Supplemental Course Descriptions for Spring 2020

Updated November 11, 2019

ANTH - Anthropology

ANTH 467-10 ON BECOMING HUMAN
Examines the biological and cultural evolution of humans, focusing on similarities and differences between humans and our closest primate relatives.

ARSC - Arts & Sciences

ARSC 300-10 RELIGION AND POLITICS IN SECULAR DEMOCRACIES
Explores the religion-politics nexus in secular democracies. Prominent guest speakers address President Trump and Evangelical Christians, Antisemitism and Islamophobia, right wing parties in Europe and Israel, Hindu Nationalism in India, and White Nationalism in the US.

ARTH - Art History

ARTH 198-10 ANCIENT NILE VALLEY ART
An introductory course that explores art of the Nile valley from Ancient Egypt to the borders of present day Congo and Uganda.

ARTH 406-10 THE MEDIEVAL BOOK
Introduces students to issues of the medieval book, focusing on case studies from the western European tradition. Uses a number of theoretical perspectives and methodologies to investigate manuscripts within the University's collection.

ARTH 421-10 MANET & MODERN PARIS
The work and context of Edouard Manet. Includes socio-political and cultural context, associated artists, identity (class, gender, sexuality, race), new forms of visual culture and technology, leisure and entertainment, Impressionism, world's fairs, and criticism. Field trip to "Degas & the Opera" at NGA.

ARTH 445-10 MAPPING CATHAY: ART, ARCHITECTURE & CARTOGRAPHY
Focuses on art and architectural representations of China, on ancient and pre-modern maps. Decodes symbols and icons, and studies Chinese and European cartography, along with historical exchanges of artistic and geographical knowledge between Asia and Europe.

ARTH 606-10 THE MEDIEVAL BOOK
Introduces students to issues of the medieval book, focusing on case studies from the western European tradition. Uses a number of theoretical perspectives and methodologies to investigate manuscripts within the University's collection.

ARTH 620-10 INTERPRETING PRE-DAGAMIAN ART OF BENIN & BIAFRA
Explores the art of West Africa both before the European encounter and through it (before colonialism proper). Engages recent debates and the competing theories that motivate them.

ARTH 626-10 DAVID C. DRISKELL: MAKING ART HISTORY
An interdisciplinary seminar focused on the artist, scholar and curator David C. Driskell (b. 1931). Considers the role of Black American artists, and Driskell in particular, in the archive and canon formation of American art history and the making of African American art writing and curating.
ARTH 627-10,11  THE NEWS MEDIA
Considers the art history and visual culture of modern news pictures in a variety of media, from paintings, prints, newspapers, and magazines, to newsreels, television, Twitter, and beyond.

ARTH 667-15  EXHIBITION AND INTERPRETATION OF MATERIAL CULTURE
Practicum at Winterthur in exhibiting and interpreting American material culture in a global context, centering on objects selected from Winterthur collections. Includes exhibition preparation, installation, programming, fundraising, marketing.

BHAN - Behavioral Health & Nutrition

BHAN 130-41  HEALTH & VIRTUES
An introduction to the relationship between classical virtues from across the historical spectrum of cultures, religions and socio-economic groups and their positive impact on wellbeing defined by the nine Dimensions of the Wellness Wheel of UD's Student Wellness and Health Promotion.

BHAN 367-12  FOOD SECURITY ISSUES & EDUCATION
Lab experience in campus food pantry management and operations with an emphasis on education, marketing, and advocacy. Explores existing programs addressing food insecurity and disparity, as well as novel and emerging strategies. Students will also complete food safety certification.

BHAN 467-11  WORKSITE WELLNESS
Explore first-hand, an orientation to worksite wellbeing and health promotion. Under the supervision of a field supervisor, this introductory course provides hands-on experience and emphasis on skills needed to create healthy, happy, highly productive employees and work settings.

BISC - Biology

BISC 667-12  PROTEIN STRUCTURE IN CELL BIOLOGY
Examines how protein structure gives rise to function. Discusses key elements of protein structure, methods of structure determination, and examples that illustrate the role of protein structure in cell biology. Recommended prereq: CHEM 527 or CHEM 641.

BMEG - Biomedical Engineering

BMEG 467-18  NEUROMECHANICS OF HUMAN MOTION
Explores the interactions between our sensory system, central processing and biomechanics. Discusses emerging applications related to this exciting field of research.

