomena, including such topics as environmental geochemistry or economic geology. (Sufficient demand)

GEOL 408 - Tectonics 4 hours. The formation and evolution of cratons, rifts, Atlantic type margins, shear zones and island arcs are discussed in this course. A detailed study is made of the geological structure and history of the Appalachians, Rockies, Alps and Himalayas. (Alternate years)

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GEOL 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

GEOL 464 - Hydrogeology 4 hours. An examination of the hydrologic system as a whole and in parts. Emphasis is on subsurface water and hydrogeochemistry. Additional topics may include water use and management, water pollution, and flood control. Laboratories emphasize field and laboratory techniques of water quality and quantity analysis. Prerequisite: GEOL 201 or permission of instructor.

German

GRMN 101 - German I 4 hours. Introduction to the language and culture of the German-speaking world. Development of skills in speaking, reading, understanding and writing. Practice in language lab. Emphasis on communicative skills. Assumes no prior knowledge of the language. (II)

GRMN 102 - German II 4 hours. This course builds on introductory German I, increasing students' communicative skills through an exploration of German-speaking cultures. Students improve their proficiency in speaking, listening, writing and reading German through engaging in class activities and independent work. Students learn to perform in real-life situations like traveling, ordering in restaurants, and finding a job. Prerequisite: GRMN 101, 41-60% on German Language Placement Exam, or permission of instructor. (II)

GRMN 200 - Special Topics in German 1-4 hours. Content varies from year to year.

GRMN 301 - Advanced German Conversation and Composition 4 hours. Exercises for students to speak and write more precisely and idiomatically. Newspaper and journal articles, videos and other media are the basis for conversation and writing. Readings, discussions, and assignments are in German. Prerequisite: GRMN 202 or permission of instructor.

GRMN 316 - German History and Culture 4 hours. Cultural and historical development of the German-speaking world from accounts of the earliest Germanic tribes to post-unification Germany of the 1990s and twenty-first century. Readings, discussions and assignments are in German. Prerequisite: GRMN 202 or permission of instructor. (GP)

GRMN 360 - Literary Theory Seminar 4 hours. This course is intended to introduce those students with a major or a minor in a foreign literature and language to Literary Theory and Criticism. Students will be using different types of theory to analyze texts in English and in their target language. This course will be required of all foreign language and literature majors and is recommended for those students with a minor in a foreign language. Prerequisite: GRMN 202 or permission of instructor. Students may not retake this course for credit as FREN or SPAN 360.

GRMN 400 - Special Topics 1-4 hours. Special topics may include: Literature and Film of the former GDR, History of the German Language, German Literature of the Renaissance, Contemporary Writers in the German-speaking World, Minority Writers in Germany, and The History of Jews in Germany. Readings, discussions and assignments are in German. Prerequisite: 300-level German course or permission of instructor.

GRMN 450 - Independent Study 1-4 hours. For students with a particular interest in an aspect of German language, culture or literature not covered in any established course. A 4-hour independent study is required of German majors. Approved Plan of Study required.

GRMN 485 - Internship in German 1-4 hours. An off-campus project in consultation with faculty in the Division of Modern Languages. Students gain experience in a variety of careers involving German and related fields. The internship must be conducted in German. Requirements for this project include a journal, job evaluations, and a final report. May be taken during the summer or semester abroad. GRMN 202 or equivalent proficiency recommended. (GP)

Gerontology

GERO 118 - Introduction to Adult Development and Aging 4 hours. This course examines adulthood and aging from a biopsychosocial perspective. Topics include research methodology in adulthood; theories of normal aging, physical and environmental influences on adult development; diseases and disorders associated with aging; changes in cognition; intelligence and wisdom; gender and minority issues in aging; issues regarding death and dying. It also challenges popular misconceptions about aging. (Cross-listed as PSYC 118) (E1)

GERO 300 - Special Topics in Gerontology 1-4 hours. A series of directed readings on special topics, changing from semester to semester. Through a combination of reading, seminar feedback, and guest lectures, students are able to explore areas of special interest in greater depth. Prerequisite: PSYC 101. Recommended GERO 118 or permission.

GERO 429 - Cognition and Aging 2 hours. A lecture and discussion course covering current research and theories of cognitive processes in the older adult. Basic topics include age differences in memory, verbal processes, motor performance, perception, problem solving, and intelligence. Prerequisite: PSYC 101. Recommended: PSYC 332 or GERO 118 or permission of instructor. (Cross-listed as PSYC 429) (Alternate years)

GERO 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

GERO 485 - Gerontology Internship 4 hours. Field work associated with federal, state or local agencies for the aging, or with social service, health care, legal, recreational or residential facilities primarily serving older adults. Supervision provided jointly by agency personnel and the instructor. At least 6 hours per week in a field placement is expected. Prerequisites: Senior Gerontology major and permission of instructor.

Global Studies

GLBS 101 - Introduction to Global Studies 4 hours. This course introduces students to an overview of contemporary human patterns from geographic, environmental, linguistic, socio-cultural, religious, political, and economic perspectives. From this global framework, students learn to communicate (and think) across cultures. (E3) (GP)

GLBS 200, 300, 400 - Special Topics 1-4 hours. An open course, varying in content from year to year, which allows for concentration in specialized areas. (Sufficient demand)

GLBS 210 - Global Perspectives: Paris 2 hours. (See FREN 210)

GLBS 212 - Buenos Aires: Literature and the Arts 2 hours. (See SPAN 212)

GLBS 215 - Framing Gender: Latin American Film 4 hours. (See SPAN 215)

GLBS 216 - Cuba Close Up: Film since the Revolution 4 hours. (See SPAN 216)

GLBS 221 - Pop Culture Goes Global 4 hours. (See COMM 221)

GLBS 323 - The History of Stuff 4 hours. (See HIST 323)

GLBS 305 - Belize and the Caribbean 2 hours. (See BIOL 305)

GLBS 311 - Nip, Tuck, Perm, Pierce, Tattoo, Embalm: Adventures with Embodied Culture 2 hours. (See ANTH 311)

GLBS 315 - Understanding Global Media and Cultural Change 4 hours. (See COMM 315)

GLBS 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

GLBS 495 - Global Issues Seminar 4 hours. This integrative capstone course allows seniors to study a variety of global issues in-depth and to present the results of their own particular global experiences and studies. Topics examined will vary from year to year. The seminar may be focused on a central theme or on a variety of issues, depending upon the students' international interests and the instructor's discretion. Prerequisites: GLBS 101; Study Abroad; senior standing. (Cross-listed as ANTH 495 and SOCI 495) (GP)

History

HIST 107 - The World in the 20th Century 4 hours. Surveys political, social, economic, and intellectual movements shaping twentieth century states and peoples. Special attention is devoted to the decline of European hegemony, the rise of the United States, and the evolution of "emerging" nations in Asia, Africa, and the Americas. (D) (GP)

HIST 110 - The Making of Europe 4 hours. An investigation into the origins and development of Europe, from ancient civilizations to 1650. Focus on the formation of nations, empires, and ideologies; social and cultural developments; and cultural interactions within and beyond Europe's borders. (D)

HIST 111 - Modern Western History 4 hours. A survey of developments in Europe and the Western Hemisphere since the 1500s, with emphasis on the impact of ideas and ideologies (including Fascism, Nazism, and Communism), social and economic change (including industrialism), revolutions and world wars, and imperialism. (D) (GP)

HIST 120 - The Ancient Mediterranean 4 hours. Survey of civilizations that helped shape modern-day Eurasia and North Africa - Mesopotamia, Egypt, Minoan Crete, Israel, Greece, Persia, and Rome. Emphasis on the interaction of these cultures around the Mediterranean Sea. Evaluation based on short papers, exams and quizzes, and participation. (D)

HIST 121 - Medieval Cultures 4 hours. Exploration of the three dominant cultures of the medieval period: Europe, the Byzantine Empire, and the Islamic world, with a special focus on their interactions. (D)

HIST 151 - The Rise and Fall of Iberia, 1450-1950 4 hours. An introduction to the development of European nationalism, global trade, and imperialism, using the cases of Portugal and Spain. Emphasis will be on politics and culture; cultural interaction in Africa, Asia, and the Americas; and the empires' legacies in the modern world. (D)

HIST 200 - Topics in History 1-4 hours. A historical examination of issues in history. Topics will vary each time the course is offered. (Sufficient demand)

HIST 211 - American History I 4 hours. American history from Jamestown to the Civil War with particular attention to the political, social, and economic development of the new nation. (D)

HIST 212 - American History II 4 hours. American life from the Civil War to the present with particular attention to the transformation from a rural to an urban society, movements for social reform, and the further extension of civil and political rights. Can be taken as a continuation of HIST 211 or may be taken independently. (D)

HIST 223 - Survey of German History 4 hours. This course offers a survey of German history from the earliest evidence of the Germanic tribes through developments in the last decade in Germany. (D)

HIST 300 - Topics in History/Non-American 1-4 hours. Studies of different non-American historical themes, with topics varying each time the course is given.

HIST 302 - The Vietnam War 4 hours. A survey of America's longest and most controversial war, the course examines both military and domestic issues. (Alternate years)

HIST 303 - The Civil War Era: 1830-1877 4 hours. A study of the War Between the States, including analyses of the political, social, economic, and ideological differences between the sections; the war and its aftermath; the historiography of the war; and an evaluation of the traditional view of the war as the "watershed" of American history. (Alternate years)

HIST 306 - Prosperity and Depression: America 1919-1941 2 hours. A survey of the Roaring Twenties and the Great Depression. The course examines political, social, and economic developments, as well as the importance of cultural phenomena like Lindbergh's flight, the impact of movies, the rise and fall of the KKK, and the stock market crash. (Sufficient demand)

HIST 307 - Post-World War II America 4 hours. A historical survey of domestic events since World War II with particular attention to the fate of the New Deal, McCarthyism, the Kennedy legacy, the impact of Vietnam, and the civil rights and women's movements. (Alternate years)

HIST 308 - Americans and Their Environments 4 hours. An inquiry into Americans' attitudes toward and relationships to environments they encounter and create, ca. 1600 - present. Topics include "Nature," industrialization, fine arts and architecture, government and citizen actions, and the impact of the U. S. on global resources.

HIST 309 - Israelis, Arabs and American Foreign Policy 2 hours. A historical survey of the Arab-Israeli conflict from the nineteenth-century beginnings of Zionism to the Second Intifada, with special attention to the role played by the USA.

HIST 310 - The Ancient Greeks 4 hours. The origins, growth and development of the Greek world from Mycenaean through Hellenistic times (12th-1st centuries, B.C.E.), with topics such as the Homeric myths, Sparta, Athens, democracy, the polis, the Hellenistic world. (Alternate years)

HIST 311 - The Roman World 4 hours. Rome from a river village to an empire (5th century B.C. - 3rd century A.D.), including its traditional origins, Etruscan control, republicanism, social conflict, imperialism, Julius Caesar, Antony and Cleopatra, Augustus and Nero, imperial life and livelihood. (Alternate years)

HIST 312 - Early Medieval Europe, 400-1050 4 hours. This course covers European history from the end of the Roman Empire to the beginning of feudal society. Through reading, lectures and discussions, students discover that the "Dark Ages" were actually filled with activity and innovation. (Alternate years)

HIST 315 - Nineteenth-Century Europe 4 hours. Examines the period 1789-1914 by focusing on political, economic, social, and cultural developments. Subjects covered include the French Revolution, the Industrial Revolution, Conservatism, Liberalism, Socialism, Romanticism, Nationalism, Imperialism, Anti-Semitism, and the origins of World War I.

