

SPRING 2006 CATALOG SUPPLEMENTAL COURSE DESCRIPTIONS

This section is the supplement to the current undergraduate and graduate catalogs. Courses not found nor fully described in the 2005-2006 catalog are printed here.

AIR FORCE SCIENCE

AFSC 167-010 INITIAL MILITARY TRAINING

Teaches students about the ROTC program and provides an overview to Air Force skills and life. Continuation of fall course. Coreq: AFSC111.

AFSC 267-010 FIELD TRAINING PREPARATION

Prepares cadets to attend the summer training program required for all those wishing to earn a commission through the ROTC program. All cadets planning to attend field training in the next year must enroll in this course. Continuation of fall course.

AFSC 367-010 INTERMEDIATE CADET LEADER TRAINING

Allows cadets to practice leadership skills and Air Force specific skills. Restricted to those cadets who have completed Field Training. Continuation of fall course.

AFSC 467-010 SENIOR CADET LEADER TRAINING

Allows cadets within one year of commissioning to polish their leadership skills while learning about aspects of the military which will directly impact them upon entrance to active duty. Restricted to those cadets who have completed Field Training. Continuation of fall course.

ANIMAL SCIENCE

ANSC 367-010/FOSC 367-010, 080 FOOD SAFETY FROM FARM TO FORK

Focuses on the major food production systems in plants and animals. Examines the role of government regulation, the use of antimicrobials in food animal production, plant production and harvest, natural hazards, and pesticide residues. Explores the consumer's perception of biotechnology applications in food, organic farming, and the relationship of post-harvest handling of agricultural commodities and food products to food safety.

ANSC 467/667-010/PLSC 467/667-010 PARADIGMS IN CELL SIGNALING

Presents some of the key molecular components and mechanisms by which both animal and plant cells respond to specific stimuli to activate the expression of specific genes. Focuses on central mechanisms of cellular signal transduction from lig and receptor interactions to the induced expression of genes. Prereq: BISC 207/208 and (BISC 403, ANSC 300, or PLSC 306).

ANSC 467-011 STALLION PHYSIOLOGY AND MANAGEMENT

Provides Advanced study of the anatomy, endocrinology, physiology, behavior, handling, and management of the breeding stallion. Considers semen physiology, semen preservation, and handling procedures. Lab offers a hands-on experience including the collection, evaluation, and packaging of semen equivalent to a commercial breeding farm. Requires additional hands-on experience outside of class. Prereq: ANSC 410 or ANSC 441.

ANTHROPOLOGY

ANTH 267-010 THE HISTORY OF ANTHROPOLOGICAL THEORY

Overview of historical and contemporary anthropological theory. Read and discuss samples of major theoretical work by anthropologists as well as ethnographies considered classic in anthropology and other contemporary ethnographies. Examines how they contribute to popular understanding of social life today.

ANTH 367-010/WOMS 367-010 ASIAN WOMEN IN THE GLOBAL WORKPLACE

Examines how participation in the modern global workforce has changed and challenged the traditional position of Asian women. We will engage fully in a complex debate: has global workplace participation increased or decreased the status of women in Asia?

ANTH 390-080 CLQ: CULTURAL PERSPECTIVES ON DEATH

Explores how culture affects our beliefs and experiences of death. After studying the biology of dying, students learn about how death is viewed in different societies. Topics covered include religious beliefs, death rituals, and treatment of the corpse.

ANTH 390-081 CLQ: THE ARCHAEOLOGY OF AGRICULTURE

Surveys the archaeology of the transition from hunting and gathering to farming from a broad anthropological and interdisciplinary perspective. Includes ecological and social causes of the transition; where and when it occurred; and health, ecological and social impacts of agriculture.

ART HISTORY**ARTH 267-010 ART OF THE AFRICAN DIASPORA**

Through the art and sometimes the architecture of the Atlantic and Indian oceans, introduces the art of African Heritage peoples after the early 15th century and indicates what connects and what separates them in terms of subject matter, style, representational mode and critique.

ARTH 367-010 ART, ARCHITECTURE & ARCHEOLOGY IN EAST ASIA

Examines approaches to "China" as a historical and cultural unit. Emphasis on archeological sites, artifacts, art objects, and architecture in China, with additional materials from Japan, Korea, and Inner Asia. Thematic coverage of Chinese history, from Neolithic sites to twentieth-century buildings in the port cities. Possible fieldtrips to Philadelphia Museum of Art and the Freer Gallery, Smithsonian Institution.

ARTH 402-010 SEM: ART & HISTORICAL KNOWLEDGE IN WEST & CENTRAL AFRICA

Explores through the contexts and institutions in which art was produced in various societies of West and Central Africa, specifically Kuba, Luba, Yoruba, and Mandé, how oral literature and history can be crucial to a critical history of art in Africa.

ARTH 402-011 SEM: RENAISSANCE ROME

Considers Rome in the fifteenth and sixteenth centuries. Focuses on great monuments, urban form, the myth of Rome, and images of daily life. Includes cult images, the Sistine chapel, processions, St. Peter's, Raphael, popular culture, crime and its punishment, etc.

