

# Supplemental Course Descriptions for Spring 2020

Updated November 18, 2019

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## **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.

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## **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.

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## **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.

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**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.

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**BINF – Bioinformatics****BINF 667-12 INTRODUCTION TO DATA SCIENCE**

Survey of data science topics focusing on developing skills and principles required to extract, clean, and manage big data. Apply data analytics to real-world clinical and/or healthcare data to achieve best outcomes in the field of data science.

**BINF 667-13 BIG DATA ANALYTICS IN BIOMEDICINE AND HEALTH**

Introduce unsupervised and supervised methods for large-scale biomedical data analysis as well as healthcare analytics from model selection and risk stratification to disease progression and causal inference.

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**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.

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**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. Focuses case studies in which students work in groups to troubleshoot processing problems.

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### **CHEM - Chemistry**

#### **CHEM 667-12 PROTEIN STRUCTURE IN CELLULAR 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 641.

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### **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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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.

#### **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.

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### **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.

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**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.

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**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.

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**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.

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**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.

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**EDUC - Education**

**EDUC 867-10 ADVANCED RESEARCH DESIGN FOR CAUSAL INFERENCE**

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**

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.

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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.

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**GEOG - Geography****GEOG 467-15 ENVIRONMENTAL JUSTICE IN DISASTERS**

Case studies from US heat, flood, and wildfire disasters. Examines social, behavioral, legal, and financial factors that create systematic inequality in disaster risk exposure. Looks at how recovery exacerbates inequality. Environmental justice theory and movements.

**GEOG 667-15 ENVIRONMENTAL JUSTICE IN DISASTERS**

Case studies from US heat, flood, and wildfire disasters. Examines social, behavioral, legal, and financial factors that create systematic inequality in disaster risk exposure. Looks at how recovery exacerbates inequality. Environmental justice theory and movements.

**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.

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### **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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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**

Explores socio-emotional development of children and theories and research on supporting child socio-emotional well-being in education and community settings. Examines factors that influence socio-emotional well-being, child-adult relationships, and social-emotional interventions.

#### **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)

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### **HIST – History**

#### **HIST 268-10 SEM: HURRICANES, EARTHQUAKES & DROUGHT – SOCIAL HISTORIES OF NATURAL DISASTER**

Examination of catastrophic upheaval in the Americas from colonial-era hurricanes to current glacial melt to understand how historians and social scientists interpret natural disasters. Using primary and secondary resources, students will undertake their own social history of a natural disaster.

#### **HIST 268-11 SEM: AMERICANS IN THE WORLD**

Investigates the experiences of soldiers, students, missionaries, ex-patriots and others as Americans in the world. Includes a variety of research and writing exercises culminating in a research paper based on original sources.

#### **HIST 268-13, 83 SEM: DISABILITY IN THE AMERICAN EXPERIENCE**

Introduces a critical framework for understanding how technologies reveals individual experiences with disability. Use of a "hands-on" material cultural approach to analyze medial and prosthetic technologies. Historicizes concepts such as "impairment vs disability" and "ableism".

#### **HIST 268-14, 84 SEM: THE CRUSADES**

Discussion explores the origins and unfolding of the Crusades (1095-1291), through an intensive examination and mining of primary sources.

**HIST 268-15, 85 SEM: WORLD WAR I**

Discussions on the history and nature of historical writing followed by discussion of 19th century European history leading up to World War I.

**HIST 327-10 SEM: IMAGINING MODERNITY-JEWISH THINKERS & ARTISTS IN MODERN EUROPE**

Explores contributions of Jewish thinkers and artists to Modern European cultural and intellectual history. Investigation of the creativity and achievement and specific historical contexts of salons, cities, cafes, universities, artists' studios and scientists' laboratories.

**HIST 337-10 TPCS: EDIBLES - HISTORY OF FOOD & CULTURE**

Analyzes American cultures and society through history of food production and consumption, investigating how the simple act of eating reveals interconnections. Considers food choices as biological, cultural, personal and political.

**HIST 337-11 TPCS: AMERICAN RADICALISM**

Examines major themes, problems and personalities of the 20th-century American radical politics, protest and dissent. Begins with the late 19th-century Populists and socialist and continue with Communists through the "New Left" and counterculture of the 1960s.

**HIST 337-12 TPCS: SPORTS HISTORY**

Traces major developments in American sports history since the Civil War including the professionalization of sports, race, women, mass media and free agency through lectures, films and discussions.

**HIST 337-13, 83 TPCS: HEALTHY BODIES-CITIZENSHIP, MEDICINE & SOCIAL ACTIVISM**

examines the history of health activism in American history from the 19th-century debates over compulsory vaccination to 21st-century issues about healthcare biases against people of color.

**HIST 337-14, 84 TPCS: THE AMERICAN 1960's**

Explores topics including the presidencies of Kennedy, Johnson and Nixon; Martin Luther King Jr.'s Christian radicalism; the civil rights, antiwar and women's movements; Tet Offensive and My Lai Massacre and the police riot and street battle at the Chicago Democratic Convention.

**HIST 400-10, 80 CAP: SEM: MODERN U.S. POLITICAL ECONOMY**

Introduces the managerial revolutions attendant upon the late 19th century advent of corporate capitalism; the changing face of modern opportunity and the characteristics of contemporary elites, among other subjects.

**HIST 400-11 CAP: SEM: U.S. - CHINA RELATIONS**

Discusses U.S. - China relations from 1784 to present, including the process in which the U.S. and China moved from friends to enemies during the past 2 centuries. Explores major historical events affecting the American, Chinese and East Asian history.

**HIST 400-12, 82 CAP: SEM: WOMEN IN THE ISLAMIC MIDDLE EAST**

Traces the Islamic women's legal status, sexual morality, family and social life, female economic and political participation. Uses scholarly studies, documentaries and literature, to see how women have defined themselves amid political, social and economic change.

**HIST 400-13, 83 CAP: SEMR: WORLD WAR II IN EUROPE**

Analyzes the conduct of the war on land, sea and air in the East and the West. Explores the home front, military intelligence, partisans, strategic bombing, the Holocaust and the economic resources of the combatants.



**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.

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**JWST – Jewish Studies****JWST 327-10 SEM: IMAGINING MODERNITY-JEWISH THINKERS & ARTISTS IN MODERN EUROPE**

Explores contributions of Jewish thinkers and artists to Modern European cultural and intellectual history. Investigation of the creativity and achievement and specific historical contexts of salons, cities, cafes, universities, artists' studios and scientists' laboratories.

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**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**

Focuses on cell, organ, and systems physiology of the following three areas: renal, neuromuscular, and the gastrointestinal system.

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**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.

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**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.

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**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.

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**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.

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**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.

**MSEG 667-23 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.

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**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.

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**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.

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## **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.

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## **NTDT - Nutrition**

### **NTDT 367-10 NUTRITION & GASTROENTEROLOGY**

Provides students with in-depth knowledge of relationships among diet, bacterial imbalance, and digestive disorders. Includes FODMAP diets, gluten-free diets, and the role of prebiotics, probiotics, and the gastrointestinal microbiota and microbiome in health and disease. Pre-req: NTDT200.

### **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.

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## **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 interpretive 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.

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**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.

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**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.

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**SPPA - School of Public Policy & Administration****SPPA 467-15 ENVIRONMENTAL JUSTICE IN DISASTERS**

Case studies from US heat, flood, and wildfire disasters. Examines social, behavioral, legal, and financial factors that create systematic inequality in disaster risk exposure. Looks at how recovery exacerbates inequality. Environmental justice theory and movements.

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**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.