HIST 320 - Europe and the Americas, 1450-1750 4 hours. An inquiry into the dynamics and results, for both Natives and Europeans, of encounters between them. Included are assumptions and situations of each side, conflicts and cooperation among groups, and adaptations of Europeans to the new environment and Natives to European presence. No prerequisite.

HIST 321 - The History of Fascism 4 hours. This course is a study of the history of fascism. We examine the origins of fascist ideas and organizations; the varieties of fascist organizations and beliefs in Europe and European colonies; and the impact of fascism on politics and society before, during and after the Second World War. (GP)

HIST 322 - Churchill, Stalin, Roosevelt, Hitler 2 hours. A biographical approach to the Great Depression and World War II period. (GP)

HIST 323 - The History of Stuff 4 hours. In this class we learn about the history of everyday commodities around us and how they transformed human civilization: how silver revolutionized global trade, how coffee helped create the public sphere, how rubber led to mass murder and how cocaine figures in transnational organized crime, and more. (Cross-listed as GLBS 323)

HIST 324 - Queer American History 4 hours. What is queer history? Why write it? Who should be included? This course addresses the possible content and theoretical issues in the study of lesbian, gay, bisexual, and trans people in America since the seventeenth century. Prerequisite: sophomore standing or permission of instructor. (Cross-listed as WGST 324)

HIST 325 - Imperialism in Africa and Asia 4 hours. This course examines how, from 1830 to 1980, foreign powers conquered vast territories of Africa and Asia. Topics discussed include: pre-colonial societies and trade; theories of imperialism, commodities and finance; genocide; anti-colonialism and decolonization.

HIST 326 - The Modern Middle East and North Africa 4 hours. This course offers an overview of the modern history of the Middle East and North Africa. Topics include the end of the Ottoman Empire, the Nahda or cultural renaissance, colonialism and decolonization, Arab cinema and art, the petroleum industry and OPEC, the Israeli-Palestinian conflict, the Islamic Revolution in Iran, and more. (GP)

HIST 327 - Propaganda: Persuasion, Art and War 4 hours. Is propaganda the opposite of knowledge, or one of the means for its dissemination? In this course we examine the development of propaganda, or mass persuasion. Topics include art, contemporary media, public relations and war. (GP)

HIST 328 - Visions of Modernity: Art, Politics and Ideas 4 hours. This course is a history of the "big ideas" of our modern era and how they define our lives. We examine foundational works in psychoanalysis, art and cinematic theory, Existentialism, postcolonial theory and deconstruction. (Cross-listed as PHIL 328)

HIST 329 - Revolution and Culture: Hegel, Marx, Nietzsche 4 hours. (See PHIL 329)

HIST 359 - History of Chinese Thought 4 hours. Focusing on the relationship between religion and philosophy, this course develops an understanding of the distinctive character of Chinese culture by surveying the development of religion and philosophy from antiquity to the medieval period and challenges of the twentieth century. (Cross-listed as PHIL 359, RLGS 359)

HIST 360 - Topics in History/American 1-4 hours. Studies of different American historical themes, with topics varying each time the course is given.

HIST 365 - The British Isles in the Middle Ages 4 hours. The history of the British Isles from the Anglo Saxon invasions to the end of the Tudor dynasty. Focus on the interrelationship of all four regions--England, Wales, Scotland, and Ireland--in the Middle Ages. (Sufficient demand)

HIST 371 - American Diplomacy: 1763-1898 2 hours. An analysis of American foreign policy in the eighteenth and nineteenth centuries, with special attention to the domestic attitudes and developments which affected the diplomacy of continental expansion. (Sufficient demand)

HIST 372 - America as a World Power, 1898-Present 4 hours. American diplomacy in the age of mass production, world wars, fascism and communism including close scrutiny of the conflict between isolationism and internationalism. (Alternate years)

HIST 375 - The Creation of American Culture 4 hours. An examination of the dynamics of both "serious" and "popular," culture in nineteenth century America, with specific attention to their interaction, as well as to the relationships between the developing political/social ideology and the creative activity of the era. (Alternate years)

HIST 376 - Modern American Culture 4 hours. An examination of the variety of artistic expression, both "serious" and "popular," in 20th century America, with particular attention to relationships between artistic media, democratic ideals, economics, and technology.

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HIST 377 - History of American Slavery 2 hours. A history of American slavery and race relations from the 17th century until emancipation. (Sufficient demand)

HIST 383 - The Nazi Holocaust 2 hours. This course will cover a number of topics, including German anti-Semitism and the means by which Hitler engineered the Final Solution. Half the course will focus on the Nazis, the other half on their victims. It concludes with a discussion of Holocaust "denial" and the nature of evil. (GP)

HIST 385 - Internship in History 1-4 hours. Internship under supervision. Available irregularly.

HIST 387 - Modern France, 1815-Present 4 hours. A historical survey of the development of modern France. Particular attention is given to the emergence of a modern democratic society and the attempt to resolve a revolutionary heritage. (GP) (Alternate years)

HIST 421 - The Age of Franklin and Jefferson 4 hours. This course examines the transformation of the colonies into an independent federation, with particular attention to paradoxes symbolized in the lives and thought of Franklin and Jefferson. Includes thorough studies of the Revolution and its legacy, the U.S. Constitution, and the social, economic, and intellectual dynamics of the early republic. Prerequisite: sophomore standing or permission of instructor. (Alternate years)

HIST 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

Individually Structured Major

ISM 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course by the student in the Individually Structured Major program, under supervision of the student's ISM board. Approved Plan of Study required.

ISM 495 - Baccalaureate Project 4-6 hours. Senior project within the Individually Structured Major Program under supervision of the student's Advisory Board. Prerequisite: Permission of Advisory Board Chair.

Interdisciplinary Art

IART 101 - Interdisciplinary Art I 4 hours. Thematically-organized foundation course. Creative projects combine studio work with art theory. Instruction in wide range of visual media. Approaches and techniques include drawing from observation, abstraction, color theory, and painting as well as exposure to associated conceptual issues. (C)

IART 102 - Interdisciplinary Art II 4 hours. In this course we investigate the fundamental sculptural elements of form, mass, scale, structure and space. Students build an understanding of dimensional concepts through basic sculptural techniques and material exploration, as well as the theoretical concepts of Structuralism, site-specificity, and art as experience. (C)

IART 103 - Interdisciplinary Art III 4 hours. Continuation of IART 102.

IART 104 - Interdisciplinary Art IV 4 hours. Continuation of IART 103.

IART 120 - Discovering Contemporary Art 4 hours. Following current trends in museums and galleries, this course offers methods of engagement to appreciate and evaluate contemporary art. Through discussions, readings, gallery visits and creative projects, students develop an understanding of the elements of art and the cultural and social conditions that influence artists. (Odd years; Fall) (C)

IART 200 - Studio Topics in Interdisciplinary Art 1-4 hours. Specialized studio areas are offered. The area changes each time the course is taught. Prerequisite: completion of an art foundation program.

IART 300 - Special Topics in Interdisciplinary Art 1-4 hours. Specialized art theory or studio areas are offered. The topic changes each time the course is taught.

IART 377 - The Good Stuff: Found Object in Sculpture, Installation and Performance 4 hours. Through object experiments and spatial investigations, students examine the fundamental techniques of found object artwork. Students use accumulated or altered mass-manufactured objects in the disciplines of traditional assemblage sculpture, site-specific installation and prop-driven performance art. Prerequisite: completion of an art foundation program or permission of instructor.

IART 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

IART 460 - Interdisciplinary Art Seminar 4 hours. A topical seminar primarily for Interdisciplinary Art majors. Topics vary from year to year. (Sufficient demand)

IART 470 - Individual Project: Senior Studio 4 hours. Seniors work independently on projects that extend their application of the concepts, techniques, and practices relevant to art making, with significant attention paid to clarifying and refining the Senior Show presentations. With emphasis on in-depth query and purposeful research, this is a self-directed, capstone studio course with an emphasis on the verbal and written articulation of the "what" and "why" of studio practice. Open to Interdisciplinary Art majors with senior standing.

IART 485 - Interdisciplinary Art Internship 1-4 hours. Internship under supervision in such agencies as a regional art council, museum, gallery, etc. Available irregularly.

Italian

ITAL 101 - Italian I 4 hours. Introduction to the language and culture of the Italian-speaking world; speaking, reading, understanding, and writing. Practice in language lab. Emphasis on communicative skills. Assumes no prior knowledge of the language. (II)

ITAL 102 - Italian II 4 hours. Continuation and further development of the skills learned in ITAL 101. Prerequisite: ITAL 101 or permission of instructor. (II)

ITAL 200 - Special Topics in Italian 1-4 hours. Content varies from year to year. Prerequisite: ITAL 102 or permission of instructor.

ITAL 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

Latin

LATN 101 - Latin I 4 hours. An Introduction to the Latin language. This course includes an introduction to basic Latin grammar as well as short reading passages. The focus of this course will be on classical Latin. There will be some emphasis on pronunciation and spoken Latin. There will be readings in English on both the history of Latin as an Indo-European language as well as on Roman history. (II)

LATN 102 - Latin II 4 hours. This course builds on introductory Latin I. Students explore the history and cultures of the Roman Empire as well as the roots of English. Students improve their proficiency in reading and writing Latin through engaging in class activities and independent work. Prerequisite: LATN 101 or permission of instructor. (II)

LATN 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

Liberal Arts and Sciences

CLAS 100 - Special Topics in Liberal Arts and Sciences 1-4 hours. Opportunities are provided for the examination of interdisciplinary topics not normally justified as regular offerings. Topics vary from year to year.

CLAS 101 - Transfer Seminar 1 hour. As the cornerstone of the College of Liberal Arts and Sciences Transfer Student Program, this seminar provides an opportunity for students to get to know the intellectual community they have joined, while introducing them to campus resources that will help them succeed. Throughout the seminar, students further develop core skills that lead to academic and professional accomplishment. The Transfer Student Program also facilitates mentoring relationships among the transfer students and their faculty and peers. Graded Pass/Fail.

Mathematics

MATH 101 - Communicating with Numbers 4 hours. Topics include ratios and proportions, proportionality as distinct from proportions, constant of proportionality, rates, percentages, total change vs. percent change, and handling data. (III)

MATH 102 - Mathematics for Teachers: Grades K-6 4 hours. This is a content course for those preparing to teach Kindergarten through Grade 6. This course prepares candidates with the knowledge base to teach math in accordance with the State learning standards as prescribed by NYSED regulations. Topics include: Mathematical language and vocabulary, equivalent forms, mathematical equations, graphing and diagrams.

MATH 104 - Quantitative Methods for Business 4 hours. An introduction to the quantitative methods needed by students in business-related majors. Topics covered include equations and graphs, functions, and systems of equations.