ARTH 435-010 SEM: ILLUSION & DECEPTION IN AMERICAN ART

Explores forms of artistic deception practiced in the United States and the historical, cultural, and conceptual issues posed by illusion. Includes trompe l'oeil painting, spirit photography, stereographs, illusionistic spectacles, and optical technologies.

ARTH 605-010 SEM: VISUAL CULTURE IN POMPEII

Investigates the ways in which the inhabitants of ancient Pompeii exploited visual forms of communication, such as the art of spectacles and banquets, images of work and commercial spaces, graffiti, house decorations, civic benefactions, and commemorative monuments.

ARTH 606-010 THE COURT OF CHARLEMAGNE

Architecture, manuscript illumination and ivories produced for Charlemagne's court, especially during the period before the imperial coronation in 800. Extensive reading of contemporary literature and other historical sources.

ARTH 614-010 ARCHITECTURE IN THE AGE OF MICHELANGELO

In Vasari, Michelangelo appears as both the supreme exponent of genius in design and paradoxically the destroyer of the very rules of architectural form so precious to the writer. Using Michelangelo as a springboard, examines major issues in sixteenth-century architecture and urbanism: the dialectic between rules and "license," the semiotics of ornament, architecture as language, sculpture and architecture.

ARTH 621-010 CEZANNE NOW

Offered in conjunction with the Cézanne in Provence exhibition that opens in January 2006 at the National Gallery (and France and England) on the occasion of the 100th anniversary of Paul Cézanne's death. Assesses the varied historiographical, art historical, and methodological "profiles" of Cézanne's work through the years in combination with a first-hand study of his paintings at the exhibition and nearby collections.

ARTH 636-010 VISION & LANDSCAPE IN THE U.S. 1800-1875

Attempts to rethink the history of the Hudson River School by exploring the influence of new social formations, new cultural practices, and new technologies of vision on landscape representation.

ARTH 667-010 SEM:WRITING MATERIAL CULTURE

Explores the history and range of critical and theoretical approaches employed in the study and interpretation of objects and images. Readings include art history and criticism, social and cultural history, literary theory, sociolinguistics, archaeology, and philosophy. Poetry and fiction included as strategies for critical writing.

ARTH 667-011 MODERN ART & LITERATURE

Interactions between literature (poetry, fiction, criticism) and the visual arts (painting, prints, artist's books, photography, film): authorial and artistic identities in texts and images; friendships, collaborations and rivalries; translation between media; artists writing/authors making images; the emergence of mass culture; historical and theoretical perspectives.

BIOLOGICAL SCIENCES**BISC 667-011 MOLECULAR MEDICINE-BIOTECHNOLOGY**

Examines and evaluates the use of genes, proteins and genetically modified cells to treat disease. Focuses on the scientific, ethical and biotechnological aspect of molecular medicine.

BISC 667-012 CANCER BIOLOGY

Key concepts in cancer epidemiology, development, progression and therapy. Prereq: BISC 401.

BISC 667-050 ENVIRONMENTAL TOXICOLOGY

Environmental toxicology and its role in the assessment of environmental risk. Uses a team-based approach, providing a "real world" environmental problem to be solved by conducting an environmental risk assessment.

COGNITIVE SCIENCE**CGSC 667-010 ADVANCED INTRODUCTION TO COGNITIVE SCIENCE**

Overview of some of the major topics and tools used in the study of cognitive science. Addresses how theories of domain specificity and/or modularity pertain to current research in language acquisition and processing, theory of mind and notions of intentionality, and quantity and spatial representations in humans and animals.

CHEMICAL ENGINEERING**CHEG 667- 010 CELLULAR BIOPHYSICS & BIOMECHANICS**

Applies engineering principles to understand cellular organization and behavior, and reinforce concepts from thermodynamics, kinetics, physical chemistry and transport phenomena. Introduces advanced concepts drawn from polymer science, statistical mechanics and non-equilibrium thermodynamics. Develops an understanding of structure-function relationships that govern properties and processes in cells, particularly those that are critical to tissue engineering, the immune response, cancer, and wound healing.

CHEG 667-012 BIO-PHARMACEUTICAL FORMULATION SCIENCE & ENGINEERING

Introduction to the scientific and engineering principles relevant to the formulation and design of protein and other bio-molecule-based pharmaceutical products. A strong background in solution thermodynamics, chemical or biochemical kinetics and familiarity with protein physics or physical chemistry is recommended. Prereq: CHEG 325 or CHEM 443, MATH 302 or MATH 305, CHEG 332 or CHEM 444

CHEG 667-015 PROBABILITY & STATISTICS FOR CHEMICAL ENGINEERING

Presents a fundamental approach to modeling, characterization and analysis of random phenomena, to provide the student with the basic principles, methods and tools for solving problems involving randomly varying phenomena. Explores manufacturing, system reliability, and Design of Experiments for chemical engineering systems. Requires facility with algebra and calculus I.

CHEG 667-050 INTRODUCTION TO ENGINEERING OF ELECTRONIC MATERIALS

Covers modern reactive processing methods of electronic materials in the semiconductor industry. Includes introduction to semiconductor materials and devices, reactor design, reaction chemistries, reaction mechanisms, materials properties, and modern applications.

