

Supplemental Course Descriptions for Spring 2014

Updated December 12, 2013

ACCT - Accounting & MIS

ACCT 867-10 BUSINESS PROCESS MODELING

Covers basic techniques for business process specification and analysis. Emphasis is placed on the modeling of business processes, their integration into a value chain, and their execution in terms of workflow.

ANFS - Animal & Food Science

ANFS 267-11 FERMENTATIONS: BREWING AND BEYOND

Encompasses the process of beer brewing, food & spirits that would not exist without fermentation. Covers the history of fermentation, basic microbiology as it relates to fermentation as well as specific fermented products. Prereq: BISC207 or PLSC101.

ANTH - Anthropology

ANTH 267-12 FROM FARM TO TABLE: FOOD, CULTURE AND NUTRITION

Explore contemporary food production models like CSA's, community gardens and the local food movement. Learn about new crops and dietary strategies that can be incorporated into the way people eat today. Examine cultural influences on food production.

ANTH 367-10 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.

ANTH 367-11 FORENSIC ANTHROPOLOGY

Apply physical anthropology to the identification of human remains and to the evaluation of the cause of death, as done by a forensic anthropologist. Develop a biological and demographic profile from unidentified human remains, recognize individuating characteristics, analyze trauma, and time since death.

ARSC - Arts & Science

ARSC 295-10 PASSPORT TO THE ARTS

Provides an overview of opportunities in the arts. Through class and attendance at arts events, exposes students to the cultural life at UD. Learn how artistic choices inform our daily experiences and form an appreciation of the arts to be a lifelong citizen of the arts.

ART - Art (2513)

ART 267-10 INTRODUCTION TO COMICS

Introduction to making comics, with an emphasis on narrative storytelling. Fundamental artistic and production methods explored, and placed in a critical and historical context.

ART 367-10 EXPERIMENTAL CLAY

Explore and research ceramic materials, structures, and transformations in a rich variety of building, glazing, and firing techniques. Focuses on material experimentation in group projects and individual investigation. Prereq: ART290 or Instructor Approval.

ART 367-11 SEMINAR: THE ART OF LIBERATION

Studies the work of 20th century international liberation artists from interdisciplinary points of view that consider its sociological context. Includes interactions with contemporary activist artists and local communities.

ARTH - Art History

ARTH 405-10 WOMEN IN ANTIQUITY

Explores the lives of women in the ancient Mediterranean world through an investigation of visual and textual evidence. Topics include ancient domestic life, sexuality, medicine, and religion, among powerful women, wives, working women, and slaves.

ARTH 420-10 HYBRID STYLES NUBIA AND NEW KINGDOM EGYPT

Explores the exchanges in art and architecture between Egypt and Ancient Nubia, assessing the outcomes for this African 'colonial era'.

ARTH 467-10, 80 THE ORIENT AND ITS REPRESENTATION: ARCHITECTURE, ARCHAEOLOGY, AND GEOPOLITICS

Exploring "the Orient" as a cultural and geopolitical representation in European and Asian discourses, from late 18th to early 20th century. Topics include Orientalism, Occidentalism, Orientalist archaeology, Eurasianism, and Eastern Orientalism.

ARTH 606-10 EARLIEST MEDIEVAL ART IN THE BRITISH ISLES (600-800 CE)

Addresses topics and problems of "Insular" art, including terminological and historiographical issues, and will focus particularly on metalwork, sculpture and the beginnings of manuscript illumination.

ARTH 617-10 THE ARTIST'S STUDIO

Focusing on the Dutch Republic of Rembrandt and Vermeer, this seminar examines the painter's studio as work place, social space, knowledge site, and idea.

ARTH 626-10 MONUMENTS, MEMORY, MATERIAL CULTURE

By looking at objects and constructions meant to mark or, in some cases, induce memory, this seminar will examine the social life of the material environment.

ARTH 629-10 MONUMENTS, MEMBORY, MATERIAL CULTURE

Examines the social life of the material environment. Considers objects and constructions meant to mark, or in some cases, induce memory.

ARTH 667-10 THE ORIENT AND ITS REPRESENTATION: ARCHITECTURE, ARCHAEOLOGY, AND GEOPOLITICS

Exploring "the Orient" as a cultural and geopolitical representation in European and Asian discourses, from late 18th to early 20th century. Topics include Orientalism, Occidentalism, Orientalist archaeology, Eurasianism, and Eastern Orientalism.

