

**Spring 2011 Supplemental Course Descriptions
Updated January 3, 2011**

ANIMAL & FOOD SCIENCE

ANFS 467-010/667-010 INTRODUCTION TO SYSTEMS BIOLOGY TECHNIQUES
Introduces the advanced genomic techniques used in Systems Biology. Includes lectures and current articles from high impact journals used as practical examples.

ANFS 467-012 THE PATHOGENESIS OF DISEASE IN ANIMALS
Introduction to microbial, host, and environmental factors that contribute to the pathogenesis of specific disease conditions, including microbial infections, allergic hypersensitivities, malignancy, tissue transplantation, and autoimmunity.

ANTHROPOLOGY

ANTH 367-010 ISSUES AND METHODS OF ARCHAEOLOGICAL RESEARCH
Fundamental research methods. Cultural resource management archaeology, archaeological research plans and designs, sampling in archaeology, culture historical analysis, predictive models, experimental archaeology, artifact analysis, research ethics.

ANTH 376-011 HUMAN VARIATION AND ADAPTATION
Modern human biological variation and adaptation, including genetics, anatomy, and physiology from the perspective of biological anthropology; how and why humans vary genotypically and phenotypically, appreciating the power of evolutionary forces to shape modern humans.

ART

ART 267-010 CONTEMPORARY POSTCOLONIAL ART OF SOUTHEAST ASIA
Introductory survey of colonial history of SE Asia – focusing on Indonesia, Philippines, Vietnam. Explore contemporary regional art for reviewing history & re-imagining national and ethnic identity. Hybrid seminar-studio course.

ART 367-011 SEMINAR: EXPANDED PRINT MEDIA
Explores the print processes learned in Intro to Printmaking, experiments with new forms including lithography and multi-processes, digital output & dissemination. Student driven projects emphasize mixing media & interdisciplinary problem solving.

ART 367-012 EXPANDED CLAY PROCESSES
Explore, research, test ceramic materials, structures, and transformations in a variety of hand-building, glazing, and firing techniques. Focuses on material

experimentation in group & individual projects emphasizing creative & original approaches & outcomes.

ART 367-013/BAMS 367-013 SEMINAR: THE ART OF LIBERATION

Students look at the work of 20th century international liberation artists from interdisciplinary points of view that consider the activism behind the art. Includes interaction with contemporary activist artists and a community project.

ART HISTORY

ARTH 367-010/MCST 367-010 ELECTRIC MODERNISM

Looks at how electricity changed architectural and urban form, in particular, from indoor and outdoor lighting, to automatic equipment, to do-it-yourself projects executed with cheap power tools.

ARTH 415-010 THE AGE OF BERNINI

Bernini's sculpture and architecture in the context of papal patronage, religious reform, stylistic polemics and art theory. Topics include: fountains, caricature, theater, techniques, portraiture, chapel design, and baroque poetics.

ARTH 420-010 ART AND KNOWLEDGE IN CENTRAL AFRICA

Explores the art of Kongo, Luba and Kuba peoples in relation to oral histories. Investigates the intriguing possibility of an art history in cultures that did not write!

ARTH 435-011 TROMPE L'OEIL: ILLUSION IN AMERICAN ART AND CULTURE

Is illusionism as American as apple pie? This seminar explores forms of artistic deception practiced in the United States and the historical, cultural, and conceptual issues posed by illusion.

ARTH 445-010,080/ARTH 667-010 COLLECTING C/CHINA: HISTORY OF COLLECTING AND THEORIES OF THING

Examination of the history of collecting, late 18th – early 20th century. Case studies in European, American, Chinese, & Japanese practices of collecting. Discuss social life of thing & cultural theories of thing, from semiotics to post-colonialism.

ARTH 605-010 VISUAL CULTURE IN POMPEII

Investigates diverse forms of visual communication that were integral to the fabric of Pompeii, including the art of spectacles and banquets, images of work and gods, house decoration, and civic spaces and places of entertainment.