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CHEG - Chemical Engineering

CHEG 667-20  BIOPROCESS ENGINEERING IN PRACTICE.
An overview of the major technical and regulatory issues in biopharmaceutical industrial practice, including cell culture, purification and formulation. Focusses case studies in which students work in groups to troubleshoot processing problems.
CHEM - Chemistry

CHEM 667-12 PROTEIN STRUCTURE IN CELLULAR BIOLOGY
Examine how protein structure gives rise to function. Discusses key elements of protein structure, methods of structure determination, and examples that illustrate the role of protein structure in cell biology. Recommended prereq: CHEM 527 or 641.

CIEG - Civil & Environmental Engineering

CIEG 467-10 CONSTRUCTION ENG AND MGMT
Overview of fundamental knowledge of construction engineering and management. Focuses on management and technical aspects of project construction, with primary concerns of planning, execution, and controlling of construction projects.

CIEG 467-11 TEMPORARY STRUCTURES IN CONSTRUCTION
Temporary structures in construction for example earth retaining structures, construction dewatering, tunneling supports, roadway decking, scaffolding, shoring, concrete formwork, cranes, and bridge false work. Safety and business aspects. Case studies in failures.

CIEG 467-13 ADVANCED BIM
Covers advanced topics in building information modeling, including building assembly modeling, clash detection, construction animations and visualization, 4D scheduling, automated BIM quantity takeoff, and BIM collaborations. Prior Revit modeling experience is suggested.

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CIEG 867-10 BIOENG AND MOLECULAR GENETICS
Approaches to genome editing and genetic screening in bacterial systems. Using primary literature, students evaluate the suitability of different techniques for specific projects, and design genetic approaches to identification and characterization of genes and pathways of interest.

CISC - Computer & Info Sciences

CISC 467-10 CLOUD COMPUTING
Introduces the basics of cloud computing, including different cloud computing services and models, modern data centers and virtualization, Apache Hadoop, Hadoop Distributed File System, and key-value storage. Includes hands-on projects and tutorials.

CISC 489-10 INTRODUCTION TO NATURAL LANGUAGE PROCESSING
An introductory course in natural language processing that covers topics from text processing, to a variety of applications; including topic detection, summarization, sentiment analysis and translation. Familiarity with Python and basic artificial intelligence (AI) concepts is desirable.

CISC 689-10 INTRODUCTION TO NATURAL LANGUAGE PROCESSING (NLP)
An introductory course in natural language processing that covers topics from text processing, to a variety of applications; including topic detection, summarization, sentiment analysis and translation. Familiarity with Python and basic artificial intelligence (AI) concepts is desirable.
CISC 667-10 CLOUD COMPUTING
Advanced course in cloud computing which introduces the fundamental concepts, including MapReduce, Spark, NoSQL, synchronization, consensus, scalability, trending big data topics such as stream processing, and much more!

CISC 849-10 HPC FOR SCIENTIFIC APPLICATIONS
Explores how to develop and migrate legacy scientific applications using parallel programming, compiler and runtime paradigms on large scale, accelerated HPC systems.

CISC 867-10 SOCIAL NETWORK ANALYSIS
Explores various methodologies for analyzing online social networks. The primary focus is on research issues pertaining to the analysis of social relationships, modeling information diffusion, and data mining techniques.

CISC 889-10 NEURAL NETWORKS AND DEEP LEARNING
Learn the foundations of Deep Learning; understand state-of-the-art models and their applications; and learn how to program in PyTorch. Includes CNNs, RNNs, GANs, Deep Reinforcement Learning, and Deep Meta-Learning. Includes reading relevant papers and PyTorch Programming.

COMM - Communication

COMM 418-10 CONTROVERSY AND HOT TOPICS IN THE NEWS
Examines hot topics and how theories of news impact coverage decisions, in an increasingly volatile and polarized world. Includes issues and concerns for citizens, from climate change to guns.

COMM 418-13 TEENS AND SCREENS
Examines how adolescence, as a unique developmental stage, both informs and is shaped by teens. Media use focusing on TV/Movies and social media.

DISA - Disaster Science & Management

DISA 467-12 ISSUES IN DISASTER RECOVERY
Focuses on disaster recovery. Considers a variety of topics that are critical in disaster recovery trajectories and examines them closely, with respect to existing and evolving theory and with respect to transferring theory into application.

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DIST - Disability Studies

DIST 267-10 DISABILITY STUDIES: A MULTIDISCIPLINARY INTRODUCTION
Introduces the multidisciplinary field of disability studies. Explores historical and critical perspectives on the definition and construction of disability. Examines current societal and environmental contexts for disability, including students’ own relationships to disability.