CHEG 667-051 GREEN ENGINEERING

Takes a multidisciplinary, problem solving approach, to developing the necessary tools and applying the principles of Green Engineering to analyze and address real world problems.

CHEG 867-013 CHEMICAL ENGINEERING PRINCIPLES II

Equips incoming graduate students with applied mathematical and computational background needed in other graduate courses and research. Covers partial differential equations, tensors, introduction to computer packages, probability and statistics, and molecular simulation. Uses computational software, such as Fluent, Femlab, and Cerius, to solve complex problems.

CHEG 867-014 SPECIAL TOPICS IN ENERGY ENGINEERING

Covers special topics in energy engineering. Includes an overview of non-renewable and renewable energy sources, fuel processing for hydrogen production and storage, process intensification, fuel cells, environmental effects, as well as technical performance and efficiency in energy exchange of various processes along with energy sustainability.

CHEMISTRY

CHEM 667-050 INTRODUCTION TO INDUSTRIAL CHEMISTRY

Covers the chemistry of converting petroleum, natural gas and renewable resources to the myriad consumer items that we take for granted. Includes inorganic chemicals, organic chemicals, catalysts, reaction mechanisms, some polymers, structure-activity relationships for end uses, idea generation, problem solving, patents and what working in industry is like. Offers an introduction to the world of patents, profits and research teams. Discusses current trends and future challenges.

CHEM 667-051 ORGANIC REACTIVITY/TOTAL

Focuses on organic synthesis. Covers recent developments, with the emphasis on those published over the past four years. Prereq: CHEM 634 or the permission of the instructor.

CHEM 850-010 SOLID STATE CHEMISTRY: X-RAY CRYSTALLOGRAPHY

Introduces the fundamentals of solid state chemistry. Discusses symmetry, lattices, space groups, preparative methods, basic technique for structural characterization, etc. Focuses on X-ray crystallography as the most important tool for probing the structures of crystalline materials.

CIVIL & ENVIRONMENTAL ENGINEERING

CIEG 467-011 WATERSHED ENGINEERING, PLANNING & DESIGN

Reviews the planning, design and engineering of watershed best management practices necessary to protect and restore the quality and quantity of surface and ground waters. Enables students to understand the delineation of watersheds and rainfall-runoff characteristics, review various Federal, state, and local laws and regulations, design stormwater BMPs, groundwater recharge facilities, and stream restoration and bioengineering projects.

CIEG 467-014 DISASTER ENGINEERING

Examines engineering and societal issues surrounding disasters. Includes disaster preparation, evacuation, and immediate response, as well as recovering from the catastrophic effects of disasters. Case studies include Hurricane Katrina and the World Trade Centers.

CIEG 467/667-050 TOPICS IN SOIL MECHANICS

Fluid flow through porous media, stress distribution within a continuum resulting from surface loading, computing consolidation settlement using 1-D model, shear strength of cohesionless and cohesive soils. Discusses and demonstrates practical applications.

CIEG 467/667-051 ADVANCED WATER QUALITY ENGINEERING

Review of classical dissolved oxygen models for streams and estuaries: analytical and numerical solutions; application to Delaware Estuary. Eutrophication models: carbon, nitrogen, phosphorus and silica mass balances; chlorophyll, primary production and dissolved oxygen; annual simulations; application to Lake Ontario. Sediment flux models: organic matter diagenesis; ammonia, nitrate, oxygen, phosphorus and silica flux models; application to Chesapeake Bay sediments.

CIEG 667-052 PAVEMENT ANALYSIS AND DESIGN

Scientific principles of pavement design as applied to airfields and highway pavements, load conditions, stress distribution, and properties of various components of pavement layers. Covers designing both flexible and rigid pavements; understand and use AASHTO pavement design guide, PCA design guide, Asphalt Institute design guide and FAA airfield design guide.

COMPUTER & INFORMATION SYSTEMS

CISC 459-011,051 TPCS: VOICE-OVER-IP TELECOMMUNICATIONS

Presents basic concepts in telecommunications over Internet Protocol (IP) networks, emphasizing topics such as VoIP network planning, implementation and management. Discusses concepts of the operation and maintenance of large IP telecommunication networks.

CISC 459/659-050 TPCS: SIMULATION OF COMPUTER NETWORKS

Modeling and computer simulation of discrete systems using discrete event simulation techniques; application to the performance evaluation and modeling of computer networks and networking protocols. Covers the study and use of simulation systems such as OPNET, Qualnet, and ns-2.

CISC 489-010/689-010 TPCS: COMPUTER VISION

Introduction to the analysis of images and video in order to recognize, reconstruct, model, infer static, and dynamic properties of objects in the three-dimensional world. Study geometry of image formation; basic concepts in image processing; segmentation; techniques for 3-D reconstruction, and image registration methods.

