

## **Spring 2022 Supplemental Course Descriptions**

Updated 1/31/2022

### **Animal and Food Sciences**

#### **ANFS 467-11 ONE HEALTH**

Covers, in-depth through lectures and discussion, topics currently relevant to the field of One Health. Topics change each year. Discusses the relevant ongoing global pandemic COVID-19, an emerging, viral, zoonotic outbreak.

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### **Arts and Science**

#### **ARSC 300-10 GLOBAL VIRUSES/VIRALITY**

Explores the effects of viruses and virality around the globe from historical and political perspectives. Discusses the expansion of viruses through the lens of epidemiology, anthropology, geography, literature, and social media studies.

### **Art History**

#### **ARTH 311-11 WOMEN IN ANTIQUITY**

Explores the lives of women in the ancient Greece and imperial Rome 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. Knowledge of the ancient world is not required.

#### **ARTH 406-12 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 429-10 ARCHITECTURE AND PROGRESS**

Focuses on American art and architecture from the late 19th and early 20th centuries that was responding explicitly to industrialization, rapid urbanization, technological and social upheaval in an effort to welcome, forestall, illustrate, register or repudiate change.

### **ARTH 606-12 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 626-10 ARCHITECTURE AND PROGRESS**

Focuses on American art and architecture from the late 19th and early 20th centuries that was responding explicitly to industrialization, rapid urbanization, technological and social upheaval in an effort to welcome, forestall, illustrate, register or repudiate change.

### **ARTH 627-10 THE PHOTOGRAPH AND THE MAGAZINE**

Introductory primer in historiography and methodology; Sequence of 6 established case studies; Sequence of 6 experimental case studies to be developed by seminar students. Visits to magazine archives in NYC and DC.

## **Biological Sciences**

### **BISC 400-10 MODERN BIOLOGICAL MICROSCOPY**

Microscopy methods used in modern biological laboratories studying cell biology, developmental biology, and cancer biology. Emphasis on immunofluorescence and scanning laser confocal microscopy: theory, system configurations, uses, applications, and limitations.

### **BISC 400-12 GENETICALLY MODIFYING HUMANS**

Covers gene editing and modification technologies available today and those in the R&D pipeline. Focuses on CRISPR technologies and their application to humans and human diseases, including ethical concerns.

### **BISC 400-13 HONEYBEES: PARASITES, DISEASES**

Examines the biology, and the parasites and diseases challenging honeybees and other pollinators of our agricultural system.

### **BISC 467-10 EXPERIMENTAL MICROBIOLOGY**

Laboratory investigations using current techniques in microbiology including bacterial and yeast genetics, and phage biology. Engages the scientific process, develops experimental skills, and collaborates with others through discussion, lab work and data presentation.

#### **BISC 467-11 INSECT-BORNE DISEASE ECOLOGY**

Examines how humans have impacted the ecology of disease systems, and the measures we take to combat them using primary sources.

#### **BISC 850-10 ADVANCED TOPICS IN BIOLOGY: MICROBIAL HOST INTERACTIONS**

Journal Club class consists entirely of reading, presenting, and discussing primary literature sources. Delve into current literature in the exciting field of host-pathogen interaction.

### **Chemical Engineering**

#### **CHEG 867-15 COMPUTING AND DATA SCIENCE FOR SOFT MATERIALS INNOVATION & DISCOVERY**

Involves graduate students working together in teams to solve (over the semester) soft materials (MAT) problems submitted by academic labs, industry, and national laboratories using high-performance computing (HPC) and/or data science (DS) tools.

### **Chemistry and Biochemistry**

#### **CHEM 667-14 MECHANISMS OF PROTEIN FUNCTION AND GENE REGULATION**

Explores the diverse molecular and structural mechanisms used by cellular proteins and enzymes to control gene expression and regulation. Emphasis on mechanistic understanding of different protein families and the experimental approaches used to interrogate biomolecular function.

### **Civil and Environmental Engineering**

#### **CIEG 367-10 ENGINEERING SURVEY AND GEOMATICS**

Fundamentals of engineering surveying/field practices. Distance measurement, angles, azimuths/bearings, total station instruments, angle observations, traversing, area/volume calculations, state plane coordinates and other map projections, photogrammetry/laser scanning, and construction surveys.