EAMC - Early American Material Culture
EAMC 667-12  INTRODUCTION TO PUBLIC AND DIGITAL HUMANITIES
Introduces graduate students to the theories, methods, and practical skills that will help them translate material culture scholarship into public-facing initiatives and digital projects.

EAMC 667-15  EXHIBITION AND INTERPRETATION OF MATERIAL CULTURE
Practicum at Winterthur in exhibiting and interpreting American material culture in a global context, centering on objects selected from Winterthur collections. Includes exhibition preparation, installation, programming, fundraising, marketing.

ECON - Economics

ECON 367-10,11  INTRODUCTION TO ECONOMETRICS
Introduces basic econometric analysis of economic data. Covers two-variable and multivariate linear regression assumptions, estimation, and hypothesis testing. Puts concepts into practice using statistical software. Prereqs: C- or better in ECON101; ECON103; and STAT200 or MATH201 or MATH450.

ECON 467-10  ECONOMICS OF REGULATION
Analyzes a variety of government market interventions, including topics in antitrust, natural monopoly, consumer protection, and environmental regulation. Examines theoretical foundations of firm behavior alongside efficiency of historical and contemporary policy developments. Prereqs: ECON251, ECON300 or ECON301.

ECON 867-10  TOPICS IN DYNAMIC MODELING
Covers computational and numeric methods for solving, simulating, and estimating models with intertemporal choice. Begins with foundational material on function representation and object-oriented programming before focusing on dynamic discrete choice models and continuous choice models. Prereqs: ECON 811, ECON 812, ECON 813

ECON 867-11  HOUSEHOLD FINANCE II
Empirical tests and applications of household consumption, saving, borrowing, and portfolio choice models, including study of methods and instruments by which actors make their decisions, the impact of regulation, and implications for welfare.

EDUC - Education

EDUC 867-10  ADVANCED RESEARCH DESIGN FOR CAUSAL INFERENC
Doctoral-level course on advanced research design and analysis for causal inference. Includes internal/external validity, potential outcomes, fixed effects, true/quasi-experiments, propensity-score, mediation/moderation, longitudinal designs. Students author an original empirical article. Students should have a strong methodological foundation evidenced by prior success in at least one intermediate and one advanced quantitative methods course.

EDUC 867-10  SURVEY DESIGN AND ANALYSIS IN EDUCATIONAL RESEARCH
Development and analysis techniques for surveys. Methods of questionnaire development, sampling, pre-testing, data collection, analysis and reporting.

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ENEP - Energy & Environmental Policy
ENEP 467-13  ENVIRONMENTAL SCIENCE IN POLITICS AND POLICY
Examines the role of science, rationality, and technical expertise in environmental policy. Includes the nature and use of scientific evidence and potential tensions between technical expertise and democratic values.

ENEP 667-13  ENVIRONMENTAL SCIENCE IN POLITICS AND POLICY
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FASH - Fashion & Apparel Studies

FASH 467-10 WEARABLE PRODUCT DESIGN
This advanced level studio course explores the intersection of industrial design and fashion design, with emphasis on human-centered design process, problem solving and material innovation. Projects provide discovery-based learning as well as practice with design briefs.

GEOG - Geography

GEOG 467-15 ENVIRONMENTAL JUSTICE IN DISASTERS

GEOG 667-15 ENVIRONMENTAL JUSTICE IN DISASTERS

GEOG 667-16 UQMINE7023 COMMUNITY DEVELOPMENT FOR THE RESOURCES SECTOR
Introduces a framework for understanding how community development theory, methods and techniques can be used by community relations workers in the resources sector.

GEOG 667-17 UQMINE7055 REGIONAL AND LOCAL ECONOMIC DEVELOPMENT IN THE RESOURCES SECTOR
Explores community development approaches to local and regional economic development, with a particular focus on the communities and regions associated with the resources sector.

GEOL - Geological Sciences

GEOL 467-10 AQUEOUS GEOCHEMISTRY
Application of chemical principles to hydrological processes. Modeling water-rock interaction and understanding water quality.

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HDFS - Human Dvlpmnt & Family Science
HDFS 667-13 SOCIAL-EMOTIONAL WELL-BEING IN CHILDREN AND ADOLESCENTS

HDFS 867-10 INTEGRATING RESEARCH AND POLICY IN EARLY CARE AND EDUCATION
Introduces graduate students to social and educational policy in early care and education, and examines how contemporary interdisciplinary research can inform policy change. Research and policy from multiple sectors in early childhood (e.g. preK, Head Start, child care, home visiting).