ARTH 617-011 APPROACHES TO VERMEER

Vermeer's art and the history of writing about Vermeer.

ARTH 619-010 ART AND CONQUEST IN THE NEW WORLD

Critical examination of monuments and artworks created in the New World after the arrival of the Spanish Conquistadors, and the dynamics of power that took place within the artistic production of the Americas from 1492 until the early 1700s.

ARTH 621-010 CROSSINGS IN ART, LITERATURE AND CULTURE IN THE ROMANTIC AGE

A seminar about the interdisciplinary and inter-textual relations (or crossings) in the visual and literary culture of the Romantic period (ca. 1815-1860) in three diverse contexts: France, England, Germany.

CIVIL & ENVIRONMENTAL ENGINEERING

CIEG 467-010/CIEG667-011 ENGINEERS WITHOUT BORDERS

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

CIEG 467-011 INDUSTRIAL ECOLOGY: THE SCIENCE OF ENVIRONMENTAL SUSTAINABILITY

Includes thermodynamic concepts, earth mineral cycles, environmental performance indices, life cycle analysis, eco-indicators, environmental susceptibility index, material flows, fossil fuels and energy.

CIEG 467-012 ADVANCED STRUCTURAL ANALYSIS

Intro to various methods of analysis of statically indeterminate structures. Discusses force methods and displacement methods, including method of consistent distortions, equation of three moments, slope deflection, and moment distribution.

CIEG 467-013/CIEG 667-013 MODELING ENGINEERING SYSTEMS

Topics include representation and solution to systems represented by systems of linear equations, such as water and power and those constrained to integer solutions, such as transportation. Includes a review of linear algebra techniques.

CIEG 667-014 BRIDGE DESIGN II

Advanced topics include: refined methods of analysis, post-tensioning, segmental construction, fracture-critical members, load evaluation, extreme-events and cable-supported bridges.

CIEG 667-015 STRUCTURAL DESIGN FOR EXTREME EVENTS

Reviews current design methods and philosophies for mitigating the effects of extreme events. Emphasis is placed on the specific extreme events of chemical blast and progressive collapse.

CIEG 667-016 MANAGING TRANSPORTATION CORRIDORS

Focuses on data collection techniques, determination of peak hours, developing critical movement summaries, signal timing plans, final coordination plans.

COMPUTER & INFORMATION SCIENCES

CISC 367-010 EDUCATIONAL GAME DEVELOPMENT IN PYTHON

Learn Python, TUI programming, and build apps for the XO (one-Laptop-per child laptop). Use your computer science knowledge to write educational programs or games in collaborative teams. Learn communication skills for working with non-expert computer users.

CISC 367- 011 THE HISTORY OF PERSONAL COMPUTERS

Explores important technical and business milestones contributing to the evolution of modern microcomputer systems. Discusses the historical context of microcomputers.

CISC 489-010/689-010 ALGORITHMS & MACHINE LEARNING METHODS IN COMPUTATIONAL BIOLOGY

Presents fundamental topics in algorithms, probability, statistics and machine learning. Demonstrates their practical use as building blocks for advanced methods in computational biology. Includes dynamic programming, graphs, Bayesian methods, expectation maximization, hidden Markov models, categorization, and their application in sequence alignment, sequence assembly, gene finding, protein subcellular localization and other biological challenges.

CISC 489-011 ARTIFICIAL INTELLIGENCE IN GAMES

Examines and implements the techniques that are often used in games for movement, path-finding, decision making, tactics and strategy, and learning.

CISC 849-010 ENVIRONMENTAL ROBOTICS & VISION FOR ANIMAL BEHAVIOR ANALYSIS

Examines the increasing use of robots and computer vision for environmental monitoring and animal behavior analysis, both in the field and in the laboratory. Surveys sensors, algorithms, and applications through readings, presentations, and projects.

CISC 849-011 COMPUTATIONAL BIOMEDICINE

Explores machine learning methods and their current applications in biology and medicine.

