

Spring 2009 Supplemental Course Descriptions
(updated February 3, 2009)

ANTHROPOLOGY

ANTH 367-010 MEDICAL ANTHROPOLOGY

Studies the complex interactions of human biology (evolution, variation, and adaptation), and human culture (beliefs and practices about disease and health care) that result in specific patterns of health, illness, and disease. Takes an evolutionary and cross-cultural approach to topics.

ANTH 367-011 ANTHROPOLOGY OF SPORTS

Considers sports from an anthropological perspective, focusing on how sports interact with other aspects of culture, such as economics, politics, gender, and religion. Examines these inter-relationships using case studies of traditional and contemporary sports, of race and sports, and of globalization.

ARABIC

ARAB 267-010,080 CONVERSATIONAL ARABIC

Continuation of ARAB 107. Emphasis on reading authentic materials from Arabic media, in addition to Alkitaab. Expands vocabulary. Audio and video materials develop an understanding of Arab culture and foster communicative skills. Prereq: ARAB 107.

ART

ART 367-011 GREEN INK: NEW TECHNIQUES IN LITHO AND ETCHING

Explores the many innovative Eco-friendly and non-toxic printmaking techniques that have recently been developed. Emphasizes experimentation with a conscience. Processes include non-etch etching, solarplating, and waterless lithography. Prereq: ART 243

ART HISTORY

ARTH 154-010,080 INTRODUCTION TO ART HISTORY II

Painting, sculpture and architecture of Western Europe from the Renaissance to the present studied in historical and cultural context.

ARTH 367-010 CONTEMPORARY ART

Explores art by artists around the world from 1970 to the present, investigating political, economic, and social contexts and effects of contemporary production, distribution, and consumption. Includes not only painting, sculpture, and photography, but also installation, new media, performance, and digital production.

ARTH 402-010,080 THE RENAISSANCE HOME

Examines the architecture and material culture of Renaissance palaces in Italy from 1400-1600. Focuses on everyday life and social history. Includes entertaining, marriage chests and rituals, kitchens and gastronomy, private chapels, decorating the bedroom, gendered spaces, birthing trays.

ARTH 402-011 ART OF THE NIGER DELTA

Explores historic and modern art of the Atlantic Niger Delta. Pays attention to the relationship between a tropical riverine ecosystem, the religious

practices it inspired, the recent politics of oil exploration and environmental degradation now encountered, and the traditional and contemporary art that engages these universes.

ARTH 606-010 EARLY IRISH & ANGLO-SAXON ART

Focuses on the period 600-800 CE across the British Isles, including discussion of sculpture and metalwork as well as illuminated and illustrated manuscripts. Primary issues are the use of textual sources, close examination of extant works of art, and historiographical developments.

ARTH 617-010 NETHERLANDS AFTER ICONOCLASM

Studies the impact of Protestantism and the 16th-century destruction of images on painting and printmaking in the 17th century Netherlands of Rubens, Rembrandt and Vermeer.

ARTH 621-010 CROSSINGS: FRENCH & BRITISH ARTISTS

The nineteenth-century was the age of travel and tourism, as well as of a popular and widely disseminated visual and literary culture. Explores visual and verbal responses to otherness by Europeans circulating within Europe.

ARTH 667-010 METHODS & HISTORIOGRAPHY OF ARCHITECTURAL HISTORY & THEORY

Intensive seminar designed to introduce important methodological grounds in architectural history and theory. Examines ways in which historians and theorists approach "architecture," and discusses strengths and pitfalls of each method. Themes vary from formalism and social history, to psychoanalysis and historiographical operation.

ARTH 667-012 CRITICAL RACE ART HISTORY

Explores how race informs the history of art. How has racial ideology affected how objects are interpreted, shaped taste and notions of beauty, determined the reception of works of art, and governed the construction of the canon?

BIOLOGICAL SCIENCES

BISC 467-010 EPIDEMICS AND PLAGUES

Covers diseases from the Plague, which ravaged ancient populations, to Mad Cow Disease, which resulted from recent human activities. Studies the microbiological, medical and societal perspectives. Preq: BISC300.