BAMS - Black American Studies

BAMS 367-10 BLACKS IN FILM & TELEVISION

Designed to examine the history of African American representation within the American film and television industries. Explores the construction of African American imagery and how these images reflected and influenced racial perceptions, both negative and positive.

BAMS 367-11 SEMINAR: THE ART OF LIBERATION

Studies the work of 20th century international liberation artists from interdisciplinary points of view that consider its sociological context. Includes interactions with contemporary activist artists and local communities.

BAMS 440-10 THEMES IN BLACK AMERICAN STUDIES

Surveys the history and impact of the African American Church experience on the social, political, as well as religious life in the nation. Examines and analyzes the history of the church and its effect on the social landscape of the nation from its beginning in 1813 through the Civil Rights movement to the election of the first African American President, Barack Obama.

BHAN - Behavioral Health & Nutrition

BHAN 120-48L TURBO KICK

Turbokick is a combination of intense kickboxing moves, as well as, dance moves all perfectly choreographed to high energy and motivating music. It's the ultimate cardiovascular challenge that's a unique blend of intense intervals strength/endurance training, and a relaxing cool-down.

BHAN 267-10 YOGA FOR WELLNESS

Gain experiential knowledge using the wellness practices of yoga to improve the quality of life through mind - body - spirit connection. Includes self-discovery and realization, group discussion, physical asana (poses) practice, pranayama (breathing) techniques and meditation.

BHAN 267-12 FROM FARM TO TABLE: FOOD, CULTURE AND NUTRITION

Explore contemporary food production models like CSA's, community gardens and the local food movement. Learn about new crops and dietary strategies that can be incorporated into the way people eat today. Examine cultural influences on food production.

BINF - Bioinformatics

BINF 667-10 BIG DATA ANALYTICS IN BIOMEDICINE

Introduce 'Big Data' in biomedicine, from genomic sequences to electronic medical records & social media, & cover topics ranging from data management & integration, data mining & text mining, to data visualization & knowledge engineering. Guest lecturers from AstraZeneca, UD, Christiana Care & Nemours

BINF 689-10 MACHINE LEARNING

Machine Learning is concerned with the development of methods to learn to solve a task using examples. Primarily covers different machine learning algorithms/techniques and discusses their strengths, weaknesses and situations for which they are, or are not suited. Pre-req: MATH205 or permission of instructor.

BINF 689-11 MULTI-AGENT SYSTEMS

An introduction to Multi-Agent Systems, including theory and construction of agents; distributed cooperation and shared problem-solving; self-interested agents and computational game theory; distributed decision-making; coalition formation; resource allocation; incentive design; and negotiation.

BISC - Biological Sciences**BISC 467-10 EPIDEMICS AND PLAGUES**

Covers diseases that range from the Plague ravaged Europe in the Middle Ages, to diseases such as AIDS, Flu and Malaria which affect millions of people today. Prereq: BISC300

CGSC - Cognitive Science**CGSC 467-10 DEVIANT SENTENTIAL LOGIC**

Looks at systems of deviant sentential logic, rivals to the classical logic of PHIL 205. Three topics will be covered.: 3-valued logic, intuitionistic logic and relevance logic. Material is mathematically interesting, slightly above 205. More challenging, are philosophical issues about these logics.

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CHEG - Chemical Engineering**CHEG 667-13 ASSEMBLY OF SOFT MATERIALS**

Surveys the assembly of surfactants and lipids, colloids, liquid crystals, and polymers in the bulk, in solutions, and at interfaces. Topics: surface interactions, self-assembled monolayers, block copolymer interactions, assemblies for drug delivery, and soft materials in organic elect.

CHEG 867-15 CURRENT TOPICS IN MEDICAL BIOTECHNOLOGY

Seminars and discussions of research publications describing fundamental mechanisms of disease, therapeutic target identification, and drug discovery/development. Specific topics will be chosen based on student interests.

CHIN - Chinese**CHIN 467-10, 80 READINGS IN CHINESE LITERATURE**

Improves students' reading and writing proficiency through reading and responding to essays which provide an intensive look at important social and cultural issues in modern and contemporary China.

CIEG - Civil & Environmental Engineering**CIEG 467-10 INTRODUCTION TO RAILROAD SAFETY AND DERAILMENT PREVENTION**

Explores the engineering issues associated with common types of derailments, including track, equipment and operator derailments. The specific failure mechanisms associated with key classes of

derailments are examined with the technologies available for reducing these types of derailments. Co-req: MATH353; Pre-req: MATH351

CIEG 467-11 INTRODUCTION TO BUILDING INFORMATION MODELING (BIM)

Focuses on the role of BIM in the Architecture/Engineering/Construction (ACE) industry. Understand the basic principles and benefits of BIM through software platforms. Includes a model that facilitates documentation, 3D design exploration, model-based quantity take off and estimating, interference checking, digital fabrication, construction coordination and sequencing.

