Supplemental Course Descriptions for Spring-2018

Updated November 14, 2017

ACCT - Accounting

ACCT 467-10 FIDUCIARY INCOME TAX
Addresses the intricacies of Subchapter J of the Internal Revenue Code and the provisions that govern taxation of trusts and estates. Explores the tax consequences of trusts and estates and entities managed by third parties such as trustees or executors on behalf of equitable owners such as income and remainder beneficiaries.

ACCT 467-13 TRUST & FIDUCIARY ENTITY LAW
Familiarizes students with legal issues and ethical responsibilities of professionals in the trust management field. Examines intestacy, wills as fiduciary entities, trusts as a will substitute, various types of trusts, aspects of trust management including trust creation, management, modification, and termination.

AFRA - Africana Studies

AFRA 205-12 CONTEMPORARY AFRICAN AMERICAN ISSUES: AFRICAN ANTIQUITY
Examines the history, literature and culture of ancient Egypt and its peoples from African origins of ancient Egyptian civilization, to its decline at the time of Cleopatra (in ancient Greco-Roman Egyptian) and in particular as understood from Cheikh Anta Diop, W.E.B. Du Bois and others.

AFRA 205-13 CONTEMPORARY AFRICAN AMERICAN ISSUES: 1968 OCCUPATION OF WILMINGTON, DE IN PICTURES
Using photographs, primary documents, archival materials, media coverage, and oral histories, students engage in a visual investigation of the nine-month occupation of Wilmington, Delaware by the National Guard as a means to understand the impact of this incident on the community today.

AFRA 206-10 SURVEY OF AFRICAN AMERICAN CULTURE: RACE AND SPORTS IN AMERICAN SOCIETY
Uses sports to explore race in U.S. society by looking at the experiences of contemporary and historical athletes. Incorporates a racial lens to examine the socio-cultural relationship between African Americans, sports, and society.

ARSC- Arts & Science

ARSC 167-10, THE NUCLEUS STUDENT SUCCESS SEMINAR
Designed to equip students with tools, resources, skills and information to be successful college students. Covers topics such as: time management, academic planning, test preparation, rebounding from disappointment, and thinking about the future.

ARTH - Art History

ARTH 405-10 ANCIENT ROMAN SCULPTURE
Techniques, history and uses of main genres of ancient Roman sculpture made ca.100BCE-300CE, including portraiture, state or historical relief, 'copies' of Greek originals, and sarcophagi. Considers practices of ancient and modern collecting, and the contexts in which Roman was and is displayed.

ARTH 413-80 COLLECTING NEW WORLDS
Examines the incorporation of non-European materials, artifacts, and images (mainly those coming from the Americas) into early modern European artistic representations and collections.

ARTH 429-10 LIFE & DEATH OF THE AMERICAN SUBURB
Overview of American suburbs: their formation and growth, their relationship to the city, their unique architectural and social codes, and their continuing development.

ARTH 445-10 COLUMNS, SKY & COSMOS OF EAST ASIA
Studies East Asian architecture and archaeology that connect sites and buildings in East Asia with myths, legends, and historical accounts. Content spans over 5,000 years, from prehistoric archaeology to early 20th-century discoveries.

ARTH 602-10 NATIVE ART & INSTITUTIONS: SALVAGE, DISPLAY, REPATRIATE
Fraught history of collecting and exhibiting Native art, including theoretical issues and practices such as consultation, collaboration, and repatriation. Meet museum professionals and study collections at University Museums, Penn Museum, Barnes Foundation, Nanticoke Indian Museum, and Smithsonian Institution.

ARTH 605-10 ANCIENT ROMAN SCULPTURE
Techniques, history and uses of main genres of ancient Roman sculpture made ca.100BCE-300CE, including portraiture, state or historical relief, 'copies' of Greek originals, and sarcophagi. Considers practices of ancient and modern collecting, and the contexts in which Roman was and is displayed.