BISC 667-010 MOLECULAR MECHANISMS OF PATHOGENS

Examines the emergence, spread and pathogenesis of microbial pathogens. Reviews molecular aspects of disease transmission and infection, the role of horizontal gene transfer and mobile genetic elements in bacterial virulence, and the impact of pathogenomics on our understanding of the mechanisms of pathogenesis. Prereq: BISC300.

BISC 667-011 CONFOCAL MICROSCOPY

Introduces operation and theory of light and confocal microscopes. Confocal microscopy is a powerful research tool for high-resolution, blur free, optical images. Includes image formation, 3-D rendering, multi-dimensional microscopy, transmitted, fluorescence and reflected light techniques, sample preparation and analysis.

BISC 667-012 ATOMIC FORCE MICROSCOPY

Introduces atomic force microscopy theory and practice.

AFMs visualize surfaces by 'feeling' them with a sharp probe, allowing magnification range spanning that associates with both the light microscope and the electron microscope. Includes obtaining an image in both tapping and contact mode, imaging under a liquid environment, force measurement techniques, sample preparation and analysis.

BUSINESS ADMINISTRATION

BUAD 467-050/667-050 SUSTAINABILITY & GREEN BUSINESS

Uses case studies and current examples to analyze complex and integrated economic, social, and environmental issues, including corporate social responsibility, green marketing, social enterprises, and green innovation. Demonstrates an understanding of the business environment and how businesses can create value and minimize risk in this environment.

CHEMICAL ENGINEERING

CHEG 667-010 SPECIAL TOPICS IN ENERGY ENGINEERING

Includes an overview of non-renewable energy sources 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.

CHEG 867-012 SELECTED TOPICS IN BIOMOLEC ENGINEERING

Discusses current topics, themes, and research in biomolecular engineering for graduate students pursuing biomolecular engineering research. Topics will span both experimental and theoretical approaches in biomolecular engineering and cover application areas ranging from agriculture to bioprocess engineering to medicine.

CHEMISTRY

CHEM 667-010/MAST 667-010 ENVIRONMENTAL CHEMISTRY

Principles of energy and chemistry of the earth's atmosphere, hydrosphere and geosphere are applied to understanding energy fluxes and chemical exchanges of materials across those interfaces, and their significance in topics such as global climate, biogeochemistry, and air and water pollution.

CHEM 667-012 COLLOID CHEMISTRY

Introduces the principles of colloid chemistry and discussion of applications including; surface and interfacial tension, capillarity, interfacial adsorption, adsorption isotherms, adhesion, contact angles, surface wetting and dewetting, emulsification, foaming and defoaming, interfacial thermodynamics and electrostatics, etc. Prereq: CHEM103 or CHEM111, MATH241, CHEM321/322 OR CHEM331/332 (recommended).

CHEM 667-013 INDUSTRIAL CHEMISTRY

Covers the chemistry of converting petroleum, natural gas, etc., to the myriad consumer items that we take for granted, including inorganic and organic chemicals, catalysts, reaction mechanisms, polymers, structure-activity relationships for end uses, idea generation, and working in industry. The world of patents, profits, and research teams. Prereq: One year of general and organic chemistry.

CHEM 830-010 BIO-ORGANIC CHEMISTRY AND CHEMICAL BIOLOGY

Application of the concepts and tools of organic chemistry to problems in biology. Includes non-bonded interactions, protein folding, protein and small molecule design, chemical synthesis of peptides and proteins, folding polymers, polyvalency, molecular probes, fluorescence, structure determination by NMR spectroscopy, and chemical genetics. Prereq: one year of organic chemistry (e.g. CHEM321/322 or CHEM331/332) and one semester of biochemistry (e.g. CHEM641). All students must be comfortable reading the primary literature, as the course is taught from original journal articles.

CIVIL & ENVIRONMENTAL ENGINEERING

CIEG 167-011, 080 FRESHMAN DESIGN

Introduces the civil engineering profession and civil design; computer-aided drawing using Microstation. Team design projects. Course integrated with CIEG 461 Senior Design.