CIEG 467-13 AIR POLLUTION METEOROLOGY

Introduction to meteorological processes that affect air pollution, such as diffusion, atmospheric stability, and turbulence, with a focus on the atmospheric boundary layer.

CIEG 467-14 OPTIMAL DESIGN

Intro to optimization techniques and software based solutions for linear and non-linear problems as they relate to engineering design. Develop designs for engineering systems such as structures, and understand how optimization aids them in determining which design is cheapest or fastest to build. Evaluate how sensitive a design is to change in specifications or cost. Problem-Based Learning with students working in teams.

CIEG 467-18 EARTH RETAINING STRUCTURE DESIGN

Theory, design & analysis for commonly used fill & cut earth retaining structures. Topics include wall system selection, lateral earth pressure theory, design procedures, & construction practices. Case histories & design examples will demonstrate the selection & design of earth retaining structures.

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CIEG 667-16 ADVANCED DATA ANALYSIS

Comprehensive introduction to the principles and practices of emerging advanced data with particular focus to engineering science. Provides insight to emerging advanced statistical techniques.

CIEG 667-17 NONDESTRUCTIVE EVALUATION AND TESTING

This course gives an overview of the most important non-destructive testing (NDT) techniques used to investigate Civil Engineering materials and structures made of steel, concrete, and wood.

CIEG 667-18 EARTH RETAINING STRUCTURE DESIGN

Theory, design & analysis for commonly used fill & cut earth retaining structures. Topics include wall system selection, lateral earth pressure theory, design procedures, & construction practices. Case histories & design examples will demonstrate the selection & design of earth retaining structures.

CISC - Computer & Information Science

CISC 367-11 FIELD EXPERIENCE IN TEACHING COMPUTING

CIS, Math Education and Education students will collaborate giving lessons, helping with lessons, helping with labs, and planning labs and lessons with teachers. Alternates meetings on campus and in the field. Students must have taken at least one CISC or EDUC course to enroll.

CISC 467-10 INTRODUCTION TO CYBER SECURITY

An introduction to cyber security topics including security fundamentals, applied cryptography, system security, access control policies, intrusion detection, auditing, and security models. PREREQ: CISC 106, MISY 225 or MISY 261.

CISC 467-11 SOFTWARE TESTING & MAINTENANCE

Study of software testing and maintenance methodologies for modern software. Includes approaches to automatic test case generation, test oracles, test coverage analysis, regression testing, program understanding, and software maintenance tools. Focuses on automation in software testing.

CISC 489-10 MACHINE LEARNING

Machine Learning is concerned with the development of methods to learn to solve a task using examples. Primarily covers different machine learning algorithms/techniques and discusses their strengths, weaknesses and situations for which they are, or are not suited. Pre-req: MATH205 or permission of instructor.

CISC 489-11 MULTI-AGENT SYSTEMS

An introduction to Multi-Agent Systems, including theory and construction of agents; distributed cooperation and shared problem-solving; self-interested agents and computational game theory; distributed decision-making; coalition formation; resource allocation; incentive design; and negotiation.

CISC 489-12 ARTIFICIAL INTELLIGENCE IN GAMES

Artificial Intelligence is becoming an increasingly important part of computer and video games. The techniques that are often used in games for movement, path finding, decision making, tactics and strategy, and learning will be examined and implemented in several turn-based and real-time games.

CISC 615-10 SOFTWARE TESTING & MAINTENANCE

Study of software testing and maintenance methodologies for modern software. Includes approaches to automatic test case generation, test oracles, test coverage analysis, regression testing, program understanding, and software maintenance tools. Focuses on automation in software testing.

CISC 667-10 INTRODUCTION TO CYBER SECURITY

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CISC 689-10 MACHINE LEARNING

Machine Learning is concerned with the development of methods to learn to solve a task using examples. This course's primary purpose will be to cover different machine learning

algorithms/techniques and discuss their strengths, weaknesses and situations for which they are or are not suited. Pre-req: A basic background in probability and statistics.

CISC 689-11 MULTI-AGENT SYSTEMS

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CISC 849-101 AUTONOMOUS ROBOT VISION

Survey of color camera, depth camera (e.g., Kinect), and laser range-finder-based 2-D and 3-D sensing algorithms for mobile robot navigation and interaction. An organizing theme will be humanoid robot perception for disaster response. Visit: darparoboticschallenge.org.