CISC 879-010 ADVANCED PARALLEL PROGRAMMING MODELS FOR SCIENTIFIC & ENGINEERING APPLICATIONS.

Interdisciplinary course for students interested in science, computer science and engineering. Presents advanced parallel programming models including GPU programming cloud computing and volunteer computing.

CISC 879-011 ADVANCED SOFTWARE VERIFICATION

State-of-the-art formal software verification techniques. Read, present, and discuss papers from the literature, and experiment with some of the leading verification tools. Topics vary and may include symbolic execution, (symbolic, bounded, real-time, dynamic, and/or explicit) model checking, theorem proving, static analysis, and Satisfiability Modulo Theories. Emphasizes applications to concurrent and/or scientific software.

CISC 889-010 CLQ: APPLICATIONS OF NATURAL LANGUAGE PROCESSING

Focuses on the practical aspects of natural language processing (NLP). Studies common tasks/problems in the field and applies existing techniques and tools to quickly develop accurate solutions.

COMMUNICATIONS

COMM 200-010 SEX, VIOLENCE AND THE MEDIA

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

COMM 200-011 INTERPERSONAL COMM IN BUSINESS SETTINGS

Examines theory and research. Engage in practice relevant to situations in which interpersonal communication is critical in organizational settings, such as group decision making and negotiation

COMM 200-012 COMM & 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 305-010 TPCS IN COMM AND POLITICS: COMMUNICATION AND SOCIAL PROTEST:

Examines social movement and social protest communication with particular emphasis on war, peace and dissent. Includes political communication and public activism, use of new media, and contemporary movement forms.

COMM 320-080 COMM RESEARCH PRACTICUM

Conduct a research study about persuasion in interpersonal relationships. Gain experience in designing surveys, analyzing resulting data, and writing reports based on data analysis.

COMM 418-010/COMM 618-010 ADVERTISING IN SOCIETY

Studies the content of advertising and the relationship between advertising and the individual consumer. Examines advertising's cognitive effects and how they can translate into behavioral effects.

COMM 418-011/COMM 618 FREEDOM AND RESPONSIBILITY OF EXPRESSION

Consideration of the foundations of free expression and the concomitant responsibilities of those who exercise it. Attention to both individual expression and media content. Includes political COMM, hate speech, and deception.

COMM 425-010 BROADCAST NEWS DOCUMENTARY

Experience concepts, and practice development and presentation of a full-length TV new documentary. Includes program concept, design, field reporting, producing, editorial decision making, writing, digital video editing and presentation.

COMM 440-010 COMMUNICATION AND EMOTION

Human communication and emotions are explored from a variety of perspectives including cognitivism, social constructionism, existentialism, and depth psychology.

COMM 444-010/ POSC 444 GLOBAL AGENDA 2011: MIRROR, MIRROR ON THE WALL

Overview of international policy and media speaker series that focuses on understanding how the United States is perceived by nations abroad. Includes exploring how the United States is viewed by other nations in terms of its military, economic, cultural and political power.

COMPUTER ENGINEERING

CPEG 467-011/CPEG 667-011 RELIABLE COMPUTING AND SYSTEM DESIGN APPROACHES

Introduction to reliability challenges in future computer systems, including permanent, transient and intermittent faults, as well as temperature induced reliability issues. Provides a global view of the current research literature.

CRIMINAL JUSTICE

CRJU 367-010 CHILDHOOD AND SOCIETY

Exploration of the conditions affecting children in contemporary society, with a particular focus on adolescence. Includes poverty, educational systems, and risk behaviors.

DISABILITY STUDIES

DISA 867-010 PRACTICUM

Sets the stage for an internship in an organization or agency responsible for emergency management.

ELECTRICAL ENGINEERING

ELEG 467-010/667-010 ELECTRIC POWER II

Second course in electric power systems. Covers construction materials & design principals of indoor & underground 3-phase high voltage electric power systems, system economics, reliability, load characteristics, load management, & metering.