### **Communication**

**COMM 367-10 MEDIA PERFORMANCE**

Explores technique of media performance in various roles including new anchor, reporter, program host, and spokesperson. Reviews vocal skills and demeanor, along with an analysis of professional examples.

**COMM 388-10 TV SPORTS BROADCASTING**

Learn and practice the roles of Play-by-Play, Analyst, Studio Host, and Reporter. Gain hands on experience and practical skills along with learning about communication, networking, staying connected, and how to separate yourself in this challenging industry.

**COMM 446-10 MESSAGING TO TARGETED AUDIENCES**

Focuses on professional environmental communication. Analyzes the best strategies to effectively connect with narrow audiences. Skills easily transfer to other practice areas. Includes: mutually beneficial relationships, persuasion, audience identification, social media content creation/curation.

**COMM 815-10 SEMINAR IN MEDIA PSYCHOLOGY**

Examines the cognitive (attention, judgement), affective (emotional), & behavioral effects of the media. Takes a quantitative social scientific approach to studying media effects. Engages students in discussions of the literature and participate in conducting research as part of this course.

**Computer and Information Sciences****CISC 449-10 COMBIN OPTIMIZ & APPROX ALGORI**

This is a seminar course focusing on topics in Combinatorial Optimization & approximation Algorithms.

**CISC 649-10 COMBIN OPTIMIZ & APPROX ALGORI**

This is a seminar course focusing on topics in Combinatorial Optimization & approximation Algorithms.

**Education****EDUC 667-15 GROWING YOUNG NATURALISTS**

Key concepts in curriculum development and pedagogy to create interactive and engaging teaching modules that explore insect and wildlife behavior, life history and ecology. Includes entomology and wildlife fundamentals and development of educational units.

## **Electrical Engineering**

### **ELEG 467-13 MICROWAVE ENGINEERING I**

Introduces the analysis and design of passive RF components and microwave circuits. Bridges the gap between our theoretical EM courses and practical methods for the analysis, design and characterization of RF circuits. A design project will constitute a major part.

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## **Entrepreneurship**

### **ENTR 367-12 ENTREPRENEURIAL STORYTELLING**

Uses hands on activities, peer feedback and iteration to craft persuasive stories, develop storytelling skills, and deliver engaging performances.

### **ENTR 467-10 VENTURE CAPITAL PRACTICUM**

Hands on approach to learning about venture capital. Introduced to a robust due diligence framework and gain experience by using it to assess real potential investments in early stage, technology-based startups.

### **ENTR 467-15 INFLUENCERS, CREATORS & FREELANCERS**

Identifying your unique value and engaging in a real world exploration of ways you might be able to make a living (or at least establish a satisfying side hustle).

### **ENTR 667-10 VENTURE CAPITAL PRACTICUM**

Hands on approach to learning about venture capital. Introduced to a robust due diligence framework and gain experience by using it to assess real potential investments in early stage, technology-based startups.

## **Entomology and Wildlife Conservation**

### **ENWC 667-15 GROWING YOUNG NATURALISTS**

Key concepts in curriculum development and pedagogy to create interactive and engaging teaching modules that explore insect and wildlife behavior, life history and ecology. Includes entomology and wildlife fundamentals and development of educational units.

## **Epidemiology**

### **EPID 667-11 BIOSTATISTICS FOR HEALTH SCIENCES II**

An intermediate statistics course for graduate students in the College of Health Sciences with applications for population health. Covers research designs, analysis of confounding, linear regression, and logistic regression. Uses SAS statistical software.

### **EPID 667-13 INTERPROFESSIONAL PRACTICE**

Participate in department-approved interactive interdisciplinary learning experiences to integrate perspectives from other sectors and professions to promote and advance population health.

## **Fashion and Apparel Studies**

### **FASH 417-10 LIFESTYLE APPROACH TO DESIGN.**

Key topics include: systems/ lifecycle approaches to sustainable apparel sourcing, design, retail and reuse through an applied "pop-up shop" activity. Requires three weeks of fieldwork locally at Goodwill on E. Main Street, one weekend activity and one or two hybrid sessions with industry experts.

## **French**

### **FREN 455-10 THE FRENCH FARCE TRADITION/ LA FARCE EN FRANCE**

Considers farce and what makes it (arguably) the funniest of all dramatic genres. Studies works from the Middle Ages to the present. Authors studied may include Moli'ere, Beaumarchais, Feydteau, Labiche and Lonesco.