CISC 879-10 FORMAL METHODS FOR HIGH PERFORMANCE COMPUTING

Explores verification methodologies for HPC software, in which concurrency via the Message Passing Interface or various thread-based APIs plays a central role -- using model checking, automated deduction, symbolic execution, and other formal approaches.

CISC 889-10 EMPIRICAL METHODS FOR COMPUTER SCIENCE

Explains experimental computer science research. Data analysis, hypothesis generation, experimental design, statistical analysis. Reading and discussing papers in all disciplines of CS.

COMM - Communication

COMM 200-10 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. Familiarity with C Programming.

COMM 200-11 SEX & VIOLENCE IN THE MEDIA

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

COMM 418-10 POLITICS & ENTERTAINMENT

Examines the relationship between politics and entertainment with a specific focus on the latest trends in "politico tainment." Examples: TV drama West Wing, and presidential candidate appearances on late night comedy programs.

COMM 418-11 THE FUTURE OF NEWS

Through readings and discussion, examines the past, present and future of American news. Discusses how the fundamental concepts of journalism function at present and how they might adapt for the future.

COMM 440-10 COMMUNICATIONS & EMOTIONS

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

COMM 467-80 COMMUNICATION HONORS CAPSTONE

Small groups of participating students will perform a professional-caliber quantitative research project of their own choosing.

CPEG - Computer Engineering

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DANC - Dance

DANC 267-10 DANCE IN FILM

View and discuss dance and movement in silent film, MGM movie musicals, dance focused movies, reality TV shows and dance choreographed specifically for the camera.

EAMC - Early American Culture

EAMC 667-10 TRADITION AND INNOVATION: FURNITURE IN BRITAIN AND AMERICA, 1800-2000

Through woodworking demonstrations and close study of furniture, explores how changes in taste, living patterns, and technology have affected furniture design over the past two centuries.

ECON - Economics

ECON 367-70 INTERNATIONAL TRADE

Examine theoretical analysis of international trade and commercial policy. Students will look at the pure theory of international trade as exemplified by comparative advantage and gains from trade in the classical and neoclassical models and explore alternative explanations of trade and development.

ECON 367-71 SPANISH & LATIN AMERICAN ECON

For students who wish to learn the general language of economics along with the study of Spanish economics and that of the main Latin- American countries through a great variety of activities.

ECON 367-72 ECONOMY OF MODERN SPAIN

Aims to provide key ideas on the situation of the Spanish economy.

EDUC - Education

EDUC 367-11 FIELD EXPERIENCE IN TEACHING COMPUTING

CIS, Math Education and Education students will collaborate giving lessons, helping with lessons, helping with labs, and planning labs and lessons with teachers. Alternates meetings on campus and in the field. Students must have taken at least one CISC or EDUC course to enroll.

EGGG - Engineering

EGGG 467-11, 12 TECHNICAL & SCIENTIFIC WRITING

Emphasis on learning to write clear, coherent college-level prose within a variety of technical and scientific formats. Offers practical instruction in technical communication, written and oral, by developing an understanding of workplace genres and audiences, by mastering communication skills and techniques, and by collaborating with peers on selected projects. Foster critical thinking and the ethics of professionalism.

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ELEG - Electrical Engineering

ELEG 467-10 INTRODUCTION TO CYBER SECURITY

An introduction to cyber security topics including security fundamentals, applied cryptography, system security, access control policies, intrusion detection, auditing, and security models. PREREQ: CISC 106, MISY 225 or MISY 261.

ELEG 467-11 THE SMART GRID

Introduction to smart electrical grids covers new and old energy technologies; communications and information technologies; new services and applications; and security, reliability and privacy.

ELEG 467-12 HYBRID INTEGRATION TECHNOLOGIES

Provides a broad overview of the different activities in hybrid and monolithic integration, including both success stories and examples where the hybrid integration turned out not to make either economic or technical sense. Guest lectures from industry & final project for students

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ENEP - Energy & Environmental Policy

ENEP 667-10 NATURAL RESOURCES MANAGEMENT

Introduces and analyzes various aspects of water resources management and bioresources management. Topics include rainfall, runoff, water supply, groundwater, reservoirs, wastewater treatment and reuse, water.

ENEP 667-11 SUSTAINABLE ENERGY FINANCING

Analysis of the practical and cutting edge innovations in financing of sustainable energy projects and enterprises. Topics include sources and instruments of sustainable energy financing, identification and management of investment risks, and financial modeling. Prereq: ENEP 660.