ELEG 467-011/667-011 ELECTRIC MOTORS & GENERATORS

Basic course in motor and generator performance and application. Includes electric power and energy, mechanical power and energy, and the torque, speed, efficiency, and economics of the various motor and generator designs.

ELEG 467-012/CPEG 467-012 SPECIAL PROJECTS IN ECE

Students work singly or in small groups on engineering projects, mostly in the areas of signal processing and computer engineering. Produce progress and final reports for distribution to industrial and government sponsors.

ELEG 867-010 NON-LINEAR & RF PHOTONICS

Introduction to RF photonic components, transmission systems and signal generation/processing/detection techniques. Presents in depth description of the fundamentals physics of operation as well as the underlying limitations.

FINANCE

FINC 467-011/667-011 MEET THE MARKET

Provides the opportunity to learn about careers in the financial services industry from industry professionals, develop your professional network, and prepare for your career and job search.

FINC 467-050/FINC 667-050 MUTUAL FUNDS

Via lectures, class discussion, and case analysis, provides an in-depth review of the mutual fund industry's practices, regulations, and key current issues.

FINC 467-051 REAL ESTATE DEVELOPMENT AND 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.

FINC 467-052 GENERAL SECURITIES-SERIES 7

Examines topics that are tested on the FINRA Series 7 Exam. The Series 7 License qualifies professionals for the purchase/sale of all securities products, including equities, fixed income, derivatives, real estate, and funds.

GEOGRAPHY

GEOG 467-011/GEOG 667 WATERSHED HYDRO-ECOLOGY

Examines linkages between hydrology and ecosystem processes in primarily human impacted watersheds. Addresses both terrestrial and aquatic ecosystems. Particular emphasis on effect of land-use and climate change, and adaptive management practices.

GEOG 467-012/GEOG 667 ARCGIS GEODATABASE MANAGEMENT

Covers database design, creation, maintenance and integration using ArcGIS desktop. Includes data quality issues, and teaches how to maintain the integrity and accuracy of data. Explores advanced geo-database elements.

GEOG 467-013/GEOG 667 ARCGIS EDITING AND TOPOLOGY

Key editing workflows & automation. Extensive use of topology in editing workflows to maintain spatial relationships between features, and to automatically locate and fix errors according to rules and behaviors set by students.

GEOG 467-014/GEOG 667 ARCGIS MODEL BUILDER

Model Builder as a modeling environment in ArcGIS. Emphasizes learning how to build advanced geoprocessing models for a variety of spatial problems.

GEOG 467-021/667-021 UAPP 467-021/667-021 PLANNING SUSTAINABLE COMMUNITIES & REGIONS

Examines theory and methods for planning for more sustainable communities and regions in a global context in the twenty-first century. Considers tools for sustainable planning and how current land use and regional planning is and can become more oriented to sustainability. The University of Delaware is featured as an example of sustainable planning.

GEOLOGY

GEOL 467-010/ 667 010 GEOSCI MATHEMATICAL MODELING

Introduction to numerical and analytical mathematical models, with examples relevant to the geological sciences.

HUMAN DEVELOPMENT & FAMILY STUDIES

HDFS 475-011/667-011 GLOBAL FAMILIES

Interdisciplinary approach to family life globally, and the influence of cultures on families in the United States. Studies family policy nationally and the role of international initiatives in shaping family life.

HDFS 665-010 PLAY DEVELOPMENT AND EARLY EDUCATION

Examines the role of play in human development & early education. Includes theories, research and how play can be integrated into school curriculum. Coursework includes studying/conducting a small project in the area of play.

HEALTH & EXERCISE SCIENCE

HESC 167-010 STRESS MANAGEMENT

Designed to help students understand the positive and negative impact of stress in their lives. Identifies the major causes of their stress and how to effectively manage their day to day stressors.

HESC 167-011 ALCOHOL AND DRUG AWARENESS

Designed to help students examine the use, misuse, and abuse of alcohol, tobacco, and other drugs in our society. Discusses cultural and sociological factors relating the use of substances in the U.S. will be discussed.