ARTH 613-10 COLLECTING NEW WORLDS
Examines the incorporation of non-European materials, artifacts, and images (mainly those coming from the Americas) into early modern European artistic representations and collections.

ARTH 627-11 PHOTOGRAPHY & CRIME
Historical and theoretical dynamics of photography and crime, 1839-present. Themes include deviance, criminality, forensics, evidence, policing, the courts, war crimes, human rights, immigration, obscenity, surveillance, punishment, and environmental and property crime, plus artistic and activist responses.

ARTH 635-10 ICONOCLASM
Explores critical issues and practices of political and religious iconoclasm, negation, reuse, relocation, and material agency from the early modern era to the present. Includes why people destroy; how destruction remakes place and creates new art; how it is represented in visual media.

BHAN – Behavioral Health & Nutrition

BHAN 267-10 INDIVIDUAL HEALTH ASSESSMENT
Theoretical background related to specific health risk appraisal tools, the meaning of the results and an opportunity to develop skills necessary to conduct non-invasive health appraisals including heart rate, blood pressure, body composition, and cardiovascular and musculoskeletal fitness.

BHAN 467-10 WORKSITE HEALTH PROMOTION
Explore first-hand an orientation to worksite well-being and health promotion. Under the supervision of a field supervisor, provides hands on experience and emphasis on skills needed to create healthy, happy, highly productive employees and work settings.

**BHAN 867-50 MULTIVARIATE STATISTICS**
Basic theory and application of the general and generalized linear models to the analysis of population-based data. Emphasis on generating and interpreting results and health-related applications rather than statistical theory using "real data" in both examples and problems.

**BISC - Biological Sciences**

**BISC 467-10 CURRENT TOPICS IN DEVELOPMENT AND CANCER**
This is a literature-based course. Students discuss recent primary publications on the molecular and cellular mechanisms of development and cancer.

**BISC 498-10 TOPICS IN HUMAN PHYSIOLOGY**
Uses case studies and journal articles to explore and discuss how humans adjust to changing environments, diets and fitness levels, and how disease and aging processes can affect these mechanisms.

**BMEG — Biomechanical Engineering**

**BMEG 267-13 INOVATION & THE GRAND CHALLENGES: GLOBAL HEALTH**
Introduces students to societal grand challenges, namely global health, and shows how they can begin to impact the world around them by employing an innovative and entrepreneurial mindset. Devises, real solutions to challenges in global health for positive social impact, using team-thinking.

**BUAD - Business Administration**

**BUAD 267-10, 11, 50, 51 SEMINAR: CAREER EXPLORATION AND PLANNING**
Course topics include group interpretations of the Strong Interest Inventory and Myers-Briggs Type Indicator along with resume writing, interview preparation, job search strategies, social media branding, communication etiquette, and informational interviewing and networking.

**BUAD 367-70 GLOBAL WORKFORCE MANAGEMENT**
Provides an integrative framework for understanding the business and legal challenges that are associated with effective workforce management around the world. As more and more companies try to leverage the benefits of a global labor market, it is critical to understand these challenges.

**BUAD 367-71 MANAGING GLOBAL SUPPLY CHAINS**
Focuses on key issues within operations that are of relevance in a firm's ability to remain competitive in a global economy. Uses examples of companies collaborating across the globe, in the teaching and learning of Supply Chain Management.

**CHEG - Chemical Engineering**

**CHEG 867-13 EXPERIMENTAL METHODS IN BIOMOLECULAR ENGINEERING**
Modern Experimental Methods in Biomolecular Engineering including well established, state-of-the-art and recently published techniques. Methods relevant for studying biological systems at cell, protein and
gene level will be covered from the theoretical underpinnings of an approach to its application in real systems.

CHIN - Chinese

CHIN 467-10 CHINESE-ENGLISH TRANSLATION
Enhances students language skills through translating authentic materials in various genres and acquaints them with theories addressing issues in translation studies.