ENGL - English

ENGL 300-10 LITERARY THEORY & THE GOTHIC IMPULSE

Analysis of literary questions through study of films (*Psycho*), novels (Stoker's *Dracula*), and short stories (Poe's *The Fall of the House of Usher*) to examine the gothic impulse as an enduring literary and popular cultural form.

ENGL 325-10 RENAISSANCE LITERATURE

Study of 16th & 17th century literature where class structures and notions of individuality emerge, as do new ideas about gender, sexuality, and what we now call race. This class is discussion-based and reading intensive, with several short papers and exams. Prereq: ENGL101. ENGL110.

ENTR - Entrepreneurship

ENTR 467-10 SOCIAL ENTREPRENEURSHIP

Focuses on developing creative, sustainable solutions to address societal problems. Designed to empower students to see social entrepreneurship as a force for social change and give them the knowledge, skills and connections needed to make an impact on the lives of others.

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FINC – Finance

FINC 367-10 PRINCIPLES OF FINANCIAL PLANNING

Introduces the financial planning process and provides an overview of the specific areas of risk management and insurance, retirement and investments.

FINC 367-50 RETIREMENT PLANNING

Focuses on public (Social Security, Medicare, and Medicaid) and private (defined benefit and defined contribution plans) retirement plans and discusses issues that individuals face in retirement such as life-style choices and medical issues. Prereq: FINC 311

GEOG - Geography

GEOG 467-10 APPLIED GEOMORPHIC PROCESSES

Fundamental concepts in geomorphology with an emphasis on responses to anthropogenic and climatic forcing. Lab exercises use imaging and modeling to explore processes and their rates of operation. Field exercises focus on slope, fluvial, glacial, periglacial, weathering, and tectonic processes.

GEOG 473-10 LIDAR & HYPERSPECTRAL PROCESSING

Introduces concepts in laser scanning and spectroscopy through exercises. Includes an overview of platforms, instrumentation and integration; field data collection sensor validation; and theory, processing and information retrieval. Previous GIS/remote sensing experience is recommended.

GEOG 473-13 DIGITAL STORY TELLING

Teaches how to create videos for course assignments or research, using step-by-step instructions with video technology you have readily available. The first half of the course utilizes social media to learn key components. The second half includes hands on, in-class instruction.

GEOG 673-10 LIDAR & HYPERSPECTRAL PROCESSING

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GEOL - Geological Sciences

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Fundamental concepts in geomorphology with an emphasis on responses to anthropogenic and climatic forcing. Lab exercises use imaging and modeling to explore processes and their rates of operation. Field exercises focus on slope, fluvial, glacial, periglacial, weathering, and tectonic processes.

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HDFS - Human Dvlpmnt & Family Studies

HDFS 667-10 RELATIONSHIPS IN EARLY CHILDHOOD EDUCATION

Course takes a developmental approach in exploring young children's affiliate relationships, Primary focus will be on attachment theory & social cognition. Students will gain an understanding of the development of bonds & peer relationships & impact on social, emotional, & cognitive development.

HIST - History

HIST 337-10 TOPICS IN AMERICAN HISTORY: AMERICA OBSERVED

Assesses contemporary American life and character; it joins a longstanding conversation about American virtue and default, about wrong done and denied, about the things worth saving, and about the circumscribed fate of Americans without money enough to matter.

HIST 365-10, 80 TOPICS IN ASIAN HISTORY: MODERN INDIA

Introductory course providing an outline of major events and themes in Indian history from the Mughal Empire in the 16th century to the emergence of India as a global player in the 21st century.

HIST 475-10, 80 SEMINAR IN MODERN EUROPEAN HISTORY: 20TH CENTURY EUROPE

This is an in-depth research and writing seminar in Russian, Soviet, and twentieth-century European history. Presumes at least a mid-level university course background in Russian, Soviet, or twentieth-century European history. Prereq: HIST268.

HIST 637-10 LAW AND SOCIETY IN HISTORY PERSPECTIVE

Examines the social history of law and legal institutions from the revolutionary era to the present. Focusses on the United States, but highlights comparative perspectives throughout the semester.

HLPR - Health Promotion

HLPR 667-50 HEALTH PROMOTION BY DESIGN: THE IMPACT OF THE ENVIRONMENT ON HEALTH

Theoretical foundations, empirical research, practical applications and issues related to the impacts of the environment (physical and social) on public health outcomes. Exploration of how public health, planning, transportation, architecture, landscape and design impact physical activity and nutrition

HLPR 867-50 EVALUATION OF HEALTH PROMOTION PROGRAMS

Provides theoretical and practical skills for designing and implementing evaluation strategies and techniques in a variety of health promotion settings. Evaluation designs and methods to assess process, impact, and outcome evaluation in health promotion settings.