MATH 151 - Calculus I 4 hours. An introduction to differentiation and integration of functions of a single variable, with applications. Four years of college preparatory mathematics strongly recommended. Not open to students with credit in MATH 152. (III)

MATH 152 - Calculus II 4 hours. A continuation of single variable calculus including transcendental functions, methods of integration, and series. Prerequisite MATH 151. Not open to students with credit in MATH 253.

MATH 250 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Written Plan of Study required. Open to qualified students.

MATH 253 - Calculus III 4 hours. Multivariate calculus, derivatives and integrals of vector functions with Stoke's and Green's theorems. Prerequisite: MATH 152.

MATH 271 - Differential Equations 3 hours. Ordinary differential equations with applications to the sciences. Prerequisite: MATH 253.

MATH 281 - Foundations of Higher Mathematics 4 hours. An introduction to logic and proof: Topics include sets, symbolic and predicate logic, inductions, and cardinality. Prerequisite: MATH 253.

MATH 331 - Mathematics from a Historical Perspective 3 or 4 hours. This course explores a wide variety of topics in the history of mathematics, from the development of numeral systems to the structure of the modern mathematical community. Many of these topics are explored through the many heroes of mathematics. Prerequisites: MATH 253; ENGL 102 or ENGR 110.

MATH 351 - Introduction to Operations Research 4 hours. Optimization techniques with application to decision making. Linear programming and other topics, e.g., network analysis, dynamic programming, game theory, stochastic processes, queueing theory.

MATH 371 - Linear Algebra 4 hours. The concepts of vector space, independence, basis and linear transformations, with applications to systems of linear equations, eigenvalue problems and bilinear and quadratic forms. Prerequisite: MATH 253.

MATH 381 - Mathematical Statistics 4 hours. The theoretical basis for statistics including probability, random variables, expectation, a curve of important probability distributions, sums of independent random variables, and confidence intervals. Prerequisite: MATH 253.

MATH 382 - Actuarial Exam Preparation 1 hour. The content includes definitions and applications in risk management and insurance using calculus-based probability theory. Taken in preparation for the Society of Actuaries Exam P/Casualty Actuarial Society Course 1 exam. Corequisite: MATH 391.

MATH 391 - Statistical Methods 3 hours. This course introduces statistical inference and is a study of different methods of statistical estimation and tests of statistical hypotheses. Prerequisite: MATH 381.

MATH 400 - Topics in Mathematics 1-4 hours. Special topics in mathematics which vary from year to year. (Sufficient demand)

MATH 401 - Advanced Engineering Mathematics 4 hours. Fundamental concepts of applied analysis including Fourier series and integrals, Laplace transforms, partial differential equations and boundary value problems and special functions. Prerequisite: MATH 271.

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MATH 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required, which must include the student reading and producing proofs. Open to qualified third and fourth year students, MATH 450 is required of all candidates for departmental honors.

MATH 461 - Geometry 4 hours. An introduction to both Euclidian and non-Euclidian geometry, with emphasis on the axiomatic method and its place in the current secondary mathematics curriculum. Prerequisite: MATH 253.

MATH 481 - Modern Algebra 4 hours. The fundamental structures and techniques of algebra including topics such as groups, rings, fields, quotient structures, theory of equations and polynomials. Prerequisite: MATH 281.

MATH 491 - Advanced Calculus 4 hours. Elements of real function theory including some notions from logic, the topology of the real line, continuity, uniform continuity, differentiation and limits of sequences. Prerequisite: MATH 281.

Music

MUSC 101-108 - Private Lessons 1 hour. One half-hour private lesson per week. Private lesson fee includes the use of practice rooms. Note: Some sections may require permission of instructor.

MUSC 110 - Music Appreciation 4 hours. An introductory course which introduces students to a wide variety of music, focusing on the evolution of Western European Classical music, but also touching upon American popular forms and some World Music. The course examines the historical and social background of classical music and emphasizes art of listening. (C)

MUSC 120 - Music Theory I 4 hours. A study of the basic rudiments of music-- notation, pitch, rhythm, melody and harmony and how these elements combine to create music. The course includes music writing (elementary composition), ear training (recognition of melodic, rhythmic and harmonic patterns) and dictation (the ability to write these patterns in traditional music notation). A background in music, such as playing an instrument or vocal/choral experience, is recommended.

MUSC 130 - Beginning Class Piano I 2 hours. Class lessons in piano technique for the beginner. Covers basics of tone conception, rhythm, articulation, and fingering, five-finger patterns and tonic chords in major keys. Simple composition projects are a requirement of the course. No previous musical training required. (C)

MUSC 131 - Beginning Class Piano II 2 hours. A continuation of MUSC 130. Beginning work in pedaling and phrasing, easier major scales and one minor scale in three forms, primary chords in major and minor in block and arpeggio form, composition, transposition and harmonization. Prerequisite: MUSC 130 or permission of instructor. (C)

MUSC 132 - Beginning Voice Class I 2 hours. Group lessons in technique and the art of singing. Class presents the practical application of vocal techniques, breath support, posture, diction and projection to increase the student's ease and confidence in using the singing voice as a means of expression. Outside reading and listening is required of students. (C)

MUSC 200 - Special Topics 1-4 hours. Includes courses in related areas of study. If applicable, small rental fee or breakage deposit required for applied music courses such as woodwinds class, Celtic music, etc. (Sufficient demand) One four-hour topics course is required for the minor and also fulfills the "C" credit for General Education. (C)

MUSC 211 - World Music 4 hours. World Music is an exploration of Non-Western European music. It is an introduction to the study of "ethnomusicology" and the role of music in society at large and a broad-ranging view of how this role is fulfilled in a variety of cultures. The course will focus on the indigenous cultures and music of Native America, Latin America, Africa, Eastern Europe, India, Indonesia and East Asia (Japan and Korea). Student projects will explore the popular music of one or more of these areas. (C) (GP)

MUSC 212 - American Music 4 hours. This is a listening/survey course of the music of the United States from colonial times to the present. The course will examine the historical and social backgrounds of the incredible diversity of American Music, including Native American, Classical and Popular music through the ages, Folk, Jazz and the beginnings of Rock 'n Roll. Students will also learn basic skills on a folk instrument (lap dulcimer, recorder, guitar) to give a hands on approach to learning American Folk Music. (C)

MUSC 213 - Introduction to Jazz 2 hours. This course examines the origins of jazz, how it was created and the directions it has taken. We discuss the history of jazz and consider social reactions to the music and artists by listening and by reading historical writing. (C)

MUSC 214 - Reel Music in America 4 hours. This course traces the history and development of film music through lecture, reading and film viewing. The class includes discussion and evaluation of different compositional styles and learning how to listen critically to film scores while viewing movies. We discuss how music and its relationship to film have changed over the last century. In this way, we uncover how music establishes psychological moods and guides our emotions. (Every Year) (C)

MUSC 220 - Music Theory II 4 hours. This course develops students' understandings of harmonic compositional practices of 17th through 19th century music. Students continue the study of composition and analysis and become more proficient with harmonic analysis using figured bass, bass position symbols, and Roman numerals. Prerequisite: MUSC 120.

MUSC 271 - University Chorus 2 hours. University Chorus, a large singing ensemble is open to all students. The repertoire varies from traditional to global to popular and musical theatre. A major work is performed every other semester with the AU orchestra. Previous works include Handel's "Messiah", Vivaldi's "Gloria", Mozart's "Requiem" and Orff's "Carmina Burana". (C)

MUSC 272 - Chamber Singers 2 hours. The Alfred University Chamber Singers, a select vocal ensemble of 20-30 singers, performs a wide variety of repertoire in concerts on and off campus. Open to all students by audition. (C)

MUSC 273 - Symphonic Band 2 hours. Band members study and perform music composed and arranged for the modern symphonic band, including orchestral transcriptions. Various styles of music, from classical to contemporary, are performed, including major symphonic and concert band literature. (C)

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MUSC 274 - Jazz Ensemble 2 hours. The Jazz Ensemble provides an opportunity to explore the many styles of jazz in a big band context, including swing, be bop, Latin, and fusion. Students are also given the chance to develop their skills in improvisation. Open to all students by audition. (C)

MUSC 275 - University Symphony Orchestra 2 hours. Open to all students, the symphony orchestra provides students an opportunity to study music ranging from the classical era to the 20th Century. The ensemble presents a concert each semester which often features student soloists. A major work is performed every other semester with the AU Chorus. Previous works include Handel's "Messiah", Vivaldi's "Gloria", Mozart's "Requiem" and Orff's "Carmina Burana". (C)

MUSC 279 - Chamber Music 1 hour. Chamber Music refers to small ensembles (string quartets, woodwind quintets, flute duets/trios/choirs; piano trios [piano plus two other instruments] or virtually any combination of instruments and/or voices). Students will be assigned to a group and will work on classical music for their particular ensemble. Students enrolled in this class should have at least a moderate facility on their instrument and be able to read music.

MUSC 301-308 - Private Lessons, Advanced 2 hours. Advanced study. One-hour lesson per week. Private lesson fee. Permission of instructor required.

MUSC 332 - Advanced Voice Class 2 hours. A continuation of MUSC 132. Continued work on vocal technique and expression with additional emphasis on singing in foreign languages (Italian and German diction). Students will learn and use the IPA - the International Phonetic Alphabet. Prerequisite: MUSC 132 or permission of the instructor.

MUSC 450 - Independent Study 1-4 hours. Specialized pursuit of a subject within an area of music history or literature not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

MUSC 495 - Senior Recital 1 hour. Students enrolled in Private Lessons for at least six semesters are encouraged to present a half or full recital during their Senior year.

Performance Design and Technology

PDAT 120 - Technical Theatre 4 hours. A lecture/lab course in stage technology covering set construction, lighting, sound and scenic painting. Through a combination of lectures and hands-on practical experience, this course covers the art and design areas of set construction and provides a basic understanding of common stagecraft techniques. Lab hours required. (C)

PDAT 200, 300 - Special Topics in Performance Design and Technology 1-4 hours. Includes non-regularly scheduled course offerings in areas related to performance design and technology.

PDAT 220 - Principles of Theatrical and Performance Design 4 hours. A beginning design course introducing students to common principles of theatrical and performance design: scene, lighting, costume, sound, makeup, and props. Script analysis, research methods, the "isms"-- realism, symbolism, absurdism, postmodernism -- design unity, color, light/shadow, line/weight, and shapes, will be covered. (C)

PDAT 221 - Costume Construction 3 hours. A study of practical skills needed to transform a designer's rendering into 3-dimensional garments, including the nature and character of a range of fabrics, auxiliary materials, proper methods and the universal language of the textile world. Non-Theatre majors are welcome in this course. May be repeated for credit up to a total of 9.00 credit hours.

PDAT 222 - Stage Makeup 2 hours. A basic course introducing students to the principles of designing and applying stage makeup. Projects and makeup crew assignments required. (C)

PDAT 270 - Play Production 1-4 hours. A lab course designed to give students practical production experience under faculty supervision in the areas of technical theatre and design. May be repeated for credit to maximum of 4 hours. Prerequisite: Permission of instructor.