CISC 849 -010 ADV TCPS: MOBILE ROBOT PROGRAMMING

A hands-on approach to implementing mobile robot algorithms in simulation and on a group of small wheeled robots. Includes low-level motor control and reactive obstacle avoidance; high-level control including navigation, localization, and planning; vision-based sensing for tracking and mapping; and issues surrounding multi-robot cooperation and communication.

CISC 889-010 ADV TCPS: QUANTITATIVE APPROACHES TO NATURAL LANGUAGE PROCESSING

With the availability of large amounts of text in electronic form, an emerging trend in natural language processing is to obtain useful quantitative information from such text corpora. Covers various quantitative techniques currently being used in solving important NLP tasks.

COMMUNICATION

COMM 200-010 TPCS: FAMILY SYSTEMS

Introduction to the role of communication within families across the life course. Includes communication issues regarding parent/ child communication, teens, sibling relationships, adult/children and elderly parents, and marriage.

COMM 200-011 LIVING IN THE INFORMATION AGE

Provides a broad understanding of the social, cultural and economic consequences of the new communication technologies to encourage critical thinking about "new media" generally. Traces the development, examines the content, and explores the impact of new technologies on industry and society, reviewing both conceptual and practical aspects of life in an information society.

COMM 200-410 TPCS: INTRODUCTION TO ORGANIZATION COMMUNICATION

introduction to the study of communication within organizational settings. Provides participants with a deeper understanding of the various elements of organizational communication, including communication theory as applied to organizations, communications skills essential for job performance, and common communication issues and problems.

COMM 200-440 TPCS: CONFLICT AND YOU

Explores the various aspects of conflict, as well as the different ways individuals approach conflict. Includes how conflict is defined, ways of coping with conflict, productive and unproductive conflict, and strategies for coping with conflict.

COMM 267-050 COMMUNICATING EFFECTIVELY

Fundamentals of written communication techniques used in communication industries, such as broadcast journalism, public relations, and organizational communication.

COMM 367-010,080 INTRODUCTION TO GRADUATE STUDIES IN COMMUNICATION

Designed to give students information to facilitate the graduate school application process. Discusses how to select and apply to graduate school, the GRE, graduate student research, as well as how a graduate degree will enhance future career options.

COMM 367-011/WOMS 367-011 GENDER & COMMUNICATION

Deals with gender differences in communication in varied contexts, such as conflict, marriage, family, friendship and at work.

COMM 367-050 ORAL COMMUNICATION FELLOWS

Oral Communication Fellows training. Enrollment by invitation from department only.

COMM 418-010 TPCS:ADVERTISING AND SOCIETY

Current directions in the study of advertising, with emphasis given to effects research. Focuses on several types of advertising (commercial, political, health) and the processes associated with both positive and negative message outcomes.

COMM 418-011 TPCS: EFFECTS OF NEW MEDIA TECHNOLOGY

Surveys the social and psychological effects of computer technologies. Examines the effects at various levels with an emphasis on the individual and interpersonal levels. Provides a better understanding of the impact of computer technologies in light of communication theories.

COMM 425-010/POSC 425-010 BROADCAST NEWS DOCUMENTARY

Students create a broadcast news documentary on a political current affairs topic, including videography, digital video editing, writing, interviews, production.

COMM 618-010 TPCS: ADVERTISING AND SOCIETY (Meets with COMM418-010)

Current directions in the study of advertising, with emphasis given to effects research. Focuses on several types of advertising (commercial, political, health) and the processes associated with both positive and negative message outcomes.

COMPUTER ENGINEERING**CPEG 467-011 COMPUTER NETWORK DESIGN AND MANAGEMENT**

Introduces data networks and telecommunications, with emphasis on practical design and Engineering. Students learn fundamental computer and voice networking, aided by case studies and hands-on laboratories. Explores standards, protocols, current tools and technologies. Examines issues such as security, convergence, wireless, IPv6, and network management.

CRIMINAL JUSTICE**CRJU 467-010 CAPITAL PUNISHMENT & AMERICAN CULTURE**

Considers connections between capital punishment and culture in the United States. Explores the meaning of capital punishment by examining the way it is represented in law, politics, and popular media. Emphasis on questions concerning inequality and capital punishment.

ECONOMICS**ECON367-050 ENVIRONMENTAL ECONOMICS**

Examines the economy's impact on the environment, it's significance, and the appropriate way of regulating economic activity so that balance is achieved among environmental, economic and other social goals.

Covers introductory welfare economics, the impact of free markets on the environment, and environmental regulation. Prereq: ECON 151.

ECON 467-010 URBAN & TRANSPORTATION ECONOMICS

Focuses on interaction between transportation systems and urban growth and development. Includes highway capacity and congestion, urban sprawl, environmental impact of transportation, and the efficiency of different mass transit systems, and airport capacity and aviation economics. Evaluates policy arguments related to public investment in transportation infrastructure, its effects on urban life, and the relative efficiency of transportation alternatives. Prereq: ECON 300 or ECON 301, and ECON 422.

ECON 467-011 STRATEGIC BEHAVIOR OF FIRMS

Uses traditional microeconomic theory and game theory to analyze cooperative and non-cooperative strategic behavior in firms. Includes predatory pricing, price discrimination, limit pricing, collusion, mergers, vertical restrictions, franchise arrangements, technological change, and the role of prices in clearing markets. Prereq: ECON300 or ECON301, and MATH221.