HLTH - Health Sciences

HLTH 167-10 HEALTH CAREERS

Review career opportunities in the fields of health care and biomedical research, emphasizing required training, career opportunities and duties, as well as career trajectories and earning potential.

HLTH 267-10 CHRONIC ILLNESS IN AMERICA

This interdisciplinary course provide 360-degree perspective on the experience of chronic illness. Interdisciplinary perspective on current health care issues for individuals with chronic illness, including disease-specific information, care giving, resource navigation, and international health care.

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. Requires an application & employer interview; placement not guaranteed.

LING - Linguistics

LING 467-10 COMPUTATIONAL LINGUISTICS

Natural language can be studied from a computational perspective. Includes aspects of formal language theory, model theory, formal grammars, computational complexity and computational learning theory as it pertains to natural language syntax, semantics, morphology and phonology.

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LING 867-10 ADVANCED COMPUTATIONAL LINGUISTICS

Advanced course in computational linguistics addressing advanced topics in formal language theory, model theory, formal grammars, computational complexity, and computational learning theory as it pertains to natural language syntax, semantics, morphology and phonology.

MATH – Mathematics

MATH 829-10 INTRODUCTION TO MATHEMATICAL FINANCE

Introduction to math finance terminology, continuous and discrete asset pricing models, Black-Scholes for standard options. Hedging and risk-neutrality. Interpretation of data feeds. Fixed income products and swaps. More exotic options as time permits.

MATH 829-11 STUDY OF GAUSSIAN RANDOM PROCESSES

Studying of Random Process, Gaussian Vectors, Gaussian Processes, Brownian Motion with definitions Covariance function, existence, Path properties.

MEDT - Medical Laboratory Sciences

MEDT 467-10 TECHNIQUES IN NANOMEDICINE

Chemical and physical approaches used to make functionalized nanoparticles and their characterizations with spectroscopy including Fourier transform infrared spectroscopy (FTIR), UV & visible, scanning electron microscope (SEM), transmission electron microscope (TEM) & nuclear magnetic resonance, NMR Prereq: BISC208, CHEM104 or BSC208 & CHEM112, CHEM120.

MEDT 667-10 BIOMEDICAL APPLICATIONS OF NANOMEDICINE

Covers application of Nano medicine in prostheses and implants, diagnostic sensors and "lab on-a-chip" techniques Prereq: BISC208, CHEM104 or BISC208 & CHEM112, CHEM120.

MEDT 667-11 NANOMEDICINE IN BIO-IMAGING, DIAGNOSIS, AND DETECTION

Covers nanotechnology-based bio imaging, diagnostic, and detection systems such as advanced magnetic resonance imaging (AMRI), optical imaging, computerized tomography scan (CT scan) and nano sensing systems. Pre-req: BISC208, CHEM104, or BISC208 & CHEM112, CHEM120.

MEEG - Mechanical Engineering

MEEG 467-10 MODELING OF FABRIC STRUCTURES

Introduces the use of fabric materials for flexible systems/devices. Emphasizes the traditional engineering methods in analysis and design while discussing the unique aspects of applying those concepts when fabrics are used as a key structural material. Pre-req: MEEG215 or CIEG212 or equivalent, or permission of instructor .

MEEG 467-12 INTERFACE SCIENCE AND ENGINEERING

Provides an introduction to tribology, imparts a basic understanding of interfacial phenomena, and explores the state of the art, especially as it relates to emerging challenges in aerospace lubrication, wind power conversion. Recommended for mechanical, chemical, biomedical and material science engineering seniors and graduate students.

MEEG 667-10 MODELING OF FABRIC STRUCTURES

Introduces the use of fabric materials for flexible systems/devices. Emphasizes the traditional engineering methods in analysis and design while discussing the unique aspects of applying those concepts when fabrics are used as a key structural material. Pre-req: MEEG215 or CIEG212 or equivalent, or permission of instructor .

MEEG 667-11 NANOMANUFACTURING

Covers fundamental research and emerging techniques to produce nanostructures and integrate them into micro-devices and meso- and macroscale systems. Emphasis on recent developments in nanomanufacturing and critically analyzing current research literature.