PDAT 320 - Scene Design 3 hours. A scenic design course, which builds on the principles of design taught in PDAT 220. It further develops skills in research methodology, script analysis, sketching and painting techniques, model building, graphics, use of computer-aided design. Representative scripts are studied. Prerequisite: PDAT 220 or permission of instructor. (Alternate years)

PDAT 321 - Lighting Design 3 hours. A study of basic electricity and theatrical lighting equipment with an emphasis on both the artistic as well as the technical aspects of stage lighting. Crew assignments required. Prerequisite: PDAT 220 or permission of instructor. (Alternate years)

PDAT 322 - Stage Costume Design 3 hours. A costume focused design course which builds on the principles of design taught in PDAT 220. It further develops skills in research methodology, script analysis, costume design theories, artistic processes, and costume construction for specific plays. Lab hours required. Prerequisite: PDAT 220 or permission of instructor. (Sufficient demand)

PDAT 350 - Independent Study 2-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Junior standing and an approved Plan of Study required.

PDAT 370 - Advanced Play Production 1-4 hours. Advanced level continuation of PDAT 270. May be repeated for credit up to a maximum of 6 credit hours.

PDAT 385 - Internship in Performance Design and Technology 2-4 hours. An independent project allowing students to gain experience in professional or semi-professional performance design/technical theatre settings. A written Plan of Study describing the requirements of the course is required. Prerequisite: Junior standing; approval of Division Chair.

PDAT 470 - Advanced Projects in Theatrical Design and Technology 1-4 hours. A faculty supervised experience for the advanced student in one of several areas of design: scenic; lighting; costume; sound; props; makeup; and technical direction. Prerequisite: PDAT 120 and 220; One of the following: PDAT 222, 320, 321, 322, 323; or permission of instructor.

PDAT 495 - Senior Project 2-4 hours. Students complete a project for the Performance Design and Technical Theatre minor in their areas of interest.

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The project is to be submitted as a proposal to the faculty and approved in advance, with advisory support and supervision provided by the appropriate faculty member. Prerequisites: senior standing; approved written proposal; permission of instructor.

Philosophy

PHIL 101 - Introduction to Philosophy 4 hours. This course provides students who have had little or no acquaintance with philosophy with a workable knowledge of philosophical language and familiarity with its method. (B)

PHIL 201 - Existentialism 4 hours. An elementary study of the interpretation of human existence by selected existentialist thinkers. (Sufficient demand) (B)

PHIL 246 - Sex and the Body Politic 4 hours. (See POLS 246)

PHIL 281 - Ethics 4 hours. An attempt to understand the fundamental human alternatives in the wake of the moral skepticism of our age. Traditional answers to the question "What is the good life?" will be examined by reading selected philosophers from Plato to Sartre. (B)

PHIL 282 - Introduction to Logic 4 hours. Standard propositional logic, quantifier logic, and informal fallacies. Logical concepts are compared with some concepts of the English language. Discusses the nature of formal systems and emphasizes the development of proof techniques. Recommended for pre-law students. (III)

PHIL 283 - Philosophy of the Arts I 4 hours. Conceptual analysis of the arts and what they reveal about human existence. Emphasis is placed on questions about creativity and meaning. Topics include representation and truth, expression, art and language, and the nature of cultural regularities. Special emphasis on the rise of modernism and formalism. (B)

PHIL 300, 400 - Topics in Philosophy 1-4 hours. Varying topics from year to year are selected from either the history of philosophy or contemporary philosophic problems. Prerequisites vary depending on the topic. (Sufficient demand)

PHIL 309 - Philosophical Psychology 4 hours. Logical analysis of concepts about the mind, emphasizing problems of meaning for such terms as sensation, imagination, emotion, memory, dreams, intention, belief, reason, motivation, consciousness and personal identity. Methods of psychological explanation are also studied. (Sufficient demand) (Cross-listed as PSYC 309)

PHIL 310 - Animal Consciousness 2 or 4 hours. This course is an examination of the nature of consciousness through discussion of the issues raised by the cognition and consciousness of non-human animals. Prerequisite: completion of at least one philosophy course or permission of instructor.

PHIL 311 - Greek Philosophy 4 hours. This course covers the history of Greek philosophy from the Presocratic through the Hellenistic period. Special emphasis is given to Plato and to Aristotle. (Cross-listed as POLS 311)

PHIL 312 - Modern Philosophy 4 hours. The history of European Philosophy during the 17th and 18th centuries. Examines figures whose thought reflects the rise of modern science and the emergence of the modern state. Emphasis given to such thinkers as Hobbes, Descartes, Spinoza, Leibniz, Locke, Berkeley, Hume, and Kant. (Alternate years)

PHIL 315 - Pragmatism 2 or 4 hours. This course examines philosophies which emphasize the practical character of truth and reality as well as the determination of values. Thinkers studied include C.S. Peirce, William James, John Dewey and Richard Rorty. Prerequisite: completion of at least one philosophy course or permission of instructor.

PHIL 321 - Nietzsche 4 hours. Nietzsche is considered as 19th century philosopher and precursor of 20th century thought. Topics include: Nietzsche's perspectivism, theory of interpretation, genealogical critique of morality, religion and history, and ideas about art, tragedy, will to power, eternal recurrence, and the overman.

PHIL 328 - Visions of Modernity: Art, Politics and Ideas 4 hours. This course is a history of the "big ideas" of our modern era and how they define our lives. We examine foundational works in psychoanalysis, art and cinematic theory, Existentialism, postcolonial theory and deconstruction. (Cross-listed as HIST 328)

PHIL 329 - Revolution and Culture: Hegel, Marx, Nietzsche 4 hours. An in-depth study of major texts by Hegel, Marx, and Nietzsche, with a thematic focus on the nature of historical change, the interpretation of history, and the relationship between material life and culture, including religion, philosophy, politics, and morality. (Cross-listed as HIST 329, POLS 329)

PHIL 340 - Classical Political Theory 2-4 hours. (See POLS 340)

PHIL 341 - Modern Political Theory 4 hours. (See POLS 341)

PHIL 359 - History of Chinese Thought 4 hours. (See HIST 359)

PHIL 388 - Topics in Metaphysics 2-4 hours. Metaphysical topics concern very basic questions about reality such as: How can things change and be the same? What constitutes personal identity? What is time? If the world is deterministic, can people be free? and, Does any kind of God exist? Prerequisite: completion of at least one philosophy course or permission of instructor. (Sufficient Demand)

PHIL 389 - Evolutionary Philosophy Topics 2 or 4 hours. The treatment of important philosophical topics using insights gained through evolutionary theory. Topics such as "evolution and morality," "culture and evolution," "evolution and human nature" will be discussed. Prerequisite: completion of at least one philosophy course or permission of instructor.

PHIL 360 - Special Topics in Art Theory 1-4 hours.

PHIL 390 - Social and Political Philosophy Topics 2 or 4 hours. This course treats topics in social and political philosophy such as "Equality," "Freedom and Responsibility," "Freedom." Prerequisite: completion of at least one philosophy course or permission of instructor.

PHIL 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

Physics

PHYS 111 - Introductory General Physics I 4 hours. A lecture and laboratory course which includes mechanics, wave motion and sound, fluids and heat. Calculus is not used but some knowledge of algebra and trigonometry is assumed. (F1) (F-I)

PHYS 112 - Introductory General Physics II 4 hours. A lecture and laboratory course including electricity and magnetism, optics, and some modern physics. Calculus is not used but some knowledge of algebra and trigonometry is assumed. Prerequisite: PHYS 111 or PHYS 125. (F1) (F-I)

PHYS 125 - Physics I 4 hours. A calculus-based lecture and laboratory course which includes one and two dimensional kinematics and dynamics, the work energy theorem, conservation of energy, the impulse momentum theorem, conservation of momentum, rotational and simple harmonic motion and gravitation. Prerequisite: MATH 151. (F1) (F-I)

PHYS 126 - Physics II 4 hours. This calculus-based lecture and laboratory course includes electric field and potential, direct and alternating current circuits, magnetism and magnetic induction and an introduction to electromagnetic and other waves. Prerequisites: MATH 152 and PHYS 125. (F1) (F-I)

PHYS 200 - Special Topics in Physics 1-4 hours. Topics vary from year to year and are designed especially for, but not limited to, non-science majors. Typical topics might be light and color, music and sound; or laboratory topics to include aspects of physics of interest to artists, musicians, photographers, environmentalists, etc. (Sufficient demand)

PHYS 201 - Computing in the Physical Sciences 3 hours. In this course students apply computer programming, logic, and/or modeling software to physical problems. Depending on the instructor or semester, various languages or modeling packages will be used. The emphasis is on the flow of logic and on how computers can be used to answer questions that cannot be answered in other ways. Prerequisites: PHYS 125/126.

PHYS 325 - Elementary Optics 3 hours. This course discusses geometrical and wave optics with special emphasis on optical instruments. Prerequisite: PHYS 126.

PHYS 326 - Elementary Modern Physics 3 hours. This course includes basic relativity, quantum and waves aspects of radiation and particles, atomic structure, and an introduction to nuclear physics properties. Prerequisite: PHYS 126.

PHYS 341 - Advanced Physics Laboratory 2 hours. A laboratory course involving experiments in mechanics, acoustics, heat, optics, electricity, and magnetism, electronics and atomic and nuclear physics. Prerequisite: PHYS 126.

PHYS 400 - Special Topics 1-4 hours. Topics vary from year to year and are designed especially for, but not limited to, non-science majors. Typical topics might be light and color, music and sound; or laboratory topics to include aspects of physics of interest to artists, musicians, photographers, environmentalists, etc. (Sufficient demand)

PHYS 401 - Quantum Mechanics I 4 hours. This course presents Schrodinger's theory of quantum mechanics with applications to atomic systems. Includes origin of the quantum theory, wave-particle duality, approximation methods, and time-dependent problems. Prerequisite: PHYS 226. (Alternate years)

PHYS 402 - Quantum Mechanics II 4 hours. Continuation of Quantum Mechanics I. Focuses on the applications of quantum mechanics postulates to real systems. Time independent perturbation theory is developed as are nonperturbative techniques such as variational theory.

These ideas are applied to real atoms, molecules, metals, etc. Time dependent perturbation is also constructed and applied to electrodynamics. Non relativistic quantum electrodynamics is then applied to realistic systems. Prerequisite: PHYS 401.

PHYS 405 - General Relativity 4 hours. We start with an extensive review of special relativity, followed by a detailed development of differential geometry which is the mathematics of the Einstein equations. The Einstein equations are then applied to such classic problems as the deflection of light by stars, the precession of the perihelion of mercury, the behavior of static and rotating black holes, and cosmology. Prerequisite: PHYS 326.

PHYS 410 - Particle Physics 4 hours. Local gauge invariance is applied to the quantum theories of electrodynamics, strong, and weak V-A interactions. The Feynman rules and diagrams for these interactions are developed with a strong emphasis placed on the calculation of cross sections. The unification of electromagnetism and weak interactions into electroweak theory is developed and used to calculate cross sections. The important role that spontaneous symmetry breaking and the Higg's mechanism play in particle physics is developed in detail. Prerequisite: PHYS 401.

