

## Supplemental Course Descriptions for Spring 2012

Updated February 8, 2012

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### ANTH - Anthropology

#### **ANTH 267-10 MUSLIM DELAWARE**

Learn about the diversity, pieties, experiences of Muslim women, men, and children practicing Islam in Delaware. Listen to Muslim scholars, contribute to Islamic schools, spend time with a Muslim host, attend events at local mosques and Muslim homes.

#### **ANTH 367-10 THE CULTURE OF COLONIALISM**

Examines British, French, and Italian colonial rule in India, North Africa and Libya. Focuses on to the colonial experience of Muslims. Explores the types of colonial rule and its consequences on the colonizer.

#### **ANTH 367-11 MEDICAL ANTHROPOLOGY**

Complex interactions of human biology (evolution, variation, adaptation), and human culture (beliefs, practices about disease, and health care) that result in specific patterns of health, illness, disease. An evolutionary, cross-cultural approach.

#### **ANTH 367-12 PREHISTORIC HUMAN ECOLOGY**

Uses archaeological evidence to examine human-environmental interaction during the prehistoric period. Topics include subsistence strategies, water, environmental impacts, and climate change.

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### ART - Art

#### **ART 367-10 SEMINAR: CRANE ART CENTER INITIATIVE**

Students will learn how to run and maintain UD@Crane, participate in installation of art works, marketing design, PR work, office organization, discuss art work with public, help with receptions, events, research around exhibitions and artists

#### **ART 367-11 SEMINAR: PRINT STRATEGIES**

Different print techniques (screenprint, lithography, relief, etc.) will be explored and exploited for their ability to generate large editions in different formats including zines, books, and large-scale print/installations.

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### ARTH - Art History

#### **ARTH 267-10 THE JAZZ AGE**

Harlem. Jazz. Cabarets. Radio. The Great White Way. Josephine Baker. Talkies. Art Deco. Explore the glamour and excitement of the modernist revolution between the Wars.

#### **ARTH 367-10 SCULPTURE IN THE U.S.**

History of sculpture in the U.S. from 18th century to the present. Explores sculptural techniques and production; styles, iconographies, and functions; and cultural issues such as space, iconoclasm, and memory.

**ARTH 367-11 ART & SOCIETY IN 18<sup>th</sup> CENTURY EUROPE**

Art of 18th C. Europe considered in its cultural, social & aesthetic context. Artists such as Watteau, Boucher, Fragonard, Hogarth, Gainsborough as part of a shifting world, from a playful, courtly Rococo manner to severe classicism of the first democratic stirrings ending in the French Revolution.

**ARTH 399-10 EGYPT VS NUBIA: LOVING & WARRING THROUGH ANCIENT ART & ARCHITECTURE**

Nubians were both 'exotic' dancers entertaining Pharaohs and actual Pharaohs of Egypt. Through art & architecture explore historical relationships between two peoples over centuries from the founding of the Nile Valley to the dawn of Christianity.

**ARTH 399-11 VIEWING CONTEMPORARY ART**

Examines a range of contemporary artists whose approach privileges the viewer's contribution to the artistic process. Considers different theoretical perspectives on the exchange between artist and spectator, author and reader.

**ARTH 406-80 PROBLEMS IN BEGINNINGS OF ISLAMIC ART**

Assuming no prior familiarity with Islamic art or culture, the seminar will focus on some problems concerning Islamic art 632-800CE, focusing on the Umayyad monuments in Palestine, Syria and Jordan, and the earliest manuscripts of the Qur'an.

**ARTH 413-10 THE RENAISSANCE HOME: ARCHITECTURE & MATERIAL CULTURE**

Examination of the architecture and material culture of Renaissance palaces in Italy from 1400-1600. Focus on social history of architecture and function of everyday objects, such as marriage chests, birthing trays, etc.

**ARTH 417-10 DUTCH ART AND TECHNICAL ART HISTORY**

Focusing on the paintings of Rembrandt, Vermeer and their contemporaries. Seminar investigates what art historians learn from and do with scientific investigation of works of art, from the old 'new connoisseurship' to today's technical art history.

**ARTH 421-11 MODERN ART AND LITERATURE IN THE 19TH CENTURY**

This interdisciplinary, multi-media course considers interrelations of literature and visual arts in the 19th century, including poetry, novels, painting, prints, caricature, photography, artist's books, book illustration, comics, and early film.