MEEG 667-12 INTERFACE SCIENCE AND ENGINEERING

Provides an introduction to tribology, imparts a basic understanding of interfacial phenomena, and explores the state of the art, especially as it relates to emerging challenges in aerospace lubrication, wind power conversion. Recommended for mechanical, chemical, biomedical and material science engineering seniors and graduate students.

MISY - Management Information Science

MISY 367-10 MOBILE CLOUD COMPUTING

Systems and programming of mobile cloud computing that integrates smart phones and tablets with virtualized computing infrastructures. Topics include Android programming, IaaS, PaaS, SaaS, and Google App Engine.

MISY 367-11 AN INTRODUCTION TO SECURITY AND CONTROL IN A WIRED WORLD

Non-technical introduction to IT security and control in a global environment. A combination of readings, videos, assignments/projects, cases, and speakers will be used to understand important topics at both the personal and enterprise levels. Topics include viruses, hacking, cybe

MISY 467-10 INTRODUCTION TO CYBER SECURITY

Introduction to cyber security topics including security fundamentals, applied cryptography, system security, access control policies, intrusion detection, auditing, and security models. PREREQ: CISC 106, MISY 225 or MISY 261.

MISY 647-11 SOFTWARE TESTING & MAINTENANCE

Study of software testing and maintenance methodologies for modern software. Includes approaches to automatic test case generation, test oracles, test coverage analysis, regression testing, program understanding, and software maintenance tools. Focuses on automation in software testing.

MSEG - Materials Science

MSEG 667-17 IMPACT MODELING & FAILURE OF COMPOSITES

Based on theory and finite element analysis (FEA). Discusses theory and practice of non-linear continuum mechanics based finite element code LS-DYNA with special applications to impact and failure analysis of composites.

MSEG 667-18 CRYSTALLIZATION IN MATERIALS

Kinetics of nucleation and growth of crystals. Crystallization near equilibrium: Wulff plots. Crystallization from mixtures: metal alloys, polymer blends, coupled growth, zone refining. The roles of self-generated thermal, constitutional, and stress fields and of the diffusion length: dendrites, cells, polymer blends. Liquid-liquid phase separation and crystallization.

NTDT - Nutrition & Dietetics

NTDT 367-10 NUTRITION AND EARLY CHILDHOOD

Nutrient requirements and feeding principles of infants and young children; emphasis on early life nutrition and its role in healthy growth, diet, obesity prevention, and other health outcomes; review of current guidelines and recommendations. Prereq: NTDT200.

PHIL - Philosophy

PHIL 465-11 PHILOSOPHY OF RELIGION

Several works of David Hume, as well as several contemporary essays, all focusing on topics in the philosophy of religion. Includes the problem of evil, the theistic arguments, and the relation between reason and faith. Students write a semester paper and various shorter papers.

PHIL 467-10 DEVIANT SENTENTIAL LOGIC

Looks at systems of deviant sentential logic, rivals to the classical logic of PHIL 205. Three topics will be covered.: 3-valued logic, intuitionistic logic and relevance logic. Material is mathematically interesting, slightly above 205. More challenging, are philosophical issues about these logics.

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PLSC - Plant & Soil Science

PLSC 167-11 FARM TO TABLE

Explore contemporary food production models like community supported agriculture, gardens and the local food movement. Learn about new crops and dietary strategies that can be incorporated into the way people eat today. There will be projects that include interviews, research & menu planning.

PLSC 267-10 WETLANDS

Overview of wetland ecosystems. Ecological functions of wetlands & services to society. Characteristics of wetlands with respect to hydrology, soils, plant communities & wildlife. Wetland types & classification, delineation, protection & mitigation. Several classes will be at on-campus wetlands.

PLSC 267-11 FERMENTATIONS: BREWING AND BEYOND

Encompasses the process of beer brewing, food & spirits that would not exist without fermentation. Covers the history of fermentation, basic microbiology as it relates to fermentation as well as specific fermented products. Prereq: BISC207 or PLSC101.

PLSC 267-12 FROM FARM TO TABLE: FOOD, CULTURE & NUTRITION

Explore contemporary food production models like CSA's, community gardens and the local food movement. Learn about new crops and dietary strategies that can be incorporated into the way people eat today. Examine cultural influences on food production.

PLSC 467-10 BIOLOGICAL COMMUNICATIONS

Focus on various aspects of biological interactions at the ecological level. Topics include plant/animal/insect defenses, communications in benign & pathogenic interactions, microbial warfare, communication in marine organisms & human pheromones. Prereq: PLSC201 or BISC208.