CIEG 467-010/667-010 SHALLOW FOUNDATIONS

Types of shallow foundations and their applications; overview of design; bearing capacity models and theories; consolidation settlement including numerical model; elastic settlement; creep; bearing capacity of rocks; problematic ground including expansive soil, collapsible soils, and karst terrain; ground improvement techniques relevant to shallow foundations; constructions.

CIEG 467/667-014/MAST667-014 INDUSTRIAL ECOLOGY

Familiarizes students with modern concepts of material and energy management as to minimize industrial impacts on environmental quality. Subjects include thermodynamic concepts, earth mineral cycles, environmental performance indices, life cycle analysis, eco-indicators, environmental susceptibility index, material flows, fossil fuels and energy, metals production, management of water resources, etc.

CIEG 467-015 CONSTRUCTION SYSTEMS

Provides engineering students with an overview of today's construction industry, as well as future trends and prospects. Includes construction processes, contracting, and construction management. Equips students with the basic knowledge and skills required of a construction engineer or manager.

CIEG 467-017 ENGINEERS WITHOUT BORDERS

Introduces topics useful to engineers working in the developing world; appropriate and sustainable technologies; cultural concerns in different social environments; project planning and coordination involving diverse teams and locales.

CIEG 667-011 RISK ANALYSIS

Introduces framework and methods to understand, characterize, and make decisions involving risk. Analysis techniques include decision analysis, fault trees, event trees, Markov models, and Monte Carlo simulation. Case studies emphasizing civil engineering applications illustrate the process of risk analysis and the application of the specific analysis techniques. Discusses issues related to risk perception, acceptability, and communications.

CIEG 667-012 STRUCT DESIGN FOR EXTREME EVENTS

Provides students with an understanding of unique design issues involved in designing structures to withstand extreme events. Current design methods and philosophies for mitigating the effects of extreme events are reviewed in

addition to providing students with experience using the analysis methods typically employed in such designs. Emphasis is placed on specific extreme events of chemical blast and progressive collapse.

CIEG 667-013 BRIDGE DESIGN II

Practical insight into bridge-engineering methods and bridge types beyond those studied in the first course on bridge engineering. Includes refined methods of analysis, post-tensioning, segmental construction, fracture-critical members, load evaluation, extreme-events & cable-supported bridges.

CIEG 667-016 MODELING ENGINEERING SYSTEMS

Design and operation of civil infrastructure systems such as power, water and transportation rely on complex modeling and simulation tools. Provides a fundamental understanding of the mathematical representations of these complex systems and methods used to solve them. Includes representation and solution to systems represented by systems of linear equations.

CIEG 867-010 RANDOM FIELD MODELS

Introduces the theory of multidimensional random processes which serve as models of various natural phenomenon's. Provides a basic framework for characterizing uncertain, spatially variable materials properties, and other distributed disordered systems. Includes classical probability concepts and Bayesian probability methods in random field context. Focuses on Gaussian random fields.

CIEG 867-011 COMPUTATIONAL GEOMECHANICS

Reviews generalized Biot theory for porous geomaterials. Discusses mixed elements and their limitations. Reviews algorithms suitable for coupled stress-flow analyses. Discusses anisotropy, time effects and numerical simulations of frictional interfaces. Uses the finite element method and suitable constitutive models to mathematically model and solve various problems in geotechnical engineering (e.g., consolidation, reinforced soil structures, etc.)

COMPUTER & INFORMATION SCIENCES

CISC 367-010 DIGITAL INTELLECTUAL PROPERTY

Economic, philosophical, social, and technical approaches to intellectual property (15000 BCE to present). Research contemporary IP issues in software, entertainment, the internet, and biotechnology.

CISC 449/649-010 COMPUTER VISION

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

CISC 489/689-010 INFORMATION RETRIEVAL

Covers search engine design and implementation. From acquiring collections of documents, to parsing and indexing them, to retrieving documents for complex queries, to other applications of IR. Teaches students to implement a search engine of their own.

CISC 829-010 ADVANCED ALGORITHMS

Discusses a range of advanced algorithm topics including string matching and advanced data structures. Emphasis on approximation algorithms for NP-hard

optimization problems including the traveling salesperson problem, bin packing and several network optimization problems.