### **FREN 655-10 THE FRENCH FARCE TRADITION/ LA FARCE EN FRANCE**

Considers farce and what makes it (arguably) the funniest of all dramatic genres. Studies works from the Middle Ages to the present. Authors studied may include Moli'ere, Beaumarchais, Feydteau, Labiche and Lonesco.

## **Geography**

### **GEOG 467-16 PEACE AND JUSTICE STUDIES: AN INTRODUCTION FROM A GEOSPATIAL PERSPECTIVE**

Key concepts, theories, organizations, and practitioners in contemporary work for peace and justice are the focus of this course, from building personal peace to learning from other countries and developing multiple perspectives on conflict resolution.

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## **History**

### **HIST 336-10 TOPICS OF LATIN AMERICAN HISTORY: HISTORY OF MEXICO**

Explores the history of Mexico, from Mesoamerica to the current era. Discusses pre-Hispanic cultures, conquest, colonization, independence, reform, revolution, and twentieth century struggles for autonomy and democracy.

### **HIST 337-10, 80 TOPICS IN AMERICAN HISTORY: HISTORY OF FOOD AND CULTURE**

Analyzes American cultures and society through the 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 396-10 THE LONG 20TH CENTURY: EMPIRES, WARS, REVOLUTIONS**

A global approach to the tumultuous Twentieth Century, focused on the New Imperialism, the First and Second World Wars, the Cold War, and Revolutions in Russia, China, Vietnam, etc.

## **Kinesiology & Appl Physiology**

### **KAAP 440-10 SEX DIFFERENCES IN CHRONIC DISEASE**

Discusses physiological differences between sexes and how this can impact health and disease.

### **KAAP 440-12 THE SOFT AMERICAN**

Read, contemplate, and discuss the current state of fitness in the US.

### **KAAP 640-10 SEX DIFFERENCES IN CHRONIC DISEASE**

Discusses physiological differences between sexes and how this can impact health and disease.

## **Landscape Architecture**

### **LARC 367-10 EDUCATIONAL EXHIBIT DESIGN**

A hands on experience in which students participate in a collaborative design project culminating in a large scale educational exhibit at the 2022 Philadelphia Flower Show. Design, plan and begin construction of all aspects of the exhibit around a focused educational message,

### **LARC 467-10, 11 SENIOR DESIGN STUDIO**

Prepares students for an entry-level landscape architect position in industry or provide the foundation for graduate school. Students initiate an independent project, define the project program, generate schematic designs and produce a booklet of their work. PREREQ: LARC350 & LARC450

### **LARC 467-12 PROFESSIONAL PRACTICE**

Covers the professional aspects of landscape architecture practice. Focuses on fundamental relationships between landscape architect, owner, and contractor, topics include promotion, proposals, contracts, working drawings, specifications, cost estimating, scheduling, and construction administration.

## **Languages, Literatures and Cultures**

### **LLCU 320-10 THRILLERS, CHILLERS AND KILLER**

Interdisciplinary approach to the interpretation of events and the analysis of characters in 19th century French short stories of the Fantastic genre and discussion of the supernatural vs science.

### **LLCU 383-10 NIETZSCHE, DELEUZE, AND THE CHINESE WAY 道: ECHOES OF MIND AND CONVERGING CULTURAL PATHS TOWARD SELF- EMPOWERMENT**

Through a study of (post)modern thinkers: Nietzsche, Deleuze, pre-Socratic thought, and ancient Chinese philosophy, teaches the ancient worldviews of East and West; worldviews that have shaped, amongst other things, diverse cultural values.

### **LLCU 383-80 NIETZSCHE, DELEUZE, AND THE CHINESE WAY 道: ECHOES OF MIND AND CONVERGING CULTURAL PATHS TOWARD SELF- EMPOWERMENT**



Through a study of (post)modern thinkers: Nietzsche, Deleuze, pre-Socratic thought, and ancient Chinese philosophy, teaches the ancient worldviews of East and West; worldviews that have shaped, amongst other things, diverse cultural values.

#### **LLCU 340-10 GENDER AND SEXUALITY IN ANCIENT GREECE AND ROME**

Representations of gender and sexuality in ancient Greece and Rome. Focuses on how the Greeks and Romans think about gender and sexuality and gain a fuller understanding of the role that these concepts play in our own society.