ECON 467-012 SEMINAR IN PUBLIC POLICY ECONOMICS

Readings on current topics in Economics, e.g., privatizing Social Security, education choice, African economic growth, foreign aid, Canadian health care, globalization, immigration, policies dealing with poverty. Focus on presentations of papers. Prereq: ECON 300 or 301.

EDUCATION

EDUC 867-010 RACE & ETHNICITY IN EDUCATION

Drawing on multiple disciplines, examines both historical and contemporary constructions and categorizations of groups of people into racial and ethnic groups. Analyzes and utilizes divergent conceptual frames to understand how institutional structures and everyday school practices and policies both produce and resist inequality along racial and ethnic lines.

ENGINEERING TECHNOLOGY

EGTE 167-050 SMALL ENGINES

Introduction to the small single and twin cylinder internal combustion reciprocating engine, featuring the Otto Cycle (fuel-spark ignition) engine and the Diesel Cycle (fuel-compression ignited). Discusses power, carburetion and ignition systems, and theory and operation of the two stroke engine as compared to the four stroke cycle. Laboratory designed to provide hands on experience.

EGTE 467-010 INTRODUCTION TO STATISTICAL QUALITY CONTROL

Includes quality improvement in the modern business environment, statistical methods useful in quality improvement and selected topics in statistical process control. CQE preparation. Prereq: MATH 201.

EGTE 467-440 SOFTWARE PROJECT MANAGEMENT

Examines the automation development process from end user/ system owner and developer/vendor perspectives. Two semester long software projects, one for users and one for vendors, will be executed simultaneously by student groups with the goals of developing human machine interfaces (HMIs) for existing industrial control systems.

ELECTRICAL ENGINEERING

ELEG 467-014/667-014 BIOPHYSICS OF EXCITABLE MEMBRANES

Includes passive and active membrane properties, temporal/ spatial integration of synaptic inputs, saltatory conduction, and the relationship between the molecular structure and conduction properties of the major classes of voltage-gated and ligand-gated ion channels. Prereq: general chemistry, ELEG 471/671, or instructor's permission.

ELEG 467-018/667-018 SPINTRONICS

Surveys an exciting new field with a focus on fundamentals of magnetism in solids, magnetic materials, thin film spintronics devices (such as magnetic tunnel junctions and Giant Magneto-Resistance (GMR) sensors), metal-semiconductor spintronics devices, and semiconductor spin transport and optical methods.

ELEG 467/667-050 SENSOR NETWORKS

Discusses and implements recently developed protocols for sensor networking. Includes several small projects and a large project. Graduate students required to give presentations. Prereq: Background in networking with knowledge of routing and transport layer protocols as well as a strong background in programming.

ELEG 667-010 MATHEMATICAL METHODS OF SIGNAL PROCESSING

Geared towards graduate students who are interested in signal processing or the mathematics associated with signal processing. As such, it is heavily mathematically oriented but applications will be stressed. Students expected to have had a matrix and linear algebra course, but we will be reviewing that material in class.

ELEG 667-012 GREEN'S FUNCTIONS

Green's functions are important in theoretical physics and engineering for formulating integral equations, and for solving partial differential equations both exactly and approximately. Covers spatial and spectral Green's function methods for equations useful throughout physics.

ELEG 667-013 SOLAR ELECTRIC TECHNOLOGY & APPLICATIONS

Principles of solar photovoltaic technology, applications, and systems. Critical issues in Si wafer and thin film research, manufacturing, cost and performance. Off-grid (< 1kW), grid-connected, building integrated and centralized (>1 MW) systems. For junior, senior, graduate engineers, and graduate energy policy students.

ENGLISH

ENGL 267-410 STORYTELLING FOR BEGINNERS

Preparation and presentation techniques needed to tell stories in a variety of public settings. Provides information on the history of storytelling and its application beyond the library and classroom, the business world, political events and family gatherings. Develop a theme, conduct research, write an original story, and prepare a polished program. Includes the business side of storytelling.

ENTOMOLOGY & WILDLIFE CONSERVATION

ENWC 467/667-010 ORNITHOLOGY LECTURE

Introduction to avian biology. Includes diversity, evolution, form and function, behavior and communication, reproduction and development, population dynamics and conservation.

ENWC 467/667-011 ORNITHOLOGY LABORATORY

Avian classification. Identification of birds by sight and sound. Emphasis on orders of the world. North American families and species of the mid-Atlantic region. Labs and field trips.

ENWC 467/667-012 WILDLIFE POPULATION DYNAMICS

Focuses on basic principles of population ecology using mathematical models and applied wildlife examples. Includes models of single-species population growth, multi-species interaction such as competition and predation, metapopulations, harvest dynamics, and disease infection. Prereq: Advanced algebra and working knowledge of Excel.