CISC 849-010 HP PARALLEL ALGORITHMS FOR COMPUTATIONAL SCIENCE

Presents Molecular Dynamics and Monte Carlo algorithms for computational science applications, parallelization of these algorithms on high performance computing systems using MPI and Open MP, and performance analysis and optimization of the parallel applications.

CISC 849-011 COMPUTATIONAL PHOTOGRAPHY

Gives a broad overview on modern computational approaches to generating digital images and videos. Includes video capturing devices, novel camera models, movie special effects, and high dynamic range (HDR) vs. low dynamic range (LDR) images/videos.

CISC 889-010 MACHINE LEARNING

The study of computing systems that improve their "performance" with "experience". Primary focus is to provide an understanding of the underlying algorithms used in various widely-studied learning methods and show how they are used in practice.

COMMUNICATION

COMM 200-010 SEX, VIOLENCE & THE MEDIA

Acquaints students with the issues surrounding the prevalence of sex and violence in the media. Includes free speech/press decisions and their impact, why people watch, their effects, and the market forces that encourage corporations to carry such content.

COMM 200-011 FAMILY SYSTEMS

Introduces 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 320-080 DISCOVERING PUBLIC DIPLOMACY

Engages students in a detailed study of communication research. Includes conducting your own research project.

COMM 418-010/618-010 COMMUNICATION & ADVERTISING

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

COMM 418-011/618-011 MEDIA ETHICS & ACCOUNTABILITY

Examines the role(s) that mass media is expected to fulfill in society, and of the various ways for holding media accountable for meeting those responsibilities.

COMM 425-010 ROADCAST NEW DOCUMENTARY

Create a broadcast news documentary on a current affairs topic, including videography, digital video editing, writing, interviews, production. Preq: COMM 318 or ENGL 307 or COMM 326 or Permission of instructor.

COMM 440 010/640-010 COMMUNICATION & EMOTION

Studies the links between human communication and emotion; how people learn to experience, control, and communicate emotions in healthier and more

effective ways; and how people manipulate our emotions through communication. Explores a variety of perspectives including cognitivism, social constructionism, existentialism, and depth psychology.

COMPUTER ENGINEERING

CPEG 467-010/667-010 PCB & FPGA HARDWARE PROTOTYPING

Design, fabricate and assemble printed circuit boards including programmable devices and application specific circuits. Project oriented; students choose an implementation project - ranging from audio processing to embedded computing. Software used includes Cadence PCB design tools and XILINX FPGA design tools. Prereq: CPEG422 or CPEG622.

CPEG 467-011/667-011/ELEG467-011/667-011 SEARCH ENGINE TECHNOLOGY

Underlying technologies of search engines, with hands-on project experience. Includes information retrieval models, information filtering, text classification, text clustering etc.

CPEG 467/667-014/ELEG 467/667-014/CISC 467/667-014 INTRO TO NETWORK SECURITY

Introduces the fundamentals of network security and the principles of secure systems design. Includes Network security models, analysis of typical network attacks and the corresponding countermeasures, introduction to cryptography and crypto-analysis, Intrusion Detection Systems, network security protocols, and wireless security. Prereq: General concepts of computer networks and computer systems architecture.

ECONOMICS

ECON 367-010 ENERGY ECONOMICS

Nature and structure of energy markets. Emphasizes the role of economic forces including supply and demand, market structure, and technological change. Discusses policy alternatives. Prereq: ECON151.

ENGINEERING GRAPHICS & GENERAL

EGGG 567-010, 011 WRITING ACADEMIC RESEARCH ENGINEERING & SCIENCE

Current approaches to understanding and producing the forms of academic writing central to doing academic engineering research. Common organizational schemes for engineering reports, proposals, presentations, and journal articles, as well as professional style and essential topics in mechanics for non-native speakers of English.