**ARTH 431-10 ARCHITECTURE IN THE AGE OF FRANK LLOYD WRIGHT**

The nation's best-known architect in the larger context of American history including national identity, modernism, family and home, nature and landscape, suburbanization, use and meaning of materials, regionalism, and social role of the architect.

**ARTH 440-10 ART AND WARFARE IN LATIN AMERICA**

Battles, revolts, warriors, and heroes as represented in the arts of Latin America from pre-Hispanic to modern times. Explores a variety of monuments in different media placing them in their historical contexts.

**ARTH 606-10 PROBLEMS IN BEGINNINGS OF ISLAMIC ART**

Assuming no prior familiarity with Islamic art or culture, the seminar will focus on some problems concerning Islamic art 632-800CE, focusing on the Umayyad monuments in Palestine, Syria and Jordan, and the earliest manuscripts of the Qur'an.

**ARTH 611-10 THE RENAISSANCE HOME: ARCHITECTURE & MATERIAL CULTURE**

Examination of the architecture and material culture of Renaissance palaces in Italy from 1400-1600. Focus on social history of architecture and function of everyday objects, such as marriage chests, birthing trays, etc.

**ARTH 617-10 DUTCH ART AND TECHNICAL ART HISTORY**

Focusing on the paintings of Rembrandt, Vermeer and their contemporaries. Seminar investigates what art historians learn from and do with scientific investigation of works of art, from the old 'new connoisseurship' to today's technical art history.

**ARTH 636-10 HENRY O. TANNER**

Uses of the Pennsylvania Academy of Fine Art's exhibition, "Henry Ossawa Tanner: Modern Spirit," to explore the work and career of this important African American artist. Requires multiple visits to Philadelphia.

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**BHAN - Behavioral Health**

**BHAN 167-10 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.

**BHAN 167-11 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 to the use of substances in the U.S. will be discussed.

**BHAN 167-12 PERSONAL RELATIONSHIPS**

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

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**BINF - Bioinformatics**

**BINF 667-10 SYSTEMS BIOLOGY: EXPERIMENTAL TECHNIQUES AND BIOINFORMATICS DATA ANALYSIS**

Lectures and hands-on exercises introduce students to experimental methods and bioinformatics analysis in systems biology, showing how global analysis of "omics" data improves understanding of biological systems.

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**BISC - Biological Sciences**

**BISC 467-10 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.

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**CHEM - Chemistry & Biochemistry****CHEM 667-11 INDUSTRIAL CHEMISTRY**

text from Wittcoff, Reuben and Plotkin some knowledge of organic and inorganic chemistry

**CHEM 850-10 THEORY AND PRACTICE OF SINGLE CRYSTAL X-RAY CRYSTALLOGRAPHY**

An introduction to the theory and practice of single crystal X-ray crystallography. Focus will be on structural characterization of small molecules. Students will be expected to grow crystals, collect data and solve structures.

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**CHIN - Chinese****CHIN 267-10,80 ART OF CHINESE CALLIGRAPHY**

The evolution of Chinese characters, the aesthetics of Chinese calligraphy, and the relation between Chinese calligraphy and philosophy. Students will first learn how to use brush pen to practice Chinese calligraphy/

**CHIN 467-10 ADV READINGS IN CHINESE LIT.**

Improves the reading and writing proficiency of students who have completed three years of college-level training in Chinese, and expands learners' knowledge of Chinese culture and society.

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**CIEG - Civil & Environmental Engineering****CIEG 467-10 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 467-11 EARTH RETAINING STRUCTURE DESIGN**

Design and analysis procedures for fill and cut earth retaining structures, types of cut and fill walls, wall system selection, lateral earth pressure diagrams, design procedures, construction practices, subsurface investigation needs.

**CIEG 467-12 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 467-13 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 667-10 TOPICS IN 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.

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**CIEG 667-12 INTRODUCTION TO NON-DESTRUCTIVE TESTING FOR CIVIL ENGINEERS**

Introduction to the field of non-destructive testing (NDT) with emphasis on testing and evaluation of concrete structures. Methods introduced are Visual/Optical inspection, Sounding, Chain drag, Schmidt Hammer, Impulse Response, and Impact Echo.

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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 667-14 CHEMICAL SPECIATION MODELING OF METALS IN ENVIRONMENTAL SYSTEMS**

Principles, numerical techniques and applications for calculating metal speciation in fresh and marine waters. Model metal complexation with inorganic and organic ligands, precipitation and adsorption processes. Multi-cell problems used to show effects of speciation on fate, transport, ecotoxicity.