PHYS 421 - Statistical and Thermal Physics 4 hours. Statistical and Thermal Physics deals with the various aspects of macroscopic thermodynamics and describes these statistically in terms of the microstates of systems. Examples taken mainly from gaseous and solid systems. Prerequisite: PHYS 126, MATH 253. (Alternate years)

PHYS 423 - Advanced Mechanics 4 hours. This course makes more sophisticated use of the basic laws of mechanics and includes sections on rotating coordinate systems, orbits in inverse square law fields, the analysis of vibrating systems and waves, Lagrange's and Hamilton's equations, and an introduction to the topic of chaos. Prerequisites: MATH 271, PHYS 125 and PHYS 126. (Alternate years)

PHYS 424 - Advanced Electricity and Magnetism 4 hours. A study of electric and magnetic fields and their origins in free space as well as in materials. Includes an introduction to vector calculus, solutions to Laplace's equation, multipole expansions, and Maxwell's equations in differential and integral form. Prerequisites: PHYS 126, MATH 271. (Alternate years)

PHYS 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

Political Science

POLS 110 - American Politics 4 hours. An introductory survey of the American political system. Emphasis on the structures and processes of the political system with additional study of some of the problems faced by the system. (E2)

POLS 120 - Great Issues in Politics 4 hours. What is politics? Why is politics important? This course explores various understandings of politics and their impact on differing views of citizenship and the possibilities of public life. Through readings of classic texts, students address questions about the obligations of citizenship, the role of the state, and the relationship between freedom and equality. (E2)

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POLS 200, 300, 400 - Special Topics 1-4 hours. Examines topics of special interest not normally covered in other political science courses. Examples are Biopolitics, Political Socialization. (Sufficient demand)

POLS 214 - Politics and the Environment 2 or 4 hours. Examines America's recent quest for coherent environmental policy, with special emphasis upon the politics of air and water pollution control.

POLS 220 - Perspectives on Political Science 2 hours. Intended as a foundation course for further work in political science. Students examine frequently used approaches to the study of politics, consider the question of personal values in political science, and investigate attempts to study politics in a scientific way.

POLS 230 - Introduction to Data Analysis and Statistics 4 hours. An introduction to statistics and data analysis in social and political life, covering the nature of variables, descriptive statistics, probability, and inferential statistics. Students use computer software to further their understanding. (Cross-listed as SOCI 230) (III)

POLS 232 - Judicial Processes 2 hours. The theory and practice of judicatory systems with primary emphasis on Anglo-American judicial processes and problems.

POLS 237 - Media and Politics 4 hours. This course examines the relationship between mass media and politics. We will explore the ways in which mass communications media shape the politics of elections, daily governance, U.S. foreign policy, interest groups, social movements, and identity. (Cross-listed as COMM 237, SOCI 237)

POLS 242 - Approaches to Law 4 hours. What is the law and why do we obey it? What authority stands behind law? How do our answers influence the way we make and interpret law? We examine how others have approached these kinds of questions with an eye toward better understanding our own legal system.

POLS 246 - Sex and the Body Politic 4 hours. This course examines how citizens' ideas about gender shape politics and how politics shapes the perceptions of gender of citizens. Studying the politics of sex and gender provides interesting perspectives on issues and even challenges our very understanding of what politics is. (Cross-listed as PHIL 246, WGST 246)

POLS 251 - European Politics 4 hours. From post-WWII attempts to prevent future conflicts has grown a unique political structure called the European Union. This course analyzes the political institutions and political culture of both the European Union and some important countries making up the EU. (GP)

POLS 253 - Dictatorship and Democracy 4 hours. This course comparatively examines four political movements (Liberalism, Communism, Fascism, and Islamic Fundamentalism) that have shaped the evolution of modern politics around the world, from authoritarian rule to representative democracy.

POLS 271 - World Politics 4 hours. This course examines the changing nature of world politics, exploring broad themes such as the evolution of warfare, the role of leading powers, the rise of international organizations, and global political economy. Specific transnational challenges addressed include terrorism, human rights, nuclear proliferation, clashing collective identities and environmental degradation. (E2) (GP)

POLS 273 - Terrorism and International Security 4 hours. This course will deepen students' understandings of 1) what terrorism is, 2) how terrorism has evolved over time, 3) the key factors generating contemporary terrorism, 4) how terrorism is inspired, financed and organized, and 5) counterterrorist strategies. (GP)

POLS 282 - Latin American Politics 4 hours. After a brief review of the region's colonial and 19th-century political histories, this course focuses on the changing patterns of modern politics in leading Latin American countries, from "oligarchical" plutocracy to mass-based populism and socialist revolution, from repressive military authoritarianism to more recently established models of representative and participatory democracy. (GP)

POLS 311 - Greek Philosophy 4 hours. (See PHIL 311)

POLS 329 - Revolution and Culture: Hegel, Marx, Nietzsche 4 hours. (See PHIL 329)

POLS 313 - State and Local Politics 4 hours. In the American governmental system, the intertwined destinies of states and their local governments are critical. This course studies the structure of decision-making at the state and local level, forces affecting decision, outcomes of decision, and the challenges governments face. (Alternate years)

POLS 316 - American Constitutional Law and Politics 4 hours. An examination of the development of the Supreme Court as a major political institution concentrating primarily on the Court's decisions and its internal politics. Prerequisite: POLS 110; junior or senior standing recommended.

POLS 318 - The Presidency 4 hours. After studying the evolution of presidential power, this course will examine the relationship of the presidency to other branches of government. Students will also learn how presidents work within and against political constraints in order to get policies enacted. Prerequisite: POLS 110.

POLS 331 - Parties and Elections 4 hours. Analysis encompasses theories of parties, party organization, party conduct of campaigns and elections, voting behavior, and party roles in government. Emphasis on the American system.

POLS 340 - Classical Political Theory 2-4 hours. This course examines the relationship of the individual to the city-state in the ancient world, with a particular focus on the relationship between ethics and politics. Major thinkers include Thucydides, Plato, and Aristotle, as well as selected readings from other ancient authors. (Cross-listed as PHIL 340)

POLS 341 - Modern Political Theory 4 hours. A survey of the major political theorists from the Renaissance through the twentieth century, with primary emphasis on western thinkers. Particular attention given to theory as an historical and cultural phenomenon. (Cross-listed as PHIL 341)

POLS 346 - American Political Thought 4 hours. This course introduces students to political thought in the United States. It explores "liberal" ideals such as individualism, freedom, equality, citizenship, and democracy, as well as important alternatives to those ideas. It will also examine the ways in which race, ethnicity, and gender have shaped American political thought. Prerequisite: POLS 110.

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POLS 347 - Contemporary America 4 hours. Through readings on political leadership, the media, Washington power politics, international relations, and Americans' historic attachments to individual rights and civic participation, this course examines the forces leading to contemporary political controversies. Students will explore the interrelationship between these controversies and Americans' changing views of citizenship and democracy. (Cross-listed as SOCI 347)

POLS 355 - Public Policy 4 hours. The policy process is the heart of politics: "Who gets What, When, How?" This course emphasizes the stages of the process and the types of policies that government considers. A case study of some policy area (elderly) is provided.

POLS 411 - Bureaucracy 4 hours. Analysis of the administrative policy processes at the national level. Internal interaction and budgetary processes as well as interchange with external governmental and political institutions. Prerequisite: POLS 110. (Alternate years)

POLS 417 - American Civil Liberties 2 hours. Analysis of such current legal and political issues as free speech, religion, poverty, privacy, obscenity, and racial and sexual discrimination with attention to both established and latent areas of concern. Focuses on Supreme Court activity. Other governmental action considered, along with the theoretical and social contexts of the problems examined. Prerequisite: junior or senior standing.

POLS 431 - Research Design and Strategies 4 hours. This course examines the methods by which social science researchers generate new knowledge and covers major data collection designs, sampling techniques, and measurement strategies. Students spend the semester developing their research skills and designing their own research proposals. Prerequisite: SOCI 110, ANTH 110, or POLS 110. (Cross-listed as SOCI 431)

POLS 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Open to Political Science majors at the permission of instructor. Approved Plan of Study required.

POLS 470 - Field Work 2-4 hours. Supervised on-site field work on an approved topic.

Psychology

PSYC 101 - Introduction to Psychology 4 hours. An introduction to the scientific study of behavior and mental processes. Topics typically include sensation and perception, learning and memory, consciousness, cognition and mental abilities, motivation and emotion, human development, personality, gender and sexuality, psychological disorders and therapies, and social influences on behavior. (E1)

PSYC 118 - Introduction to Adult Development and Aging 4 hours. (See GERO 118)

PSYC 210 - Communication and Counseling Skills 2 hours. Focused on working with adults, this course teaches interpersonal communication and counseling skills and theory to students preparing for careers in the helping professions. The course promotes self-understanding through experiential learning and role playing. Videotaping and microlabs may be employed. Prerequisite: PSYC 101 or GERO 118.

PSYC 220 - Psychological Methods and Statistics 4 hours. An introduction to the use of data and theory in psychology. Topics include: philosophy of the scientific method, experiments and other research strategies, descriptive and inferential statistics and hypothesis testing. The course emphasizes statistical reasoning and its relationship to the scientific method. Required for majors and minors. Prerequisite: PSYC 101. (III)

PSYC 230 - Psychological Research and Design I 2 hours. Students learn how to apply the scientific method to study human behavior. The steps from reviewing the literature and generating a hypothesis to developing measurement procedures will be practiced. The final project will be an APA-style research proposal. Prerequisite: PSYC 220.

PSYC 251 - Principles of Learning and Behavior Modification 4 hours. The principles and techniques of behavioral assessment and management are examined, including how to strengthen adaptive behavior through shaping, reinforcement schedules, and relapse prevention and how to minimize or eliminate maladaptive behavior through behavior modification methods such as stimulus control and extinction procedures. Prerequisite: PSYC 101.

PSYC 261 - Cognitive Development 4 hours. The course examines the theories and research in cognitive development from infancy through adolescence. Piagetian, Vygotskian, and Information-Processing Approaches are explored while examining the development of processes including attention, perception, memory, language, and reasoning. Prerequisite: PSYC 101.

PSYC 262 - Social Development 4 hours. This course examines theories and research in child and adolescent social development. Relations with parents and peers, prosocial behavior, aggression, sex-role development, and social-cognitive development are studied. Prerequisite: PSYC 101.

PSYC 282 - Social Psychology 4 hours. A study of the influence that people have on each other's behavior, perception, motivation, feelings and cognition. Topics include the self and identity, social perception and cognition, attribution, race and gender, prejudice and discrimination, conformity and obedience, groups and leadership, attitudes and persuasion, aggression and violence, helping and altruism, attraction and love, conflict and peacemaking. Prerequisite: PSYC 101.

PSYC 300 - Special Topics 1-4 hours. A series of directed readings, changing from semester to semester, which affords the student an opportunity to pursue topics of special interest in greater depth by intensive reading, discussion and seminar feedback.

PSYC 302 - Psychological Measurement 4 hours. An introduction to psychological assessment through a survey of the principles of test design, scoring, and interpretation for tests of achievement, intelligence, personality, career interests, and attitudes. Specific concepts include: item analysis and norms, reliability and validity, ethical and legal standards. Prerequisite: PSYC 101 and PSYC 220.