FASHION & APPAREL DESIGN

FASH 467-010 SOCIALLY RESPONSIBLE APPAREL PRODUCTION

Uses collaborative learning techniques to identify and compare definitions of social responsibility held by various stakeholders. Examines how issues such as workers' rights, development economics, and environmental sustainability are addressed in apparel production and sourcing. Appraises the personal responsibilities of apparel industry professionals for assuring social responsibility in global supply chains.

FINANCE

FINC 867-010/ECON867-010 WORKSHOP IN FINANCIAL ECONOMICS

Examine important topics in financial economics, become familiar with widely used financial databases, and conduct various empirical Experiments. Surveys issues from four areas in financial economics: market efficiency, asset pricing, corporate finance, and financial intermediation. Suggested for, but not limited to, all graduate students who intend to take the financial economics field exam. Prereq: Permission of instructor.

FOREIGN LANGUAGES & LITERATURES

FLLT 367-013 ARAB WOMEN: LITERARY, CINEMATIC, & FEMINIST NARRATIVES

Broad introduction to Arab women through their literary, cinematic and feminist narratives by reading and viewing representative samples of their fictional and non-fictional creative productions from films, short stories, poetry, novel and memoirs, to feminist manifestos and lectures on gender (in)equality.

GEOGRAPHY

GEOG 467-010/667-010 FIELD GEOMORPHOLOGY

Introduction to geomorphic field techniques and interpretation. Involves several overnight field trips to locations of regional geomorphic and chronologic significance. Emphasis on glacial and periglacial landscapes and sediments. Prereq or Coreq: GEOG/GEOL 385 or equivalent, or permission of instructor.

HEALTH & EXERCISE SCIENCES

HESC 667-050 SENSORIMOTOR CHARACTERISTICS OF INJURY

Central and peripheral nervous system attributes related to acute unintentional injury and overuse syndromes, with focus on both predisposing factors and chronic presentation after insult. Includes mechanoreceptor function, muscle tone and stiffness regulation, dynamic restraint, neuromuscular dyskinesia, and neurocognitive traits. Discusses implications for research and clinical outcomes.

HISTORY

HIST 367-010 WHAT IS JAPANESE GLOBAL POP CULTURE

Explores products brought to market by Japan's culture industry that range from the cuteness of the "Hello Kitty" line of children's products to the violence of the video game "Tekken." Examines the historical context that has enabled product designers to translate the particularity of Japanese culture into objects that are universally appealing.

HIST 367-011 AMERICAN SPORTS HISTORY

Major developments in American sports history since the Civil War. Includes the professionalization of sports and the transformation from amateur game to big business, industrial sport, race and the evolving position of African American athletes, mass media's effect on sports, the shifting role of women in sports, and the "Golden Age" of sports in the 1920s and the creation of athletic celebrities.

HIST 367-012 HISTORY OF MODERN AMERICAN BUSINESS

From the "robber barons" of the nineteenth century to Bill Gates and Martha Stewart, examines the ways in which business and business leaders have played a central role in American life. Topics include development of America's consumer culture, American business abroad, the role of foreign business activities in the U.S., and how McDonalds, Disney, and the Mall came to be our ubiquitous national symbols.

HIST 367-013 FIRST WORLD WAR

Examines the major aspects of the First World War, from its origins to peace treaties and consequences. Weaponry, military leaders and strategy complement coverage of mobilization of the home fronts, cultural and political change, and reaction to war through the arts.

HIST 367-410 INTRODUCTION TO AMERICAN STUDIES: THE 1930s

Examines traditional historical sources as well as analyzing literature, material culture, art and architecture, music, film, and popular culture in order to more fully understand the complexities of American culture during the Great Depression. No prior study of American history or culture is required.

HIST 367-411 REVOLUTIONARY DELAWARE

Explores the political and social developments in Delaware during the period of 1760-1812 as well as Delaware's leaders, "lower orders", less wealthy whites, free blacks, and slaves.

HIST 467-010 A WORLD AT WAR

Examines selected case studies from the "last good war": Europe in 1940, the fall of the western empires to Japan in 1941, the crucial role of the Eastern front, resistance movements (real and imagined), intelligence coups and disasters, and the war on the home front. Students develop a case study of their own that is the basis of both a class presentation and course paper.

HIST 667-050 ATLANTIC WORLD

Explores the theories and findings of historians who use the rubric of "Atlantic World" to examine the developments of four continents from empire-building in the western hemisphere to the era of revolutions. Covers creolization, labor systems, commodities and commercial networks, race, plantations and family farming, and more. Examines historical interpretations based on such terms as cultural or economic dependency, core-periphery, postcolonialism, capitalism, state formation, "othering," and identity.

HIST 667-051 CULTURES OF CONSUMPTION

Discusses recent literature on the development of cultures grounded in the consumption of factory-produced goods, considered as a central aspect of the rise of capitalism in the West. Emphasizes the history of the United States during the nineteenth and twentieth centuries, in the context of developments in earlier periods and other countries.

HIST 667-052 AFRICAN AMERICANS IN THE NINETEENTH CENTURY

Reviews the literature and major themes regarding the African-American experience during the late 18th and 19th centuries. Examines the Transatlantic and Domestic Slave Trades, the creation of African-Americans in new world colonies, gradual emancipation of the revolutionary era, the rise of cotton agriculture, internal slave migration, slave resistance, Reconstruction, and the rise of segregation in the New South.