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**COMM - Communication****COMM 418-10 INTERNET COMMUNITIES AND CULTURES**

Explores the ways in which the Internet and related digital technologies shape communities, social groups, and cultural spaces online and offline.

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**ELEG - Electrical and Computer Engrg****ELEG 467-12 MULTIMEDIA SIGNAL PROCESSING**

The Internet has triggered a business paradigm shift in the music & video industries resulting in advances in digital signal processing of music & imaging. The principles draw from rich fields of Fourier analysis, human perception & communications. Prereq

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**ELEG 667-13 DETECTION & ESTIMATION**

Covers fundamentals of detection & estimation theory for statistical signal processing. Topics: hypothesis testing theory, signal detection theory for both deterministic & random signals, signal estimation theory with various optimal estimators.

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**FINC - Finance****FINC 467-50 MUTUAL FUNDS**

Through lectures, class discussion, and case analysis, provides an in-depth review of the mutual fund industry's practices, regulations and key current issues. Prereq: FINC311

**FINC 467-51 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. Completion of F

**FINC 467-52 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.

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**FLLT - Foreign Language & Literatures****FLLT 332-10 EXILE AND WAR IN IRAQI LITERATURE**

Through novels, essays and films explores the unique experiences and subjectivities of Iraqi women who witnessed wars, sanctions and exile.

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**HIST - History****HIST 367-14 REVOLUTIONARY FRANCE 1789-1871**

Analyzes France's revolutionary century from the great Revolution of 1789 to the Paris Commune of 1871.

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**GEOG - Geography****GEOG 467-16/667-16 FOREST INFORMATICS**

Integrates topics of the forest ecosystem structures & functions under the current challenges of global climate change & data mining skills needed for case studies using Forest Inventory & Analysis (FIA) database using relational database management system.

**GEOG 667-15 SEM: WIND POWER METEOROLOGY**

Explores the fundamental concepts of meteorology that are needed to understand onshore, offshore, and airborne wind power. Topics include: forces affecting winds; terrain and land-use effects; air turbulence; numerical modeling; wind power and energy from turbines; and wind measurement technologies.

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## **HLPR - Health Promotion**

### **HLPR 667-10 HEALTH COACHING**

Focuses on client centered coaching skills, techniques and knowledge to facilitate positive behavior change to improve health and reduce chronic disease. Emphasis on individual as well as group-oriented coaching within the context of health care.

### **HLPR 667-50 METHODS IN EPIDEMIOLOGY**

Focuses on the design, conduct, analysis and interpretation of epidemiologic studies in human populations. Discusses the application of epidemiologic knowledge and skills to specific public health problems.

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## **ITAL - Italian**

### **ITAL 367-70 INTERNSHIP**

120-150 hours of non-paid, graded, credit-bearing employment experience at an Italian company, non-profit, or other organization, with academic expectations such as a journal and final report. Guided oversight by JCU faculty. Prereq: any two 200-level ITA

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## **KAAP - Kinesiology & Appl Physiology**

### **KAAP 167-10 INCLUSIVE FITNESS TRAINING**

Course provides students with practical experience working with people with disabilities in a physically active environment. Discussions focus on safety issues, guidelines and psychosocial aspects of working with people with disabilities.

### **KAAP 167-12 INCLUSIVE FITNESS TRAINING**

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## **LING - Linguistics& Cognitive Science**

### **LING 467-0 COMPUTATIONAL LINGUISTICS**

Students learn the programming language OCaml to analyze word and sentence structures, to use logic to stand in for meaning, and to locate human languages in the space of formal languages. Prereq: one of LING 404, LING 451, CISC 220 or permission of the i

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## **MAST – Marine Studies**

### **MAST 667-15 SEM: WIND POWER METEOROLOGY**

Explores the fundamental concepts of meteorology that are needed to understand onshore, offshore, and airborne wind power. Topics include: forces affecting winds; terrain and land-use effects; air turbulence; numerical modeling; wind power and energy from turbines; and wind measurement technologies.

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#### **MATH - Mathematical Sciences**

##### **MATH 567-10 SEM: FOUNDATIONS OF MATHEMATICS**

Graduate students in mathematics education will develop knowledge in skills of problem solving, posing, extending problems and profound understanding of fundamental mathematics concepts

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#### **MEEG - Mechanical Engineering**

##### **MEEG 467-10 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 467-11 INTRODUCTION TO ROBOTICS**

Topics include: rigid motions and transformations, forward kinematics, Denavit-Hartenberg representations, inverse kinematics, velocity kinematics, dynamics, independent joint control, multivariable control, force control. Requires familiarity with kinema

##### **MEEG 867-10 SOLID STATE ELECTROCHEMISTRY**

Advanced course on the motion of ions in solids. Topics include mass and charge transport, defect equilibria, electrode kinetics, and common measurement techniques. Particular attention is given to principles relevant to batteries and fuel cells.