EDUCATION

EDUC 667-010/IFST 667-010 EVALUATION MODELS & APPROACHES

Using a case-based approach, covers major evaluation models and approaches and their implications for evaluation planning, design, and use. Provides a foundation for thoughtful, credible, and ethical evaluation practice. Prereq: Coursework in research methods and/or experience as an evaluator.

ELECTRICAL ENGINEERING

ELEG 667-013/MSEG 667-013 SOLAR HYDROGEN

Topics relating to solar hydrogen relating to the generation and use of hydrogen from solar energy sources, particularly photovoltaics and photo-electrochemical systems. Includes: technical analyses of energy payback,

applications of solar hydrogen systems; energy and efficiency analysis of hydrogen systems; economics and policy. Project based.

ENERGY & ENVIRONMENTAL POLICY

ENEP 667-010/UAPP 667-010 CLIMATE CHANGE: SCIENCE POLICIES & POLITICAL ECONOMY
Examines existing policy responses to climate change, alongside opportunities for a redirected political economy to achieve sustainable energy and environmental conditions with meaningful CO2 reductions. Focuses on the possibilities and limits of scientific knowledge and technology in galvanizing social change.

ENTOMOLOGY & WILDLIFE CONSERVATION

ENWC 367-010 CLOSE-UP DIGITAL NATURE PHOTOGRAPHY

Methods of using a digital SLR camera, macro lens, electronic flash and other equipment specific to close-up nature photography. Use of electronic technology to render, retouch, adjust color, and combine multiple exposures/focus. Examines the techniques and visual elements in the photographic image.

FINANCE

FINC 467-050 MUTUAL FUNDS

Given the prominence of the mutual fund industry, focuses on understanding the industry's practices, regulations, and key current issues. Provides an in-depth review of the mutual fund industry through lectures, class discussion, case analysis, and a project. Prereq: FINC311.

FINC 467-051/667 051 CFA PREPARATORY LAB

Prepares students to take Level I of the Chartered Financial Analysis examination by exposing them to a preparatory structure which emphasizes a schedule of material study, note taking and continuous review, and sample exam taking.

FINC 467-052 REAL ESTATE DEVELOPMENT & INVESTMENT

Focuses on creating an investment strategy for a complex real estate development project, including financial modeling, market research, debt and equity placement, and analysis of appropriate return criteria for potential capital partners. Term projects presented to an industry panel.

FINC 467-053/667-053 ANTI-MONEY LAUNDERING

Reviews the evolution of anti-money laundering laws, bank compliance programs, and whether the benefits of these programs outweigh their tremendous costs and customer privacy concerns. Prereq: FINC311 for FINC467-053 and FINC850 for FINC667-053.

FINC 467-054 GENERAL SECURITIES-SERIES 7

Examines topics that are tested on the FINRA Series 7 Examination. The Series 7 License qualifies professionals for the purchase/sale of all securities products, including equities, fixed income, derivatives, real estate, and funds. Class will meet exclusively in the Exelon Trading Center.

FINC 467-080/FINC 667-010 DERIVATIVES

Examines pricing and use of derivative securities.

FINC 867-010/ECON867-010 WORKSHOP IN FINANCE

Introduces financial economics. Studies central topics in the social science of finance; finance fundamentals/market efficiency, asset pricing, and corporate finance. Provides selected coverage of financial institutions, market microstructure, corporate governance, and international finance is also provided.

FINC 867-050 SMALL FIRM FINANCE & BANKING

Explores similarities and differences between large and small companies; the challenges facing management with emphasis on financing. Includes organization forms, business life cycle, risks and issues of entrepreneurship, sources of funding working capital and generational concerns. Utilizes lectures, case studies and group interaction. Prereq: FINC867-050, FINC850.

FINC 867-051/ECON 867-051 WORKSHOP IN FINANCE: METHODS

Employs empirical methods to test hypotheses regarding market efficiency, asset pricing, capital structure, corporate governance, accounting information and returns, and transaction costs. Use SAS to examine Compustat, CRSP, and NYSE-TAQ data. Requires no prior experience with SAS or the data sets.