HLPR - Health Promotion

HLPR 467-11 PUBLIC HEALTH IN PRACTICE
Examines factors that lead to health inequities i.e.; educational and economic disadvantage, food insecurity, trauma, and isolation. Through cases and presentations, explores the dilemma confronting policymakers, providers, and community members. Exposure to community engagement.

KAAP - Kinesiology & Appl Physiology

KAAP 440-10 THE SOFT AMERICAN
Understanding sedentary behavior and its co-morbidities from the perspectives of mechanistic, integrative and adaptive physiology.

KAAP 440-11 EXERCISE ENDOCRINOLOGY
Provides a comprehensive overview of the relation between exercise and hormone function. Focuses on the glands that produce hormones, their target organs, mechanisms, and how both acute and chronic exercise impact hormone action.

KAAP 667-11 BRAIN IMAGING BASICS AND CLINICAL APPLICATIONS
Basic principles of neuroimaging methods as applied to human subjects research. Fundamentals of magnetic resonance imaging (MRI) physics and image formation, experimental design and data analysis as well as the applications of functional and structural MRI techniques in human motor controls studies.

KAAP 667-12 ADVANCED HUMAN PHYSIOLOGY II
Focusses on cell, organ, and systems physiology of the following three areas: renal, neuromuscular, and the gastrointestinal system.

LEAD - Leadership

LEAD 367-10 LEADERSHIP APPLICATIONS IN FRATERNITY AND SORORITY LIFE
Designed to enhance the leadership skills of fraternity and sorority presidents and to help them understand the unique nature of their leadership position. Focuses on practical application of leadership concepts.

MALS - Liberal Studies

MALS 626-11 PUNISHMENT & SOCIETY
Examines punishment as a social institution. Explores the relationship between punishment and society; its causes, consequences and future trends; the functions served by incarceration today; incarceration's effects on penal workers, incarcerated people, their families, and their communities.

**MALS 667-13 EAST/WEST**

Considers how cross-cultural study helps us move beyond binary distinctions to consider more nuanced scholarly analysis. Compare/contrast paradigms of Eastern and Western culture through studying philosophy, poetry, food, art, architecture, sex/gender, ecology, beauty, time, literature and more.

**MAST - Marine Science**

**MAST 467-26 BIOLOGY, CONSERVATION, AND MANAGEMENT OF CHONDRICHTHYAN FISHES (SHARKS, SKATES, AND RAYS)**

Overview of the evolution, anatomy, physiology, and ecology of chondrichthyan fishes (sharks, skates, rays, and chimaeras) with an emphasis on their unique life history strategies and ecosystem roles. Addresses management and conservation issues facing these fishes.

**MISY - Management Information Sciences**

**MISY 467-10 MACHINE LEARNING FOR BUSINESS**

Introduces the basic concepts and techniques of machine learning and covers most commonly used models for predictive analytics. Programming intensive, using Python 3 and popular packages/frameworks, such as Jupyter, Pandas, Scikit-Learn, Matplotlib, and TensorFlow.

**MISY 667-10 ETHICS IN TECHNOLOGY MANAGEMENT**

Explores ethical issues related to the design, implementation, application, and protection of computer and information systems; including current issues, the technical and administrative aspects Internet crimes, and safeguards, security, privacy, confidentiality, and data integrity.

**MSEG - Materials Science**

**MSEG 467-23 SOFT MATTER MECHANICS AT THE MESOSCALE: CONTACT, ADHESION, AND MESOSCALE PHENOMENA**

Provides overview of soft matter phenomena at the mesoscale. Theoretical and practical approaches in adhesion, wetting, and contact mechanics with emphasis on novel materials and biological systems.

**MSEG 667-22 ORGANIC ELECTRONICS: DESIGN, SYNTHESIS, AND APPLICATIONS**

Provides the principles of organic semiconducting and conducting materials (small molecules and pi-conjugated polymers). Describes the design, synthesis, and applications of organic electronics for energy, biology and electronics.

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Provides overview of soft matter phenomena at the mesoscale. Theoretical and practical approaches in adhesion, wetting, and contact mechanics with emphasis on novel materials and biological systems.

**MSST - Museum Studies**

**MSST 667-15 EXHIBITION AND INTERPRETATION OF MATERIAL CULTURE**
Practicum at Winterthur in exhibiting and interpreting American material culture in a global context, centering on objects selected from Winterthur collections. Includes exhibition preparation, installation, programming, fundraising, marketing.

**MUSC - Music**

**MUSC 267-10 ISSUES AND IDEAS IN JEWISH STUDIES**
SHALOM SHANGHAI: A forum for scholars to share their thoughts and research on the culture, literature and history of the Jewish people. Topics range from historical reviews to contemporary issues.