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#### **NTDT - Nutrition & Dietetics**

##### **NTDT 167-10 SPICE KITCHEN:TASTE THE FLAVOR**

Culinary class designed to explore the flavors and health properties of approximately 10 spices. Assist in the preparation of recipes and complete sensory evaluations of the prepared foods.

##### **NTDT 167-11 HEALTHY WEIGHT FOR LIFE**

Overweight and obesity are national health problems. Prevention is the solution. Learn how to prevent weight gain and maintain a healthy weight for life.

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#### **PHYS - Physics & Astronomy**

##### **PHYS 638-10 TOPICS: PARTICLE ASTROPHYSICS**

Intro to science goals, phenomenology of particle astrophysics; emphasis on cosmic rays, gamma-rays and neutrinos. Dark matter & alternative solutions of cosmic ray phenomena. Relevant detectors, analysis methods, propagation of particles in space.

##### **PHYS 667-10 STATISTICAL BIOPHYSICS**



Problems in molecular biophysics through the lens of statistical mechanics including protein folding, protein conformational change, ligand binding, allostery, signal transduction, diffusion. A basic knowledge of statistical mechanics and thermodynamics is assumed.

**PHYS 838-10 ADV TREATMENT: SELECTED TOPICS: PHYSICS OF THE EARL UNIVERSE**

Cosmological Perturbations, Large Scale Structure Formation, Inflationary Cosmology, Dark Matter & Dark Energy, CMB Polarization, Origin of Matter in the Universe.

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**PLSC - Plant & Soil Science**

**PLSC 467-10 BIOGEOCHEMICAL CYCLING OF NUTRIENTS**

Physico-chemical and microbial processes of nutrient (carbon, nitrogen and phosphorus) cycling and transformations in ecosystems; covers natural and anthropogenic ecosystems to understand environmental impacts primarily by agriculture and industry.

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**PLSC 667-11 GENETIC DATA ANALYSIS**

Principles of genetics, analysis of genetic data, computer simulation, year-specific topical content.  
Prereq: STAT371 or FREC/STAT408

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**SOCI - Sociology**

**SOCI 367-70 SOCIOLOGY OF SOUTHERN ITALY**

Examination of the social history and contemporary realities of Southern Italy, focusing on the many paradoxes which continue to characterize the area.

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**UAPP - Urban Affairs & Public Policy**

**UAPP 267-11 COMMUNITY BUILDING AND CIVIL SOCIETY**

Examines concepts of civil society, community building and social justice from a U.S. democratic perspective with an emphasis on exploring the role and impact of active citizenship on social and economic issues within disadvantaged communities.

**UAPP 367-10 FINANCIAL MANAGEMENT IN THE PUBLIC AND NONPROFIT SECTORS**

Practical tools and concepts of financial management for public and nonprofit organizations. Topics include budgeting, capital budgeting, cost analysis, financial planning, investment decisions, debt management, financial reporting, and more.

**UAPP 367-11 RESEARCH METHODS FOR POLICY ANALYSIS**

Examines research methods and their applications in policy analysis. Demographic analysis, survey research and geographic information systems are applied to policies in such areas as transportation, health, energy and economic development.

**UAPP 367-12 PUBLIC AND NONPROFIT ADMINISTRATION**

Explores the critical role played by public and nonprofit administrators in shaping, implementing and reformulating public policy. Examines how public administrators transform policy into action, and how nonprofit agencies function alongside government agencies.

**UAPP 467-10 ENVIRONMENTAL POLICY AND POLITICS**

Course examines the history and status of public policy surrounding environmental and resource protection in the United States. Focuses on the scientific, economic, social, political, legal, and ethical issues relating to environmental protection.

**UAPP 467-11 REGIONAL WATERSHED MANAGEMENT**

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

**UAPP 467-24 MEDIA, CITIZENSHIP AND PUBLIC POLICY**

Examines the structure, role, influence, and effect that the media have on public policies and the implications for citizenship.

**UAPP 467-13 SUSTAINABLE DEVELOPMENT IN COSTA RICA**

Explores the principles of social and environmental sustainable development of Costa Rica; including its history, culture, long-standing democracy and its nonprofit and governmental institutions.

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