CIEG - Civil & Environmental Engineering

CIEG 367-10 CIVIL ENGINEERING MATERIALS
Understands how material properties are affected by chemical bonding, composition and microstructure; properties of engineering materials (metals, ceramics, and polymers) with emphasis on specific materials used in civil engineering steel, Portland cement concrete and asphaltic concrete.

CIEG 367-11 INTRO TO RAILROADS
Introduction to railroads, rail transport, railroad engineering, including high speed/conventional passenger rail, freight rail, commuter rail, heavy rail transit, light rail transit. Addresses railroad engineering, operations, management, economics, the role of railways in modern society, with focus on engineering issues.

CIEG 667-17 NETWORK OPTIMIZATION
Theory practice of network flows/extensions: graph search algorithms, community structure detection, shortest path, flow decomposition, multi-commodity flow, computational complexity of network problems, Lagrangian relaxation method, with applications to transport, computer science, disaster and project management.

CISC - Computer & Information Sciences

CISC 467-12 VIP: CLOUD CRYPTO

CISC 467-13 VIP: HIGH-PERFORMANCE COMPUTING
Learning and using directives for parallel platforms; Migrating legacy code to GPUs and co-processors using high-level parallel programming models; Parallelizing irregular algorithms on massively parallel processors; Exploring Repeatability and Reproducibility issues.

CISC 489-11 INTRODUCTION TO MULTI-AGENT SYSTEMS AND COMPUTATIONAL GAME THEORY
Theory and construction of computational agents; distributed cooperation and shared problem-solving; self-interested agents and computational game theory; distributed decision-making, coalition formation, voting, resource allocation, incentive design, negotiation, electronic commerce and security.

CISC 489-10 SCIENTIFIC COMPUTATION FOR SPACE EXPLORATION
Topics in artificial intelligence, data science, and systems for planetary and deep space applications. Projects in machine learning, real-time systems, and industrial modeling. Targets challenges in observation, simulation, visualization, navigation, communication and automation for space missions.

CISC 689-10 INTRODUCTION TO MULTI-AGENT SYSTEMS AND COMPUTATIONAL GAME THEORY
Theory and construction of computational agents; distributed cooperation and shared problem-solving; self-interested agents and computational game theory; distributed decision-making, coalition formation, voting, resource allocation, incentive design, negotiation, electronic commerce and security.

**CISC 849-10 HPC FOR SCIENTIFIC APPLICATIONS**
Data is increasing exponentially as are hardware and software challenges to analyze, simulate and understand large volumes of data. Explore how to develop and migrate legacy scientific applications using parallel programming, compiler and runtime paradigms on large scale, accelerated HPC systems.

**CISC 849-11 COMPUTER VISION IN MEDICINE**
Gain broad theoretical and practical skills in computer vision techniques used to solve important problems in medicine. Explore existing tools and techniques that are available as algorithms and toolkits. Literature reviews, paper presentations and student projects comprise the course grade.

**CISC 849-12 ROBOT LEARNING AND VISION**
Survey of image-based 2-D and 3-D sensing algorithms for mobile robot navigation and interaction, including motion estimation, obstacle segmentation, terrain modeling, and object recognition, with a particular focus on deep learning techniques to dramatically improve performance.

**CISC 879-10 BIG DATA ANALYTICS**
Targets big data analytics and provides an introduction in tools such as MapReduce and the tools' application to real datasets. Provides hands-on experiences in designing solutions to real problems.

**COMM – Communications**

**COMM 200-12 HEALTH & THE MEDIA**
Examines the relationship between media and health, especially mind/body health and emotional well-being. Addresses media representations of health, illness, and health care; the impact of media consumption on health and illness; and the use of media in health promotion efforts.

**COMM 343-10 PERSONALITY & INTERACTION**
Explore a number of concepts and measures of personality in order to understand your own personality profile, and also problematic relationships, in an effort to develop healthy communication skills for dealing with various people.