LIBERAL STUDIES**MALS 667-050 AMERICAN ART 1860-PRESENT**

Explores the development of American painting and sculpture from the Civil War era to today, with reference to social and cultural trends as expressed in art.

MALS 667-410 HISTORY OF FOOD IN THE AMERICAS

Explores the history of business, technology, work, and consumer dimensions of food provisioning systems in the Americas. Readings combined with trips to area food institutions.

MALS 667-430 SOCIAL CONTROVERSIES IN BIOTECHNOLOGY

Engages in ethical and social debates of recent advances in biotechnology in agriculture and in healthcare. Empowers students to understand the underlying technical and scientific concepts, to appreciate and to question the various stakeholders in these debates.

MECHANICAL ENGINEERING**MEEG 467-010/667-010 ANALYSIS OF AIRCRAFT STRUCTURES**

Analysis and design of flight structures and other light-weight structures. Loads, supports and reactions, constitutive equations, and stress and deformation of components for flight vehicles. Overview of fatigue, thermal stress and instability analysis of structures. Prereq: MEEG 215, MEEG321.

MEEG 467-013/667-013 CELL & TISSUE TRANSPORT

Analysis of water, solute, gas and heat exchange in the microcirculation and the relationship between structure and function. Transport in biological porous media applied to arterial wall, bone and cartilage. Active transport across membranes applied to kidney and secretory organs. Introduction to transport across cell membrane and the role of receptors in transport, cell adhesion, and intracellular signaling. Prereq: MEEG331

MEEG 467/667-050 DESIGN OF FLEXIBLE COMPOSITE STRUCTURES

Brief overview of textiles as basis for flexible but structural material, where the load carrying capability is achieved primarily through internal pressure. Emphasizes traditional engineering design approach while discussing unique aspects of applying those concepts when using textiles as the basic material. Prereq: MEEG215 or equivalent, or permission of instructor.

MEEG 867-010 OPTIMAL DESIGN OF KINEMATICS AND DYNAMICS OF ROBOTIC SYSTEMS

Static optimization, theoretical background, numerical methods in optimization, mechanisms synthesis for function generation and rigid body guidance, dynamics of multi-body systems, lagrangian, structure of dynamic equations, feedback linearization, canonical forms; optimal design of dynamic systems; gravity balancing, reaction-less designs, differentially flat Designs.

MUSIC**MUSC 167-010 FRESHMAN SEMINAR, PERFORMANCE & THE PROFESSION**

Introduction to the academic and professional world of music. Explores various areas ranging from career goals to the specific academic needs of the music student. Master classes provide insight into the pedagogy of music instruction and learning. Includes peer interaction through performance and group discussion.

MUSC 367- 039 MUSIC THEORY PEDAGOGY PRACTICUM

Undergraduate teaching assistantship. May be repeated for credit.

PHILOSOPHY**PHIL 367-011 KILLING AND LETTING DIE**

Considers why doctors are forbidden to actively cause the death of terminally ill patients who are in great pain and want to die, but are allowed to withhold life sustaining treatment. Both practices result in avoidable earlier death. Why is killing condemned but letting die allowed?

PLANT & SOIL SCIENCES**PLSC 267-010 LANDSCAPE PRESENTATION GRAPHICS**

Graphic techniques for presentation of landscape designs, including plans, sections, elevations, sketches and perspectives, using drawing methods such as pencil, ink, pastels, watercolor and computerized programs.

PLSC 267-080 HNRS: HEALING PLANTS: MEDICINE, MYTH, MAGIC

An exploration of the medicinal use of plants from scientific, historical and cultural perspectives, including the healing connection that comes from cultivating plants. Includes plant-based medicinal traditions in China --- past and present; in Belize among the Mayans; and in native cultures of North America, India and Africa. Investigates the healing properties and cultural value of specific plants.

PLSC 367-010 ADVANCED PLANT MATERIALS

The study of new and unusual woody plants in the nursery industry. Covers plant introduction. Provides the tools necessary to stay current with future developments in new plants. Prereq: PLSC 212.

PLSC 667-011 CURRENT TOPICS: PLANT BIOLOGY

A journal club for students interested in discussing hot issues of plant biology.

PLSC 667-012 SPECIAL TOPICS IN RNA BIOLOGY

Develops several recent discoveries in RNA biology. Includes: RNAi/miRNAs/siRNAs, riboswitches, novel non-coding localization. Presents a cutting-edge view of concepts and approaches. Emphasizes basic knowledge and future potential. Prereq: Graduate level molecular biology or a nucleic acid biochemistry course such as CHEM 642 or equivalent.

PSYCHOLOGY**PSYC 467-011 ATTENTION & CONSCIOUSNESS**

Considers one of the central unsolved issues in science, the nature of consciousness. Survey's contemporary answers to what it mean to have "conscious awareness"; if animals are conscious; and if consciousness is associated with certain areas of the brain.