PLSC 467-13 NONPOINT SOURCE POLLUTION

Understanding sources, transport pathways, and transformations of important pollutants and toxic chemicals generated by anthropogenic activities. Includes transport, transformation, and fate of these pollutants in watersheds. Impacts of these pollutants on soil, forest, and aquatic ecosystems. Prereq: BREG321 or CIEG440.

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POSC - Political Science**POSC 467-10 SYSTEMS OF WATER GOVERNANCE IN AFRICA**

Focuses on systems of water governance in select regional and country case studies to identify the diverse institutional arrangements of governance, and how these systems have sought to balance the competing regional and national claims to shared water resources as a human and gendered right as well as a key economic resource that has to be valued and utilized efficiently.

PSYC - Psychology**PSYC 667-10 BODY AND SPACE**

Examines current theories regarding how we perceive our bodies, how we represent the space around us, action, and our sense of self. We will also review contemporary issues and methodologies in cognitive psychology, cognitive neuropsychology and non-invasive brain stimulation.

PSYC 667-11 PSYCHOLOGY OF TIME

Examines how temporal frames of reference regarding the past, present and future affect basic human processes, and behavior; decision making, emotion, goal-setting and risky-behavior. Also explores how we experience time passing, and how it affects cognitive, social and behavioral processes.

SOCI - Sociology

SOCI 367-10 BEHAVIORAL HEALTH ISSUES IN JUVENILE JUSTICE

Provides an overview of the juvenile justice system, a review of the risk factors and most commonly occurring behavioral health issues presented by the youth in the system, and practical strategies for working with justice-involved youth with behavioral health issues.

SOCI 367-11 STATES, POWER, AND SOCIETY

Explores the variety of ways governments interact with, exert power over people, including the social safety net, police, census taking, healthcare, other practices and institutions useful to the larger project of disciplining subjects, maintaining order and mobilizing populations.

SOCI 467-10 BLACK MIDDLE CLASS

Discriminatory barriers since World War II and the Civil Rights Movement created opportunities for more Black Americans to enter the ranks of the expanding middle class. New scholarship that integrates race, gender and class provides a lens for exploring their paths and the problems they face.

SOCI 637-10 LAW AND SOCIETY IN HISTORY PERSPECTIVE

Examines the social history of law and legal institutions from the revolutionary era to the present. Focuses on the United States, but highlights comparative perspectives throughout the semester.

SPAN - Spanish

SPAN 367-70 SPEAKING/WRITING SKILLS 5 & 6

Fundamental linguistic support. Enables students to understand and express in a variety of situations which may be unfamiliar, and which require exchanging informational and personal opinions using complex linguistic structures. Course is required for all students in the Lang. and Culture Program.

SPAN 467-70 ENGLISH-SPANISH TRANSLATION I

Deals with the new approaches to language learning that view the activities of translation and interpreting as a tool for the development of communicative ability and mediation skills.

SPAN 467-73 SPANISH GRAMMAR (SUPERIOR LEV)

Includes the main points of those remaining difficulties which a student may encounter in the latter part of an advanced learning phase and the best way to solve them, within a pragmatic tone.

SPAN 467-74 SPEAKING/WRITING SKILLS 7 & 8

Fundamental linguistic support. Enables student to understand and express in a variety of situations which may be unfamiliar, and which require exchanging informational and personal opinions using complex linguistic structures. Course is required for all students in the Lang. and Culture Program.

THEA - Theatre

THEA 367-10 ACTING TECHNIQUES FOR BUSINESS PROFESSIONALS

Provides the opportunity to increase effectiveness in presentational situations. Through experiential exercises, lecture, and presentations students will gain an awareness of current habits and the capacity to expand beyond them for greater self-expression.

UAPP - Urban Affairs & Public Policy

UAPP 267-10 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 and civic engagement on social and economic issues within disadvantaged communities. The course will also explore the

UAPP 467-10 METROPOLITAN PLANNING AND GOVERNANCE

Focusses on government and governance institutions and their roles in fostering regional cooperation on urban planning issues.

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UAPP 667-11 HOUSING AND COMMUNITY DEVELOPMENT IN NETHERLANDS

Focuses on Dutch approaches to housing policy, neighborhood planning, preservation and development. There are two 3-hour class sessions before the trip, the trip itself during Spring Break (3/28-4/6), and a group presentation after the trip. Grad students only. May be taken for 1-3 credits.

UAPP 867-10 DISSERTATION PROPOSAL PRACTICU

Workshop for PhD students on the completion of the doctoral dissertation proposal.