HESC 167-012 PERSONAL RELATIONSHIPS

Designed to encourage people to examine their relationships with others. Emphasizes how people can develop stronger relationships with friends, family, and significant others.

HESC 367-012 BEHAVIOR CHANGE STRATEGIES

Via interactive lectures and real world cases, students learn to help clients make behavior changes. Focus is on tobacco, fitness, nutrition, stress, stages of change, motivational interviewing, counseling, assessment, and goal setting.

HLTH 367-080 HEALTH SCIENCES HONORS SEMINAR

Discusses peer-reviewed scientific articles related to the broad areas of public health, health care, medicine, and physiology.

HISTORY

HIST 367-011 CHRISTIANS & MUSLIMS IN THE MIDDLE AGES

Examines the complex relationship of Islam and Christianity from the time of Muhammad to the end of the Middle Ages. Considers both the clash of civilizations and more fruitful exchanges between the two faiths.

HIST 367-012, 082 AMONG THE AMERICANS

To take the measure of contemporary American life is to launch upon an adventure in moral imagination. It is also to enter upon a longstanding

conversation about American virtue & default, about evil done & denied, and about the things worth saving.

HIST 367-013 JAPAN IN THE 20TH CENTURY

A history of Japan during the twentieth century, focusing on politics, international affairs, society, and thought.

HIST 367-014 HISTORY OF BRAZIL

Focuses on Brazil over five hundred years, from first contact with Europeans through independence, modernization and contemporary issues facing the country.

MARINE & EARTH SCIENCE

MAST 367-010 THE OCEAN MATTERS

Examines important natural and human processes influencing the ocean and coastal regions. Includes global climate change, ocean drilling, ocean acidification, overfishing, ocean pollution and dead zones, dying coral reefs, sea level rise, and oceans and human health.

MAST 467-016/ GEOG 467-016 OCEANS AND CLIMATES

Studies the ocean-atmosphere system; the fluxes of heat, water and energy in the ocean and interchanges with the atmosphere; budgets and mechanisms of exchange; and inter-annual and long-term climate variations as related to the ocean.

MAST 467-025/667025 ICE, OCEAN, ATMOSPHERE INTERACTIONS SENSED WITH MODIS FROM SPACE

Atmosphere, ocean, ice, and vegetation are often studied with MODIS, satellites which resolve signals at 500-m scales at visible to infrared wavelengths in civilian and military applications. Applications will focus on high latitudes where the impacts of climate change are most visible.

MAST 667-017 OCEAN MODELING

Intro to numerical methods used to solve equations of ocean motion. Basic numerical concepts with applications to general transport, oceanic boundary layers, and shallow-water equations to an overview of ocean models employed to understand weather and climate.

MECHANICAL ENGINEERING

MEEG 467-010/624-010 CONTROL OF DYNAMIC SYSTEMS

Analysis of state space dynamical systems with multiple inputs and outputs. Study of solutions to continuous-time linear state equations, introduction to controllability and observability, basic control design for multiple input state space systems.

MEEG 467-011/671-010 INTRODUCTION TO ROBOTICS

Includes rigid motions and transformations, forward kinematics, Denavit-Hartenberg representations, inverse kinematics, velocity kinematics, dynamics, independent joint control, multivariable control, force control. Prereq: familiarity with kinematics and basic dynamics.

MEEG 467-012/667-012 COMPUTATIONAL MULTIPHASE FLOW

Overview of computational methods for multiphase flow involving moving solid boundaries and deformable fluid-fluid interfaces. Example codes to study physical and numerical issues such as numerical convergence, accuracy and stability.

MEEG 467-014/667-014 CYTOMECHANICS

Addresses how cell mechanics is involved in essential cellular processes; maintenance of cell shape, cell motility, adhesion, deformations, and mechanotransduction.

NUTRITION & DIETETICS

NTDT 167-010 NUTRITION FOR HEALTH & SPORT

Nutrition for optimizing health and performance among student athletes including appropriate selection of foods, fluids, and supplements to accommodate sport-specific nutrient needs and body weight/body composition goals.