PSYC 309 - Philosophical Psychology 4 hours. (See PHIL 309)

PSYC 311 - Sensation and Perception 4 hours. A study of the physiological and psychological processes involved in the immediate experience of sensory stimulation.

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Topics include sensory systems and coding mechanisms, psychophysical methods, signal detection, illusions, and complex perceptual processes. Prerequisite: PSYC 101.

PSYC 320 - Parenting Seminar 2 hours. This course provides students with an opportunity to learn about effective parenting through reading of literature and group discussion. The course explores a wide variety of issues, concerns, and problems that parents often face as well as the joy and gratification that effective parenting brings. Prerequisite: PSYC 101. (Cross-listed as WGST 320)

PSYC 322 - Health Psychology 2-4 hours. The critical link between health and behavior is the focus of this course. Students discuss and explore, in seminar format, health-related topics such as nutrition, addiction, exercise, life stress, health care delivery systems, alternative medicine, AIDS, health promotion behavior and personality and proneness to disease. Prerequisite: PSYC 101.

PSYC 330 - Neuropsychology 4 hours. A non-laboratory course dealing with the neurological correlates and determinants of behavior. Emphasis on basic neuroanatomy and neurophysiology underlying human behavior, i.e., the physical basis of movement sensation, perception, emotion, motivation, learning, memory and language.

PSYC 332 - Cognitive Processes 4 hours. An exploration of the psychological organization and functions of the mind. The point of view of people as active processors of information is adopted. Topics include attention, recognition, varieties of memory, psycholinguistics and consciousness. Emphasis is placed on the experimental method and its application to the study of cognitive experiences and activities. Prerequisite: PSYC 101 or permission.

PSYC 341 - Theories of Personality 4 hours. This course examines the philosophic, scientific, and applied aspects of personality theory and research. The major orientations toward investigating personality will be explored, e.g., psychodynamic, depth-psychological, trait-factor, humanistic, and cognitive-personality models. Emphasis is placed on developing a working knowledge of each theory and methods of conducting personality research. Prerequisite: PSYC 101.

PSYC 342 - Abnormal Psychology 4 hours. Examines the biological, psychological and societal perspectives on the taxonomy, etiology, and treatment of clinically significant psychopathology. Provides a basis for understanding the personal and social problems of such individuals. Prerequisite: PSYC 101. Recommended: PSYC 261, 262, 282 or 341.

PSYC 351 - Human Sexuality 4 hours. In this course we discuss sexual attitudes and behavior, gender roles, love and intimacy, contraception and abortion, pregnancy and childbirth, marriage and family life, variations in sexualities, STDs, and the many psychological and cultural factors that affect human sexual behavior. (Cross-listed as WGST 351)

PSYC 352 - Research Techniques 2-4 hours. This course involves the conduct of laboratory and/or field research and experiments to teach techniques and skills used to gather data in specific subfields of psychology, usually child development. The specific area to be covered may change from term to term (e.g., personality, social, learning, cognition). Prerequisite: PSYC 220 and relevant courses (such as PSYC 261 or 262) or permission of instructor.

PSYC 362 - Industrial/Organizational Psychology 4 hours. This course is designed to acquaint students with work psychologists perform in organizational settings. Topics may include methodology of industrial/organizational psychology, personnel selection, training and development, job satisfaction, leadership, work motivation, human performance and human engineering, performance appraisals, job stress and consumer behavior. Prerequisite: PSYC 101.

PSYC 371 - The Psychology of Death and Dying 4 hours. The study of death addresses questions rooted at the center of human experience. Included are historical and modern concepts, attitudes and practices toward the dying and the bereaved; psychological stages and experiences through which the dying may pass; an investigation of suicide including prevention, intervention and postvention; the concept of death in health care, medical ethics and law. Prerequisite: PSYC 101.

PSYC 372 - Psychology of Gender 4 hours. This course examines the psychological, biological, social, and life-span development differences and similarities of the genders. Topics include cognitive abilities and achievement, personality characteristics, work issues, violence prevention, love relationships and sexualities, reproductive concerns, and physical and mental health issues. Prerequisite: PSYC 101. (Cross-listed as WGST 372)

PSYC 389 - Introduction to Art Therapy 3 hours. An introduction to art as a psychotherapeutic modality. Topics include art as a diagnostic tool, art as a means for emotional expression, theoretical backgrounds, and developmental stages of art. This course promotes experiential learning through participation in art therapy exercises. Prerequisite: PSYC 101; PSYC 342 and either PSYC 261 or 262 recommended.

PSYC 411 - Psychological Research and Design II 4 hours. An advanced course in psychological research methods. Includes the logic of various research designs (variables, confounds) and their statistical analysis. The class designs and conducts several studies, gathering and interpreting data. Involves APA style report writing and the use of computers in research. Prerequisites: PSYC 220 and PSYC 230.

PSYC 429 - Cognition and Aging 2 hours. (See GERO 429)

PSYC 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

PSYC 471 - Child Psychopathology 3 hours. Through readings, presentations, and discussions, this course seeks to illuminate variation in child/adolescent behavior, emotion, and personality. Course material will consist of theory, research, and practice regarding "disturbed" and "disturbing" children and adolescents. Prerequisite: PSYC 261, 262 or 342; or permission of the instructor. Not open to students who have taken PSYC 477.

PSYC 472 - Child Interventions 3 hours. This seminar introduces students to interventions for children and adolescents with disabilities and mental health disorders. Treatment strategies will be explored (such as behavior modification, play therapy, family therapy) along with treatment settings in which such therapies are delivered (schools, community mental health centers, institutions). Prerequisite: PSYC 261, 262, or 342.

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PSYC 477 - Child and Adolescent Psychopathology 4 hours. This course explores the field of child and adolescent psychopathology, including the theories and research that serve as the foundation of assessment, diagnosis and treatment of psychological disorders. Prerequisite: PSYC 261, 262 or 342; or permission of the instructor. Not open to students who have taken PSYC 471.

PSYC 485 - Practicum 2-4 hours. A supervised field experience planned to develop skills in designing interventions within educational, vocational, social services or mental health settings. In addition to field placements, students may meet in weekly seminars to discuss current literature. Prerequisites: PSYC 101 and permission of instructor.

PSYC 491 - Clinical Procedures 4 hours. Focuses on the development and application of general clinical skills. Each student has the opportunity to demonstrate these skills through supervised interactions with a volunteer counselee. Prerequisites: PSYC 210, 341 or 342; and permission of Division Selection Committee.

PSYC 492 - Clinical Practicum 4 hours. This course provides advanced clinical/counseling-track psychology students with practical experience in a human service setting. Since each practicum site offers a somewhat different experience, attempts are made to place students in a setting that matches their interests. Supervision is provided for both on-site and in-class work. Prerequisites: PSYC 491 and permission of Division Selection Committee.

PSYC 497 - Senior Seminar 2 hours. This course provides students with an opportunity to explore contributions of important research and theorists through reading of literature, group discussions, and paper presentations. It will also focus on a variety of contemporary topics and issues. Required for majors. Prerequisite: Completion of 20 hours of psychology coursework.

Religious Studies

RLGS 105 - Introduction to Religions of the World 4 hours. An introduction to the study of religion through an examination of selected religious traditions (e.g., Christian, Jewish, Islamic, Hindu, Buddhist, Daoist, Yoruba). Attention is given to the experience, expression, and practice of religion in different historical and cultural contexts as well as to different theoretical approaches to the study of religion. (B) (GP)

RLGS 165 - Asian Religions 4 hours. An introduction to selected Asian religious traditions (e.g., Hindu, Buddhist, Sikh, Shinto, Confucian, Daoist), with attention to their historical and contemporary contexts. (B) (GP)

RLGS 200, 300 - Topics in Religious Studies 1-4 hours. An examination of issues in religious studies. Topics vary each time the course is offered. (Sufficient demand)

RLGS 240 - Religion in America 4 hours. An examination of the impact of religion in shaping American culture. Major thinkers such as Edwards, James, Emerson and Niebuhr, historical movements such as revivalism and social gospel, and distinctive themes such as religious pluralism, civil religion and ethnic awareness. (Sufficient demand) (B)

RLGS 251 - Who Wrote the Bible? 4 hours. The course will examine the ways that social, political, cultural and historical situations affected the formation of the Bible. It will also consider various ways that religious ideas are conveyed through stories, histories, mythologies, and poetry. (B)

RLGS 252 - Judaism and Islam 4 hours. Introductory comparative course highlighting similarities and differences of the two religious traditions. Topics include sources and meanings of revelation, legal theories and ritual structures that uphold community, religious experience through worship and mysticism, and philosophical interpretations. (B) (GP) (Sufficient demand)

RLGS 254 - Birth of the Christian Tradition 4 hours. An exploration of the early Christians' religious experience both by studying their writings (e.g., letters, gospels, apocalyptic discourses, theological treatises, liturgical manuals - some in the New Testament) and by examining the Jewish, Greek and Roman cultures from which Christianity emerged. (Sufficient demand) (B)

RLGS 307 - Myth, Ritual, and the Creative Process 4 hours. A cross-cultural explanation of how people establish their world views by narrating stories and by acting out their deepest aspirations and beliefs. Special attention to how and why symbolic frameworks are transmuted from certain forms to others through creative imagination. Prerequisite: One course in Religious Studies or Philosophy, or permission of instructor. (Alternate years)

RLGS 319 - Jesus: Sage, Savior, Superstar 4 hours. This course examines a variety of ways people have understood Jesus and his teachings. We study the four Biblical gospels, gospels that were excluded from the Bible, non-Christian perspectives on Jesus, and representations of him in art and popular culture. Prerequisite: sophomore or higher class standing or permission of instructor. Completion of at least one previous course in philosophy or religious studies is preferred.

RLGS 359 - History of Chinese Thought 4 hours. (See HIST 359)

RLGS 369 - Buddhism 4 hours. This course traces the historical development of Buddhist philosophies and practices throughout India, Asia, Europe, and the Americas. There is discussion of the differences among Theravada and Mahayana traditions. Buddhist ethics, practices, and arts are introduced and we explore changes from the rise of modern science and contacts with Christianity. Prerequisite: Sophomore standing or one previous course in PHIL/RLGS or permission of instructor.