#### **Marine Studies**

#### **MAST 467-16 FIELD EXPERIENCE IN DUNES AND BEACH GRASSES**

Cape American Beach Grass stabilizes dunes, prevents erosion and has been planted by volunteers annually in southern Delaware for over 30 years. Students will learn about, participate in and determine the effectiveness of beach grass restoration efforts.

#### **MAST 467-26 CLIMATE CHANGE ECONOMICS**

Provides an economics perspective on the major challenges of climate change. Includes climate impacts and adaptation; mitigation pathways, carbon taxes, and cap and trade systems; firm decisions and behavior; and international coordination problems.

#### **MAST 667-10 ENVIRONMENTAL POLLUTION: FATE, TRANSPORT, AND TOXICITY**

Introduces the basic properties of aquatic contaminants and the principles used in studying chemical fate and transport and assessing toxicity and health risks associated with chemical exposures.

#### **MAST 667-16 EXPERIMENTAL METHODS IN MARINE ANIMAL PHYSIOLOGY**

Introduces students to experimental methods used in marine animal physiology. Topics cover determination of metabolic rates, oxygen dissociation curves, biological rhythms, neurophysiological parameters of sensory systems. The course is offered in Lewes, with MAST623 as a co-requisite.

#### **MAST 667-26 CLIMATE CHANGE ECONOMICS**

Provides an economics perspective on the major challenges of climate change. Includes climate impacts and adaptation; mitigation pathways, carbon taxes, and cap and trade systems; firm decisions and behavior; and international coordination problems.

## **Management Information Systems**

### **MISY 667-10 DATA-DRIVEN CAUSAL INFERENCE**

Introduces data analytics methods to identify causal relationships. Integrates analytics skills (using R) and business expertise to make better business decisions in the digital age. Key topics include Experiment Design, Matching, Difference-in-Differences, and Instrumental Variables.

### **MISY 667-12 CYBERSECURITY MANAGEMENT**

Explores the management issues of cybersecurity. Includes technical (network defenses), managerial (policy compliance), and psychological (social engineering) issues. Students learn methods of attacking systems and how to protect against those methods.

## **Music Education**

### **MUED 467-10 PERFORMANCE ASSESSMENT PREP**

Preparation for completing and submitting an educator performance assessment in the fine and performing arts for teacher certification and/or licensure. Primarily covers edTPA, but may also include PPAT.

## **Music**

### **MUSC 438-10 CROSS-CULTURE DRUMMING**

A combination of percussion instruments from Africa, Latin America, and the Caribbean. Taught through oral tradition, students use their memory to remember songs, rhythms, and information that are presented. Gain insight into the cultures and ethnic groups studied. Open to all students.

### **MUSC 495-10 PERFORMANCE ANALYSIS**

Focus on the relationship between analysis and performance, survey relevant readings and media, discuss assigned readings and audio/video material, evaluate multiple performances of musical works, and explore aesthetic and historical changes in performance practice.

### **MUSC 611-10 THE ART OF LISTENING**

Explores the different definitions and conceptualizations of listening and sounding in various cultures around the globe.

**MUSC 611-11 CONFRONTING GENIUS: HOW A SIMPLE WORD CHANGES THE WAY WE LOOK AT OUR MUSICAL WORLD**

Examination of the concept of genius in Western music from the Renaissance to today: what qualities were seen as signs of genius, how did it affect a composer's reception, etc. Examine a variety of composers to test the concept's usefulness both historically and in the present day.

**MUSC 639-10 CROSS-CULTURE DRUMMING**

A combination of percussion instruments from Africa, Latin America, and the Caribbean. Taught through oral tradition, students use their memory to remember songs, rhythms, and information that are presented. Gain insight into the cultures and ethnic groups studied. Open to all students.

**MUSC 677-10 MUSIC IN THE LIVES OF PEOPLE**

Sociological exploration of people's lived experiences with and through music, as well as an examination of how music educators can better prepare students to engage with their community musically. Includes the use of ethnographic research techniques and practices.

**MUSC 695-10 EMPIRICAL/COMPUTATIONAL METHODS**

Principles of computational thinking and study of empirical and computation approaches to music analysis with the goal of considering new ways to explore and study all types of music. Exploration of current literature on these topics and consideration of applications.