**NSCI - Neuroscience**

**NSCI 467-11 MINDFULNESS AND THE BRAIN**
Explores the intersection between mindfulness and neuroscience. Learn and practice mindfulness skills in and outside of class, for experiential learning. Examines the literature on how mindfulness and mediation techniques impact brain structure and function.

**NSCI 467-12 NEUROPLASTICITY**
Focuses on neuroplasticity and requires some prior knowledge of neuroanatomy and physiology. Includes effects of experience on neurogenesis, stress effects, and synaptic remodeling.

**NSCI 467-13 NEUROLOGICAL DISORDERS**
Consideration of the effects of damage to the nervous system in human beings, including both common disorders and rarer conditions that provide a window into complex aspects of brain function.

**NSCI 633-10 NEUROPLASTICITY**
Focuses on neuroplasticity and requires some prior knowledge of neuroanatomy and physiology. Topics include effects of experience on neurogenesis, stress effects, and synaptic remodeling.

**NTDT - Nutrition**

**NTDT 367-10 NUTRITION & GASTROENTEROLOGY**

**NTDT 467-10 GENETICS IN HEALTH & NUTRITION**
Explores fundamental concepts related to effects of genes on health/disease with a secondary focus on nutrigenetics. Experimental techniques/applications to human health, personalized nutrition products will be reviewed. Students gain experience in assessing primary research in genetics nutrition.

**PLSC - Plant & Soil Science**

**PLSC 367-12 HORTICULTURAL EXHIBIT DESIGN**
A truly unique course that puts into practice the foundational design notion of 'thinking with your hands', by engaging students in a real-world design project. Spend the second half of the fall semester working with an interdisciplinary team to develop design details and build the University of Delaware's 2020 exhibit at the Philadelphia International Flower Show. Includes developing interactive signage.

**PLSC 467-10 PRINCIPLES OF INTEGRATED PEST MANAGEMENT**
Pest management strategies for decision-based sustainable pest management, special emphasis on plant diseases and insect pests. Covers integrated approaches to managing insects and diseases within agricultural production systems. Fundamentals of entomology and plant pathology, diagnostic resources, sampling techniques, use of pesticides, cultural control practices, and host resistance.

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POSC - Political Science

POSC 467-10 PREJUDICE, STEREOTYPING, AND DISCRIMINATION
Examines stereotyping, prejudice, discrimination, and minority experience from a social psychological perspective. Highlights the impact of self-relevant identities and political ideologies from a scientific perspective.

PSYC - Psychology

PSYC 467-10 TRAUMA AND RESILIENCE
Focuses on research related to the psychological and biological effects of adversity and trauma; the process of recovery; treatments for post-traumatic stress disorder, depression, and suicidality in adulthood; and factors that promote mental health and resilience.

PSYC 467-11 MINDFULNESS AND THE BRAIN
Explores the intersection between mindfulness and neuroscience. Learn and practice mindfulness skills in and outside of class, for experiential learning. Examine the literature on how mindfulness and mediation techniques impact brain structure and function.

PSYC 467-13 PREJUDICE, STEREOTYPING, AND DISCRIMINATION
Examines stereotyping, prejudice, discrimination, and minority experience from a social psychological perspective. Highlights the impact of self-relevant identities and political ideologies from a scientific perspective.

PSYC 667-10 COGNITIVE NEUROIMAGING
Survey of advanced methods applied to neuroimaging (esp. fMRI) of cognitive functions, with some practical components. Focuses in particular, on applying machine-learning to imaging data.

PSYC 867-11 MORAL PSYCHOLOGY
Integrates classic and contemporary perspectives on moral cognition and behavior. Examines the development of morality, interactions between morality, emotion, and social cognition, and the neural bases of morality and moral judgment.

SCEN - Science

SCEN 267-10 SEMINAR: THE SCIENCE OF LEARNING FOR PEER MENTORS
Designed for students serving as Peer Mentors in Integrated Science Learning Laboratories and interested in the science behind learning in STEM disciplines. Integrates educational theory, pedagogy, and practice.
SPPA - School of Public Policy & Administration

SPPA 467-15 ENVIRONMENTAL JUSTICE IN DISASTERS

SPPA 667-15 ENVIRONMENTAL JUSTICE IN DISASTERS

UNIV - University Studies

UNIV 667-1 SEMINAR IN DISABILITY STUDIES: DESIGNING INCLUSIVE FUTURES
Introduces students to disability studies and inclusive design. Considers how designers, entrepreneurs, researchers, and creators generate possibilities for moving, interacting, sustaining, and connecting in the future.