RLGS 374 - Myth, Yoga, and Philosophy of India 4 hours. Examines myths and rituals in the Hindu religious tradition from the Vedic period to present day, the theory and technique of liberation through various forms of Yoga and the philosophies of ancient India centered in the Upanishads and Bhagavadgita. (GP) (Sufficient demand)

RLGS 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

Science

SCIE 110 - Weather Elements 2 hours. Analyzes the fundamental physical processes of the atmosphere and their relationships to the daily weather pattern and weather forecasting in the United States. May be taken for science credit. (Sufficient demand) (F2) (F-III)

SCIE 111 - Science in Science Fiction 2 or 4 hours. Science fiction is intimately connected with science. In the sub-genre of hard science fiction, the story is founded on sound scientific or technological extrapolations and explores how individuals and society react to the changes. This course will look at the science used in a variety of short stories, novels and films. Topics can include planetary science, genetic engineering, artificial intelligence, celestial mechanics, black holes, chemistry, physics, and ecology. (F2) (F-III)

SCIE 115 - Life in the Universe 4 hours. In this course, we take a look at the past and future of astrobiology. Issues covered include how we discovered our physical place in the universe, the origins of life and intelligent life, the physical and chemical conditions need for life as we know it, and where we can find those conditions in the solar system and beyond. (F2) (F-III)

SCIE 117 - Integrated Science 4 hours. Content-based survey of the Physical Setting Core Curriculum for Elementary (K-4) and Intermediate (5-8) Level Science, emphasizing the chemical and physical laws that describe our surroundings and the interactions of inanimate environmental components. Illustrates chemistry and physics concepts with real-world examples and links them with earth science, numeracy, and art as reinforced by the associated inquiry-based laboratory addressing the complementary Process Skills. Includes modern methods of acquiring, analyzing, modeling/interpreting, and communicating data from the physical sciences. Manipulatives, models, and experiments for understanding physical properties and chemical structure are featured in the hands-on laboratory. Prerequisite: Major or minor in education; others by permission of instructor. (F1)

SCIE 127 - Doing Science 4 hours. In this course, students learn science by doing science, planning and executing their own experiments devised to answer questions they have about a central theme. This course is taught by faculty from different scientific or mathematics backgrounds who guide students in their investigations. Content will cover a broad range of scientific disciplines, emphasizing earth, environmental and life sciences. Fulfills the CLAS Quantitative Reasoning basic competency (III) and counts as a lab science in general education. (F1) (F-I)

SCIE 200 - Special Topics in Science 1-4 hours. Topics vary from year to year.

SCIE 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required.

Sociology

SOCI 110 - Introduction to Sociology 4 hours. The foundation course in sociology, studying such concepts as social organization, culture, personality, and social processes such as interaction, socialization, social stratification, race and ethnic relations, and collective behavior. Designed primarily for freshmen. (E3)

SOCI 200 - Special Topics 1-4 hours. An open course, varying in content from year to year, which allows for concentration on such specialized areas as Political Sociology, Demography, Criminology, Social Change, Stratification, and the like. Prerequisites: SOCI 110 or ANTH 110 or permission of instructor. (Sufficient demand)

SOCI 230 - Introduction to Data Analysis and Statistics 4 hours. An introduction to statistics and data analysis in social and political life, covering the nature of variables, descriptive statistics, probability, and inferential statistics. Students use computer software to further their understanding. (Cross-listed as POLS 230) (III)

SOCI 235 - Socialization 4 hours. An inquiry into the processes by which social actors learn the norms, behaviors, and patterns of attention appropriate to their positions in society. Topics discussed include: "nature versus nurture," theoretical approaches to socialization, social structure, and socialization in adult life. The relationship between socialization and other sociological concepts, such as gender, social class, and occupation are discussed. Prerequisite: SOCI 110 or ANTH 110. (Alternate years).

SOCI 237 - Media and Politics 4 hours. This course examines the relationship between mass media and politics. We will explore the ways in which mass communications media shape the politics of elections, daily governance, U.S. foreign policy, interest groups, social movements, and identity. (Cross-listed as COMM 237, POLS 237)

SOCI 242 - Social Problems 4 hours. Current social issues discussed and analyzed from a sociological perspective. Issues vary each term but may be drawn from the following: population and the environment; work and alienation; education; health; leisure, social welfare, and other areas. Prerequisite: SOCI 110 or ANTH 110. (Sufficient demand)

SOCI 245 - Crime and Society 4 hours. This introductory course provides students with a foundational understanding of the American criminal justice system. In this course, students learn about the empirical reality of crime, including categories and patterns of offending, as well the primary actors involved in the criminal justice process. Heavy emphasis is placed on a critical examination of the conflicts and contradictions of this system and an assessment of social responses to crime. Prerequisite: SOCI 110 or ANTH 110.

SOCI 253 - Social Welfare Institutions 4 hours. Examines social welfare institutions in the context of change brought about by industrialization and urbanization. Focus on types of welfare, welfare policy and the structure of services. (Cross-listed as WGST 253)

SOCI 343 - Race and Ethnicity 4 hours. A discussion of theory and research concerning racial and ethnic relations in the United States and in various parts of the world. (GP)

SOCI 344 - Sociology of Deviance 4 hours. Deviance is presented as an aspect of the normal functioning of a society. This course is a study of the processes by which attitudes and behaviors are defined as deviant, and by which those labels are applied to individuals. Prerequisite: SOCI 110 or ANTH 110 or permission of instructor.

SOCI 346 - Sociology of Sex and Gender 4 hours. Examines the concepts of sex and gender as they are defined in sociological literature, focusing on how social contexts (i.e., education, employment, family, sexuality and reproduction, etc.) construct gender which, in turn, shapes future opportunities for individuals in society. Prerequisite: SOCI 110 or ANTH 110. (Cross-listed as WGST 346)

SOCI 348 - Sociology of Families 4 hours. An investigation of the relationship between the family and other social institutions, particularly in regard to the family functions of population maintenance, socialization and social placement. Prerequisite: SOCI 110 or ANTH 110. (Cross-listed as WGST 348)

SOCI 400 - Special Topics 1-4 hours. An open course, varying in content from year to year, which allows for concentration on such specialized areas as Political Sociology, Demography, Criminology, Social Change, Stratification, and the like. Prerequisites: SOCI 110 or ANTH 110 and junior or senior standing or permission of instructor. (Sufficient demand)

SOCI 420 - Social Theory: A Survey 4 hours. An examination of contemporary theoretical schools, e.g. symbolic interactionism, structural functionalism, exchange and conflict, and ethnomethodology. Special attention devoted to the precursors and contemporary representatives of the respective schools. Prerequisite: SOCI 110 or ANTH 110 or permission of instructor.

SOCI 431 - Research Design and Strategies 4 hours. (See POLS 431)

SOCI 450 - Independent Study 1-4 hours. Work on some topic not covered in any established course chosen by the student in consultation with the instructor. Work under this title may be carried out alone, in cooperation with other departments, or in an honors colloquium where a common problem is chosen. Approved Plan of Study and permission of departmental staff required.

SOCI 470 - Application of Sociology Field Work 2-4 hours. Field work associated with social services, corrections, health care, or educational agencies. Weekly class-workshop sessions and individual field work. Focus on the student's relationship with colleagues, professionals, and the public in various accredited institutional settings. Prerequisite: junior or senior standing and permission of instructor. (Sufficient demand)

SOCI 495 - Global Issues Seminar 4 hours. (See GLBS 495) (GP)

Spanish

SPAN 101 - Spanish I 4 hours. Introduction to the language and culture of the Spanish-speaking world: speaking, reading, understanding and writing. Practice in language lab. Emphasis on communicative skills. Assumes no prior knowledge of the language. (II)

SPAN 102 - Introductory Spanish II 4 hours. This course builds on Introductory Spanish I, increasing students' communicative skills and exploration of Spanish-speaking cultures. Students improve their proficiency in speaking, listening, writing and reading Spanish through engaging in class activities, in the language lab and with independent work. Students learn to perform practical tasks like ordering in restaurants, dressing, visiting others, and making living arrangements. Prerequisite: SPAN 101, 41-60% on Spanish Language Placement Exam, or permission of instructor. (II)

SPAN 200, 300 - Special Topics 1-4 hours. Subject matter not covered in other courses. Topics vary from one semester to another.

SPAN 201 - Intermediate Spanish III 4 hours. Students integrate and expand on structures and vocabulary, developing cultural awareness through literature, video and online materials. Participation in three weekly classes with their professor and one weekly conversation group with an international teaching assistant increases students' language skills proficiency. Prerequisite: SPAN 102, 61% or higher on Spanish language Placement Exam, or permission of instructor. (Every fall semester). (II)

SPAN 202 - Intermediate Spanish IV 4 hours. Students complete their integration of basic structures and vocabulary, increasing cultural understandings through literature, video and online materials. Participation in three weekly classes with their professor and one weekly discussion group with an international T.A. develops students' oral and written expression. This course may be taken as the elective for the Spanish minor. Prerequisite: SPAN 201 or permission of instructor. (II) (Every spring semester)

SPAN 210 - Pilgrims and Tourists Santiago 4 hours. We study travel narratives and medieval pilgrimage and hike Spain's "Way of St. James." This pilgrimage is one of three (Santiago de Compostela, Jerusalem, and Rome) for which all sins could be forgiven. Today many hike the Camino as tourists. Students respond analytically to the travel narratives of pilgrims and tourists to better prepare to be either a pilgrim or tourist. Travel to northern Spain is a required course component. (GP) (A)

SPAN 212 - Buenos Aires: Literature and the Arts 2 hours. The course introduces students to the ways in which Argentine fiction produces Buenos Aires both as a center of European high culture and as a site of social conflict and vibrant popular culture. Students respond analytically to Argentine literature through engagement in close reading. Readings of literary texts are combined with study of related artistic tendencies in historical context. The course concludes with a trip to Buenos Aires. Travel is a required part of this course. (Cross-listed as GLBS 212) (A) (GP)

SPAN 215 - Framing Gender: Latin American Film 4 hours. This course introduces students to Latin American film from the 1940's to the present. Students analyze filmic representations of gender, race, sexuality, and socio-economic class in historical context, exploring relationships among art, politics and culture. Students develop an understanding of film-making practices and acquire and apply critical skills and theoretical approaches to thinking, speaking, and writing about films. (Cross-listed as GLBS 215, WGST 215) (C) (GP)

SPAN 216 - Cuba Close Up: Film since the Revolution 4 hours. Cuban cinema was transformed by the Revolution, which elevated the importance of film in Cuba and contributed to its political nature. Students analyze filmic representations of gender, race, and socioeconomic class in their historical contexts, exploring the relationship among art, politics, and culture. Students develop critical skills for viewing and interpreting films and for speaking and writing about films and film genres. (Cross-listed as GLBS 216, WGST 216) (C) (GP)

SPAN 301 - Advanced Conversation and Composition 4 hours. In this workshop-style course, students practice the styles and mechanics of writing and speaking in academic, professional, and informal contexts. Authentic Hispanic cultural materials are the basis for students' essays, speeches, and informal conversation.