**MUSC 695-10 TONALITIES IN FIN-DE-SIECLE FRANCE**

How does music in fin-de-siecle France bridge earlier common-practice tonality and the plural styles that emerged in the early twentieth century? Students focus on methodologies of analysis, listening, and scholarly discourse, through the study of music by Faure, L. Boulanger, Debussy, and Satie.

**Neuroscience****NSCI 467-10 NEUROLOGICAL DISORDERS**

Upper level seminar on both obscure and common disorders associated with unusual brain function. Incorporates large amounts of class discussion, working in groups, and independent research.

**NSCI 467-80 DEVELOPMENTAL BEHAVIORAL NEUROSCIENCE**

Examines neural mechanisms underlying the development of sensory, motor, motivational, and cognitive processes in animal models and humans.

## **Physical Therapy**

### **PHYT 467-10 PHYSICAL THERAPY PROFESSIONAL SEMINAR**

In-depth view of the field of Physical Therapy and the application process for entry level DPT programs through guest lectures by experts and student engagement in professional development activities.

## **Plant and Soil Sciences**

### **PLSC 467-10 CONTROLLED ENVIRONMENT CROP PHYSIOLOGY AND TECHNOLOGY**

Understanding of environmental crop physiology and technology (e.g., LEDs, sensors, and imaging) in controlled-environment agriculture. Applying knowledge of plant-environment interactions in specialty-crop production in greenhouses and indoor vertical farms.

### **PLSC 467-11 INTRODUCTION TO PRECISION AGRICULTURE**

Covers concepts behind precision agriculture practices to improve economic and environmental sustainability in crop production. Includes technology for managing field variability (yield monitors, drones, electrical conductivity), variable rate applications, and navigation equipment.

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## **Political Science**

### **POSC 867-10 INEQUALITY RESEARCH**

Provides an overview of social science research on inequality in the United States. Discusses inequality across a variety of axes and their intersections including race and ethnicity, economics, and gender and sexuality. Considers scholarly approaches to inequality issues.

## **Psychology**

### **PSYC 467-10 NEUROLOGICAL DISORDERS**

Upper level seminar on both obscure and common disorders associated with unusual brain function. Incorporates large amounts of class discussion, working in groups, and independent research.

### **PSYC 467-11 PERCEPTION AND ATTENTION**

Reviews the fundamental studies and current topics in the human sensory systems and attention.

### **PSYC 467-12 WHAT WE THINK WE THINK: THE SOCIALLY-CONNECTED SELF**

Considers why we just click with some people, how we decide what's true, why crowds are so energizing. Studies empirical and popular sources to explore shared attention, shared reality, cultural norms, and stereotypes. Draws connections across research and applies what is learned.

### **PSYC 667-11 PERCEPTION AND ATTENTION**

Reviews the fundamental studies and current topics in the human sensory systems and attention.

### **PSYC 867-10 SOCIAL PERCEPTION**

Examines social perceptual mechanisms that support social behavior. Assesses whether human visual perception is uniquely suited for social functioning and examine evidence for and against the top-down influence of social information on social perception.

### **PSYC 867-11 PROFESSIONAL DEVELOPMENT**

Professional development course specifically designed for graduate students in PBS and will cover a wide variety of topics, including time management, effective goal setting, and mentoring.

### **PSYC 867-12 DEVELOPMENTAL PROCESSES**

Explores developmental processes from psychobiological and social-emotional perspectives.

### **PSYC 867-13 CLINICAL PSYCHOLOGY: PHILOSOPHY, HISTORY AND CURRENT PERSPECTIVES**

Develops a better historical understanding of assumptions about the body, mind and brain that have led to current thinking about assessment and treatment of psychopathology.

## **Russian**

### **RUSS 440-10 DYSTOPIA IN RUSSIAN AND SOVIET FICTION**

Come explore a future world of square roots of minus one through Russian and Soviet dystopian science fiction. What we dream and what we can have may be two different things; even with careful attention to logic and reason, things can go very wrong!

## **Theatre**

### **THEA 367-10 EDUCATIONAL EXHIBIT DESIGN**

A hands on experience in which students participate in a collaborative design project culminating in a large scale educational exhibit at the 2022 Philadelphia Flower Show. Design, plan and begin construction of all aspects of the exhibit around a focused educational message,

## **Women and Gender Studies**

### **WOMS 311-11 WOMEN IN ANTIQUITY**

Explores the lives of women in the ancient Greece and imperial Rome 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. Knowledge of the ancient world is not required.