FOREIGN LANGUAGES & LITERATURE

FLLT 467-010,080 ONE WORLD: CINEMATIC PERSPECTIVES ON GLOBAL DIVERS

Offers intense multi-cultural/global-culture immersion via the medium of film. Comprised of a synthetic, reflective analysis of international films and the various ethical, social, and political issues they address. Discusses ethical, social, and political issues that transcend linguistic, ethnic, and geographical lines of demarcation.

FLLT 667-010 SECOND LANGUAGE ACQUISITION RESEARCH

In-depth exploration of topics pertaining to the acquisition of a second or additional language. Highly recommended for students planning to write a master's thesis, and for those preparing for their comprehensive examination in Foreign Language Pedagogy.

GEOGRAPHY

GEOG 367-050 GEO-VIDEO

Introduces students to the use of video to document all aspects of the Geography discipline, including Physical and Human Geography, and Environmental Science. Teaches basic video production techniques (camera operation, editing, etc.) through working on short video productions with geographical content as assigned by professors in the department.

GEOLOGY

GEOL 167-010 LIFE'S A BEACH: GEOL PROCESSES

Introductory study of the geology of the coast. 'Reading' beaches by geological phenomenon and physical processes. Historical and contemporary analysis of how populations have chosen to live with or against the natural dictates of the shore with costly and tragic consequences.

HISTORY

HIST 367-010 AMERICAN CONSUMER CAPITALISM

Explores the relationship between consumption (ideas, practices, desires) and the cultural and economic formation of modern America. Readings range from critical theoretical texts (Marx, Adorno) to historical analysis of advertising, shopping malls, intellectual property, and mass media.

HIST 367-011 U.S. HISTORY FOR TEACHERS

Conceptualizes and organizes history content in ways that improve the teaching of American History at the elementary and secondary school level.

HIST 367-012 HISTORY OF BRAZIL

Focuses on Brazil over five hundred years, from first contact with Europeans through independence, modernization and contemporary issues facing Brazil. Topics include the fate of indigenous peoples; colonial economies and society; slavery and ideas about race; twentieth-century nationalist and resistance movements; and popular culture.

HIST 411-010,080/WOMS 411-010,080 WOMEN IN 20TH C. AMERICA

Uses biography and autobiography to study the history of women in the 20th century. Each week's seminar focuses on discussing a biographical or autobiographical work, and through it the experiences of varied women in the last century.

HIST 411-011 POPULAR MUSIC IN TH US, 1900-1989

Explores the politics, culture, and economics of popular music in the United States in the twentieth century, from ragtime to country, rock to rap. Themes include genre, technology, intellectual property, identity, and commercialism.

HIST 411-012 MATERIAL CULTURE: DISPOSABLE AMERICA

Explores American society and culture through what it throws away. Students "adopt" disposable objects to research; class members develop papers and an online exhibition based on their findings.

INDIVIDUAL & FAMILY STUDIES

IFST 367-010 MENTORING & HELPING RELATIONSHIPS

Introduces the core dimensions of mentoring and helping relationships: empathy, active listening, problem-solving, and cultural competence. Emphasizes practice in communication that facilitates interpersonal functioning.

LIBERAL STUDIES

MALS 667-410 BIOETHICS: HARD DECISIONS IN A JUST SOCIETY

Considers the ethical implications of biomedical procedures, such as abortion, organ transplants, and experiments using human beings as subjects. Examines basic principles of ethics and methods for making difficult ethical decisions.

MALS 667-411 U.S. FOREIGN POLICY: A CLOSER LOOK

Examines the origins of U.S. foreign policy; the people and the institutions that formulate our foreign policy. Explores and evaluates the people and the institutions that implement American foreign policy, and current policies that clearly effect the economic and the political life of the nation."

MARINE STUDIES

MAST 667-012 MOLECULAR TECHNIQUES SURVEY

Introductory survey to the common molecular biology techniques used in marine molecular ecology research

MAST 667-016 CLIMATE CHANGE LAW AND POLICY

Considers global, regional, national and sub-national policy responses to climate change, which is the over-riding environmental issue of our time, citizen responses to governmental inaction, and climate change science and equity.