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This course is required for the Spanish major and minor. Prerequisite: SPAN 202 or permission of instructor. (Every fall semester)

SPAN 311 - Peninsular Culture and Literature I: Medieval - Eighteenth Century 4 hours. An introduction to canonical cultural works of Spain from the Middle Ages through the eighteenth century. Cultural discourse placed in context with socio-historical periods. Essays, literature, videos and/or films. Predominantly in Spanish. (Alternate years)

SPAN 312 - Peninsular Culture and Literature II: 19th - 20th Century 4 hours. An introduction to canonical cultural works of nineteenth-and twentieth-century Spain. Cultural discourse placed in context with socio-historical periods. Can be taken independently or as a continuation of SPAN 311. Course components predominantly in Spanish. (GP) (Alternate years)

SPAN 315 - Latin American Culture and Literature I 4 hours. Students are introduced to Latin American culture and literature through analysis of art, architecture, and original texts from the pre-Colombian period to 1900. Films and historical readings enhance students' understanding of indigenous and Hispanic cultures, art, and politics in Latin America. The course is conducted in Spanish and may be taken as one of the core courses for the Spanish major and minor. (Alternate fall semesters)

SPAN 316 - Latin American Culture and Literature II 4 hours. Students are introduced to Latin American culture and literature through analysis of original texts from 1900 through the present. Films and historical readings facilitate students' engagement with literature in its socio-historical context, as well as enhancing students' ability to make connections between artistic and political movements. This course is conducted in Spanish and may be taken as one of the core courses for the Spanish major and minor. (GP) (Alternate spring semesters)

SPAN 360 - Literary Theory Seminar 4 hours. This course is intended to introduce those students with a major or a minor in a foreign literature and language to Literary Theory and Criticism. Students will be using different types of theory to analyze texts in English and in their target language. This course will be required of all foreign language and literature majors and is recommended for those students with a minor in a foreign language. Prerequisite: SPAN 202 or permission of instructor. Students may not retake this course for credit as FREN or GRMN 360.

SPAN 400 - Topics in Hispanic Literature 1-4 hours. A study of the literary manifestations of socio-cultural areas such as religion, honor, love, politics, and individuality which are of concern to Hispanics. Taught in Spanish. (Sufficient demand.)

SPAN 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Independent study is required of Spanish majors. Approved Plan of Study required.

SPAN 485 - Internship in Spanish 1-4 hours. An off-campus project in consultation with faculty in the Division of Modern Languages. Students gain experience in a variety of careers involving Spanish and related fields. The internship must be conducted in Spanish. Requirements for this project include a journal, job evaluations, and a final report. May be taken during the summer or semester abroad. SPAN 202 or equivalent proficiency recommended. (GP)

SPAN 490 - Modern Languages Senior Seminar 0 hours. In this seminar students have the opportunity to complete their electronic portfolio and prepare for an oral defense. In consultation with professors and peers, students select the documents to include in keeping with portfolio requirements. As part of this seminar, students write and revise their Senior Reflective Statement and their resume or curriculum vitae.

Theatre

THEA 110 - Introduction to Theatre 4 hours. A study of theatre as a creative process and cultural phenomenon, including text and performance analysis, the examination of dramatic literature, and opportunities to experience and explore the work of the actor, the playwright, the director, the designer, and the producer. Scripts and productions which are the sources for discussions and assignments are drawn from a full range of cultures and time periods. (C)

THEA 200, 300, 400 - Special Topics 1-4 hours. Includes non-regularly scheduled course offerings in related areas of study. Examples include Musical Theatre, Theatre and Social Change, Ritual and Theatre, Performance Theory, Ethnic Theatre.

THEA 205 - The Play's the Thing! - Playwriting 4 hours. (See ENGL 205)

THEA 210 - The Performing Arts: A Global Perspective 4 hours. Introduces the student to performing arts in society at large and a broad-ranging overview of how this role is fulfilled in a variety of cultures. It begins with a foundational exploration of the roots of theatrical, musical, and movement forms of expression in early tribal and American indigenous societies, followed by contrasting these forms to more familiar contemporary Western forms of expression. Perspectives are then compared and contrasted to selective performance traditions of Central/South America, Africa, India, Japan, Indonesia, China and others. (C) (GP)

THEA 211 - Women in Theatre, Society and Politics 3 hours. A survey course tracing the role(s) of women in theatre - audience, acting, directing, writing, designing, managing - from the ancient Greeks to contemporary times in a range of cultures. Representative plays, essays, and production artifacts are studied to discover the changing roles of women. (Cross-listed as WGST 211)

THEA 212 - From Page to Stage: Script Analysis 4 hours. Play-scripts are the primary source materials for theatrical performances. Focusing on analysis of play texts as well as examining structure, genre, theme, style, character, language and imagery, this course encourages creative investigation and research for theatre practitioners and scholars. (C)

THEA 230 - Stage Management Fundamentals 2 hours. This course demonstrates the stage manager's role in theatrical productions and how essential it is for success. Topics include pre-production research, rehearsal protocol, production guidelines, stagecraft terminology, and developing a shared language with designers, directors, producers, cast, and crew.

THEA 240 - Acting I 4 hours. A beginning level course open to all students. Through progressive acting exercises, students are introduced to realism based theatrical performance, with emphases and exploration in vocal, physical and creativity development, text and character analysis. Plays from a full range of cultures are used for scene study assignments. (C)

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THEA 242 - Performance Lab 4 hours. This course provides students with specialized focus on various aspects of theatrical performance in a laboratory, experimental workshop setting. This flexible course is intended to respond to unique interests and needs of students not otherwise emphasized in other courses. Lab may focus on improvisational techniques, audition techniques, monologue development, masking, puppetry, or styles of acting. (C)

THEA 270 - Play Production 1-4 hours. A lab course designed to give students practical production experience under faculty supervision in the areas of acting or directing. May be repeated for credit to maximum of 4 hours. Prerequisite: Permission of instructor.

THEA 311 - Theatre: History, Art, Politics and Society I 4 hours. An examination of theatre's place in many world cultures, primarily focusing on the development of Western Drama, from earliest times through 1650. Emphasis on performance content and style, theatre architecture, and management practices as a reflection of a given culture's social, religious and political structures, and aesthetic impulses. Prerequisite: THEA 110 or permission of instructor.

THEA 312 - Theatre: History, Art, Politics and Society II 4 hours. An examination of theatre's place in many world cultures, primarily focusing on the development of Western Drama, from 1650 to the present. Emphasis on the performance content and style of dramatic literature, theatre architecture, and management practices as a reflection of a given culture's social, religious and political structures, and aesthetic impulses. Prerequisite: THEA 110 or permission of instructor.

THEA 340 - Acting II 3 hours. This intermediate level course emphasizes text analysis, scene study, in-depth character development, character relationship explorations, and exploration of the interface between text and subtext with a direct application to performance. Prerequisite: THEA 240 or permission of instructor.

THEA 342 - Advanced Performance Lab 4 hours. Advanced level continuation of THEA 242. May be repeated one time for credit (8 hours maximum).

THEA 350 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Junior standing and an approved Plan of Study required.

THEA 370 - Advanced Play Production 1-4 hours. Advanced level continuation of THEA 270. May be repeated for credit up to a maximum of 6 credit hours.

THEA 385 - Internship in Theatre 2-4 hours. An independent project allowing students to gain experience in professional or semi-professional theatre settings. A written Plan of Study describing the requirements of the course is required. Prerequisite: Junior standing; approval of Division Chair.

THEA 430 - Directing I 3 hours. The theory and practice of play production from script selection to early rehearsals to final production, focusing on directorial vision, text analysis, staging principles, actor coaching, organization of the production book. Final scenes or short one-act plays to be performed for the public are expected. A full range of scripts and approaches is discussed and used for classroom and outside assignments. Prerequisite: Junior Standing.

THEA 431 - Directing II 3 hours. The continued exploration of the processes and practices of production direction from conceptualizing, to auditions, to staging, resulting in the public presentation of a one-act play. Topics include special rehearsal problems, actor coaching, rehearsal pacing, and blocking. Prerequisite: THEA 430 or permission of instructor.

THEA 440 - Acting III 3 hours. Intended for the serious student of acting, this advanced performance course applies the in-depth skills developed in Acting II to historical texts: the Greek classics, Shakespeare, Restoration Comedy, Comedia del'Arte, turn-of-the century modern realism. Prerequisites: THEA 240 and 340.

THEA 490 - Senior Seminar 1 hour. This course provides tools to bridge the gap between academic theatre and what comes next. Topics include exploration of options, the "business" of theatre, marketing oneself, resume building, taxes for independent "contractors", and preparation of materials (auditions, portfolios). Prerequisite: Theatre major; senior standing.

THEA 495 - Senior Project 2-4 hours. Students complete a project for the Theatre major in their areas of interest. The project is to be submitted as a proposal to the faculty and approved in advance, with advisory support and supervision provided by the appropriate faculty member. Prerequisites: senior standing; approved written proposal; permission of instructor.

Women's and Gender Studies

WGST 101 - Women in Society 4 hours. This interdisciplinary course is the foundation of Women's Studies. It examines the relationship of women worldwide to institutions and developments in the social, political, and economic spheres. Topics include biological issues, women and work, women as family members, media portrayal of women, and the origins and development of modern feminism.

WGST 200, 300, 400 - Special Topics 1-4 hours. Topics vary in content from term to term.

WGST 201 - Gender and Leadership 2 hours. In this course, members of the Women's Leadership Academy explore leadership theory and issues of gender and leadership. We examine questions such as: what qualities make an effective leader, why are so few women in leadership roles in certain professions, and what might feminist theory or chaos theory have to do with leadership? We approach these questions from both a personal and academic perspective. Participants assess their own leadership style and develop a personal philosophy of leadership. Class assignments include team-building activities and attendance at skill-building workshops. Prerequisite: Membership in the Women's Leadership Academy and instructor's permission.

WGST 204 - The Art of the Personal Essay 2 hours. (See ENGL 204)

WGST 211 - Women in Theatre, Society and Politics 3 hours. (See THEA 211)

WGST 215 - Framing Gender: Latin American Film 4 hours. (See SPAN 215)

WGST 216 - Cuba Close Up: Film since the Revolution 4 hours. (See SPAN 216)

WGST 246 - Sex and the Body Politic 4 hours. (See POLS 246)

WGST 253 - Social Welfare Institutions 4 hours. (See SOCI 253)

WGST 254 - Women Writers 2 or 4 hours. (See ENGL 254)

WGST 256 - Multicultural American Literature 4 hours. (See ENGL 256)

WGST 305 - Gender and Organizations 3 hours. (See MGMT 305)

WGST 320 - Parenting Seminar 2 hours. (See PSYC 320)

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WGST 324 - Queer American History 4 hours. (See HIST 324)

WGST 346 - Sociology of Sex and Gender 4 hours. (See SOCI 346)

WGST 348 - Sociology of Families 4 hours. (See SOCI 348)

WGST 351 - Human Sexuality 4 hours. (See PSYC 351)

WGST 372 - Psychology of Gender 4 hours. (See PSYC 372)

WGST 382 - Women in Art 4 hours. (See ARTH 382)

WGST 408 - Women Writers in the Middle Ages 4 hours. (See ENGL 408)

WGST 412 - Gender and American Film 4 hours. (See COMM 412)

WGST 450 - Independent Study 1-4 hours. Academic inquiry into an area not covered in any established course, and carried on outside the usual instructor/classroom setting. Approved Plan of Study required. The end of this course of study must include a public presentation, such as an oral thesis defense, a Women's and Gender Studies Roundtable, the Undergraduate Research Forum or an art exhibition/performance.

WGST 465 - Gender, Race, Class and Media 4 hours. (See COMM 465)

WGST 475 - Women's Leadership Academy Practicum 2 hours. The practicum is a semester-long experience in active, authentic leadership around a service project conducted by members of the Women's Leadership Academy. This course is taken twice for credit. Prerequisite: WGST 201.

WGST 481 - International Women Writers 4 hours. (See ENGL 481)

WGST 485 - Internship 1-4 hours.