PSYC 467-050 PSYCHOPATHOLOGY IN THE MOVIES

Discusses how well films portray various mental illnesses, substance abuse, and brain damage with reference to how these problems are defined in DSM-IV.

PSYC 467-051/667-051 HUMAN COMPUTER INTERACTION

The field of Human Computer Interaction (HCI) continues to emerge as one of the most dynamic disciplines driving product development and research. Applied approach to the principles and methods of HCI via real world examples and hands-on projects.

PSYC 467-080 HNRS: SOCIAL MOTIVATION

Analysis of theory and research in the social psychology of motivation. Includes active student participation in research projects.

PSYC 667-011 SEMINAR IN LANGUAGE & THOUGHT

Explores various topics of language and thought focusing, among other things, on the linguistic and conceptual representation of space, motion, color, number, object individuation and theory of mind in both children and adults.

PSYC 667-050/867-050 INTEGRATIVE NEUROSCIENCE I

The second of a two-semester course in "pro-seminar" format, integrating current views of the systems of the brain and their functions. Includes brainstem mechanisms, sleep, motivation, learning, memory, development and various nervous system disorders.

PSYC 867-011 SOCIAL DEVELOPMENT

In depth examination of issues regarding children's social development including attachment to caregiver, development of behavioral and biobehavioral regulatory capabilities, and peer relations. The final assignment will be a grant proposal.

PSYC 867-013 COUPLE INTERVENTIONS

Provides a thorough and practical introduction to psychological approaches for understanding and intervening with problems of adult intimacy in romantic relationships (e.g., marriage.) Involves both didactic instruction and class discussion related to these issues.

PSYC 867-051 SOCIAL COGNITION

Provides a content background for the major research topics in social cognition, including their theoretical and historical roots. Includes implicit and explicit attitudes; dual process models of cognition, and their behavioral consequences, and systematic biases in social perception.

SOCIOLOGY

SOCI 467-050 QUALITATIVE RESEARCH METHODS

Explores such qualitative methods as participant observation, intensive interviews, focus groups, and content analysis, among others. Considers how these techniques are used in social research and the issues raised by them. Students create a research design and conduct qualitative research.

SOCI 467-051/CRJU 467-051 CULTURE, DEVIANCE & MUSIC

The importance of the leisure industry to local, national and international communities, plus theories and research on youth, leisure, culture, and music in connection to both deviant identities and behaviors. Special attention to the U.S., but includes countries such as England, Spain, Brazil, and Japan.

SOCI 667-010 DEVELOPMENT, VULNERABILITY, AND DISASTERS

Using a multi-disciplinary and international approach, explores the relationship between development, vulnerability, and disasters. Examines how factors such as development, globalization, poverty, inequality, gender, and race/ethnicity impact our vulnerability to disasters. Focuses on the importance, strategies, and mechanisms aimed at developing disaster resilient communities.

SOCI 867-010 MICROTHEORETICAL FOUNDATIONS IN SOCIOLOGY

Substantive and theoretical introduction to the major issues in microsociology and sociological social psychology. Reviews many of the substantive research areas in this field and concentrates on a few key theoretical areas (symbolic interaction; the linkage between attitude and behavior; identity). Emphasizes philosophical underpinnings to the methodologies used.

THEATRE

THEA 267-410 INTRODUCTION TO FILM ACTING

Examines film acting from a film critic's perspective. Showcases various aspects of the craft and includes supplementary commentary from the instructors own extensive knowledge (gained through years of interviews with actors and directors themselves). Learn to recognize and to analyze Aristotle's six elements of drama (plot, character, theme, diction, temp rhythm, and spectacle) using lectures and examples from films.

THEA 267-440 CONCEPT TO OPENING: THEATRE, COLLABORATION & ART

Covers the integration of the many collaborators brought into theatre's creative process from the initial ideas to its production on stage. Studies the roles and contributions of the producer, writer, composer, lyricist, director, musical director, choreographer, set and costume designers, actors, and audience.

URBAN AFFAIRS & PUBLIC POLICY

UAPP 667-010 PLANNING SCENIC & HISTORIC ROADS

Examines the history and character of historic and scenic roads and highways in the United States and how to evaluate a road for nomination to the Delaware Scenic and Historic Highway Program.

UAPP 667-011 COLLABORATIVE LEADERSHIP

Focuses on the attributes to collaborative leadership, tending to people, process and outcomes. Covers theory, skills and techniques used by collaborative leaders. The content will be delivered in such a way as to model course content and attend to adult learn theory.

UAPP 667-012 LAW FOR NONPROFIT ADMINISTRATORS

Overview of the landscape of legal issues faced by non-profit managers. Includes sessions on corporate structure and governance; maintaining tax-exempt status; lobbying and advocacy; board and trustee fiduciary obligations; liability and risk management; employment issues; and the legal relationship among board members, executives, staff members, and professional service providers such as attorneys and accountants.

UAPP 867-010 SUSTAINABLE ENERGY POLICY & PLANNING

Analyze sustainable energy strategies in terms of their economics, impacts on the environment (especially on climate change) and governance attributes. Analyzes policy options to facilitate a sustainable energy future.