MATHEMATICS

MATH 167-050 CALCULUS CONCEPTS SEMINAR

Provides an opportunity to engage in challenging problem-solving activities in calculus. Includes working in cooperative groups to develop mathematical maturity, enhance mathematics communication skills and establish a learning community.

MEDICAL TECHNOLOGY

MEDT 267-010 THE LANGUAGE OF MEDICINE

Comprehensive foundation of medical terminology for use in health care careers. Emphasis on body structures, anatomical systems, pathologies, medical procedures, medical specialties, and common terms and abbreviations used in health care.

MECHANICAL ENGINEERING

MEEG 467-010/667-010 DESIGN & MANUFACTURE OF FLEXIBLE STRUCTURES

Introduces the use of fabric materials in engineering structural design. Emphasizes the traditional engineering method while discussing the unique aspects of applying those concepts in designing and manufacturing structures with flexible fabrics as a critical material component. Prereq: MEEG215 or equivalent or consent of instructor.

MEEG 467-011/667-011 NANOMATERIALS AND NANOTECH

Introduces students to the science of the building blocks of nanostructured materials, material behavior when they are assembled, technology for building nanoscale structures and features, nanomaterials for energy conversion and storage, and the technological implications of these nanomaterials and nanotechnologies.

MEEG 467-012/667-012 BIO-ROBOTICS

Design, analysis, and control of bio-inspired robotic systems. Includes bio-inspired sensors and actuators, biological system dynamics, locomotion principles, and control issues. Covers detailed case studies and current research trends.

MEEG 467-013/667-013 FORENSIC ENGINEERING

Studies the application of Mechanical Engineering in forensic investigation and analysis. Includes case studies in various technical areas, (i.e. product liability, injury biomechanics, accident reconstruction, structural failure). Discusses of the role of the engineer as an expert witness in the legal system. Prereq: MEEG 211, 304

MEEG 867-010 MESOSCOPIC CFD METHOD

Introduction to lattice Boltzmann equation and its applications as a numerical approach to single and multiple-phase flows. Relationships between

mesoscopic operation rules and macroscopic differential equations. Treatment of complex boundary conditions and multiscale fluid-fluid and fluid-particle interfaces. Examples of lattice-Boltzmann computer simulations.

PHYSICS

PHYS 638-010 PARTICLE ASTROPHYSICS

Introduces the science goals and phenomenology of particle astrophysics with emphasis on cosmic rays, gamma-rays and neutrinos. Includes an overview of relevant detectors and analysis methods as well as acceleration and propagation of high-energy particles in space.

PHYS 667-010 GALAXIES

Addresses the structure, formation, and evolution of galaxies as building blocks of the universe. Emphasizes using the laws of physics to interpret observational data and recent discoveries in the field.

PHYS 826-010 ADV TPCS: CONDENSED MATTER PHYSICS

Current exciting topics in condensed matter physics. Spin polarized transport and high frequency behavior in magnetic nanostructures. Super solid behavior in He? Permanent magnet in bulk and film form, with particular emphasis on their relevance to hybrid electric vehicles and high frequency devices.

PLANT SCIENCE

PLSC 467-010/667-010 FORAGE RESOURCE MANAGEMENT

Explores the various grasses, legumes and forbs that have potential as forage crops. Covers characteristics of each species that make it suited for a particular type of forage use. Includes cultural practices for successful plantings, maintenance, harvest, and storage and preservation.

PSYCHOLOGY

PSYC 167-011 HEALTH PSYCOLOGY

Designed to give students an introduction to the Biopsychosocial Model of health and wellness. From the perspective of the Biopsychosocial Model, explores the complex relationships among health and several biological, social and psychological factors.

PSYC 467-011 PSYCHOLOGY OF PREJUDICE

Surveys the literature on prejudice and prejudice reduction and also involve students in guided, team-based research projects for up to an additional seven hours per week beyond the three hour class session.

PSYC 467-012 SOCIAL SELF

Discusses how social and personality psychologists study the self. Considers whether people view themselves accurately; if self-esteem is a good trait; what motivates people; how culture shapes the self; and if some selves are healthier than others.