PHYSICS

PHYS 838-010 MAGNETIC MATERIALS FOR INFORMATION & MICROWAVE TECHNOLOGY

Introduction to magnetic materials/phenomena, applications in information /microwave technology. Requires differential calc, intro solid state physics/electromagnetism. Focus on magnetic storage/pintronics technology. Spin dynamics/relevance in microwave technology

PLANT & SOIL SCIENCE

PLSC 275-010 MEDICINE, MYTH, MAGIC

Merges science, literature, folklore, world cultures, alternative medicine and analysis of current events. Hands-on learning activities include student-researched/developed medicine walk and propagating healing plants. Field trips planned.

PLSC 467-010/667-010 FORAGE RESOURCE MANAGEMENT

Explores the various grasses, legumes and forbs that have potential as forage crops. Discusses characteristics of each species that make it suited for a

particular type of forage use. Covers cultural practices for successful plantings, maintenance, harvest, storage and preservation.

PLSC 467-012/667-012 TRANSMISSION GENETICS

Principles of genetics, mechanisms of inheritance, transformational technologies, and the impact of genetics on society.

PLSC 667-011 RHIZOSPHERE BIOCHEMISTRY

Surveys the signaling and regulatory mechanisms involved in the structuring of rhizosphere communities. Reviews the roles of plants and microbes in nutrient cycling, nutrient acquisition, plant disease, bio-control and bioremediation. Special emphasis is on the biochemical and genetic techniques used for studying plant-plant, plant-microbe and microbe-microbe interactions.

SOCIOLOGY

SOCI 367-010 GLOBAL POLICY & INEQUALITY

Explores the relationship between social policy and social inequality in the U.S. and comparable societies. Specific social policy areas include employment, family, health care, education, social security, welfare, and affirmative action policies.

SOCI 467-010/BAMS 467 BLACK MIDDLE CLASS

Using historical and social science materials, explores the complex role of the Black middle class; addressing social responsibility, mobility paths, the structural foundation, gender diversity in experiences, and the recent economic crisis.

SOCI 470/667-012 ENVIRONMENTAL SOCIOLOGY

A substantive and theoretical introduction to environmental sociology; the development of the environmental movement; conflict and environmental issues; and environmental justice.

SOCI 667-010 INEQUALITY, JUSTICE & SOCIETY

An interdisciplinary seminar that critically explores the intersections of inequality, resistance, organized advocacy campaigns, and social change in the context of various public policy domains.

SOCI 667-011 DISPARITIES IN HEALTH & HEALTHCARE

The HRSA define health disparities as "population-specific differences in presence of disease, health outcomes, or access to health care." Explores these issues as they relate to race, gender, and age.

URBAN AFFAIRS & PUBLIC POLICY

UAPP 467-011/667-011 REGIONAL WATERSHED MANAGEMENT

Reviews the practical applications of watershed planning as a tool to manage land, water and ecosystems resources. Explores public policies and practices of watershed planning by examining case studies.

UAPP 667-010 HOUSING & NEIGHBORHOODS IN NETHERLANDS

Exposes the Dutch approach to housing and neighborhood planning, reservation and development through readings, lectures, and through the participation in a 9-day study trip to the Netherlands between 3/25 and 4/3/2011.

UAPP 667-012 POST INDUSTRIAL CITIES IN UNITED STATES & UNITED KINGDOM

Examines and compares the design and implementation of urban strategies for remaking formerly industrial cities for a postindustrial present and future, with an emphasis on Birmingham and Glasgow, Two former major industrial centers in England.

UNIVERSITY STUDIES

UNIV 167-010 U.S. ENSURING SUCCESS IN THE U.S. ACADEMIC ENVIRONMENT

Focuses on assisting undergraduate students entering the University from educational systems outside the U.S. in managing the transition to this academic environment. Introduction to the University's academic structure, including policies/regulations, professors' expectations, and academic/other resources available for students, as well as to the broader social environment of the U.S. college campus.