PSYC 467-013 SEMINAR IN CREATIVITY

Survey of readings and research on musical, artistic, and scientific creativity. Discusses all contemporary theories, including those pertaining to expertise and cognition, personality, social issues, and neuroscience.

SOCIOLOGY

SOCI 267-010 SOCIOLOGY OF POP CULTURE

Examines important topics in the American sociology of popular culture. Explores four topics that are central to the sociology of popular culture: the political economy of production; textual analysis; consumption and celebrity and fandom.

SOCI 467-010 SOCIOLOGY OF ART & CULTURE

Considers classical statements in the sociology of culture, assessing their continued relevance by looking at some contemporary applications and interpretations. Focuses on selected current issues in the sociology of art and culture.

SOCI 667-010 GENDER, CRIME, AND DEVIANCE

Explores theoretical and empirical research that relates to gender, deviance, social control, and crime. Examines policy implications of these issues, paying particular attention to how multiple statuses of individuals (race, gender, sexual orientation, social class, etc.) affect social and institutional responses.

SOCI 667-012 TEACHING SOCIOLOGY & CRIMINOLOGY

Seminar for graduate students in Sociology and Criminology, focusing on issues that arise from the teaching of these disciplines.

THEATER

THEA 267-010 THE WESTERN THEATRE: LIVE ON STAGE

An historical view of theatre starting with the Greeks through late 20th century plays with examples performed live on stage by professional actors from UD's Resident Ensemble Players.

URBAN AFFAIRS & PUBLIC POLICY

UAPP 667-011 IT FOR PLANNING & ADMINISTRATION

Considers the use of technology tools in administration, planning and policy advocacy. Provides specific skills in selecting, using and applying technology. Focuses on Internet-based applications.

UAPP 667-012 TRADITIONAL ARCHITECTURAL MATERIALS

Overview of composition, fabrication methods, deterioration mechanisms, and preservation needs of stone, ceramic, metal, glass, mortar, plaster, paint, and wood components of traditional architecture from a variety of cultural contexts.

UAPP 667-013 INTRODUCTION TO PHOTOGRAPHING HISTORIC ARCHITECTURE

Combines principles of architectural photography to the photographic documentation of historic architecture, structures, and landscapes. Emphasizes identifying and photographing character-defining features of architecture and engineering structures. Reviews photographic protocols of the Historic American Buildings Survey and Engineering Record. Teaches in field photographing properties.

UAPP 667-014 EDUCATIONAL POLICY ANALYSIS

Introduces the field of policy analysis and application to education. Includes policy process, policy analytic frameworks and concepts, policy alternatives and evaluation, recent history of educational policy analysis

(1960s to present) and examples of educational policy analysis (e.g., significant reports, journals, websites).

UAPP 667-015 INTRODUCTION TO GIS

Hands-on introduction to Geographical Information Systems. Includes concepts behind GIS, examples of GIS applications, thematic mapping, GIS data creation and editing, introduction to web based GIS, basic GIS utilities for analysis and data management, and putting together GIS Projects demonstrating how GIS can be used.

UAPP 667-016 GIS DATA ANALYSIS/presentation

Develops data analysis skills using GIS, particularly related to issues in public policy. Includes thematic mapping and data presentations, aggregation/dis-aggregation, identification and overlay analysis, developing statistics using GIS data concerning population distributions and targeted markets, accessibility as used with placement of public services.

UAPP 667-017 GIS APPLICATIONS FOR PLANNING & PUBLIC POLICY

Broad review of GIS concepts/public policy applications requiring no previous knowledge/skills in GIS. Includes use of GIS in transportation, environmental protection and management, public safety, land records, and education, GIS standards, accuracy and data quality/availability. Guest speakers.

UNIVERSITY STUDIES

UNIV 167-010 SEM: NAVIGATING YOUR ACADEMIC PATH

Through self-exploration, academic resources, and discussions, empower students to make more appropriate decisions regarding their plan of study, as well as career options for the future.

WOMEN'S STUDIES

WOMS 267-010 (RE)VISIONING SEXUAL VIOLENCE

Explores sexual violence through the medium of film Includes a variety of films and reading material about sexual violence.