**COMM 367-10 MULTI-PLATFORM NEWSWRITING**
Introduces students to writing news in print, broadcast, and digital. Learn the basics of story structure, grammar, and news concepts, as well as how to perform the job of journalist in an ethical manner.

**COMM 418-10 FREEDOM & THE RESPONSIBILITY OF EXPRESSION**
Consideration of the foundations of free expression and the concomitant responsibilities of those who exercise it. Attention to both individual expression and media content. Topics include (but are not limited to) political COMM, hate speech, deception.

**COMM 418-11 DIVERSITY & NEWS**
Learn how to identify and to report about diverse people, topics and audiences. Includes ethical practices for speaking to, writing about, and studying various populations.

**COMM 418-12 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 440-10 INTERPERSONAL & HEALTH COMMUNICATION**
Covers the intersection of interpersonal communication and health communication. Includes communication and illness identity, health and interpersonal relationships, interpersonal health education efforts, provider-patient interactions, and the impact of technology on health communication.

**COMM 442-10 NEGOTIATION & COMMUNICATION**
Studies theory and research relevant to various aspects of negotiation, and considers the functions of communication. Practices negotiation skills, including how to analyze communication during negotiation, using recordings of our own negotiations as data.

**COMM 618-10 FREEDOM & THE RESPONSIBILITY OF EXPRESSION**
Consideration of the foundations of free expression and the concomitant responsibilities of those who exercise it. Attention to both individual expression and media content. Topics include (but are not limited to) political COMM, hate speech, deception.

**COMM 618-12 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.

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**EAMC - Early American Culture**

**EAMC 667-14 FIELD STUDY IN AMERICAN MATERIAL CULTURE**
Offers intensive field-based study of the material culture in United States' urban centers. One week of field trips to historic sites, museums, and collections; readings; short writing assignments. Restricted to Winterthur Fellows.

**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. Topics include: exhibition preparation, installation, programming, fundraising, marketing.

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**EGGG - Engineering**

**EGGG 367-10 DATA SCIENCE I**
Statistics relevant for data science. How current open source software R is used to analyze statistical problems and treatment of statistical inference intended for data science. Provides a foundation needed for data science courses. Prerequisite for Data Science II.

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**ELEG - Electrical Engineering**

**ELEG 467-10 VIP: GRID INTEGRATED VEHICLES**
Identifies electric vehicles based on their unique charging characteristics; develops open source software that can be deployed by all electric vehicle chargers; collects data and validates results using our university fleet of electric vehicles and charging stations.

**ELEG 467-11 VIP: E-TEXTILES**
Involves electronic material design such as functional inks for realizing conductive, resistive and capacitive elements using additive manufacturing; Electronic design of integrated textile based biosensors; Seamless integration of electronic components. Go to http://vip.udel.edu/e-textiles.

**ELEG 467-12 VIP: CLOUD CRYPTO**

**ELEG 467-13 VIP: HIGH-PERFORMANCE COMPUTING**
Learning and using directives for parallel platforms; Migrating legacy code to GPUs and co-processors using high-level parallel programming models; Parallelizing irregular algorithms on massively parallel processors; Exploring Repeatability and Reproducibility issues.

**ELEG 467-14 VIP: ARTGINEERING**
Research includes Embedded control systems, developing open source control software and hardware, studying public interaction with robotics, advancing hands on education through exhibition quality system design and development.

**ELEG 467-16 VIP: DRONES**

**ELEG 467-17 VIP: SCOOTERSV2.0**
A self-driving mobility scooter for the elderly and the infirm. Key elements are Electronic sensors, computer vision, and machine learning. To learn more, go to http://vip.udel.edu/scooterv2.

**ELEG 467-18 CYBERSECURITY SCHOLARS**
Trains thought leaders in cybersecurity as part of a four-year program. Explores real-world issues in cybersecurity while working with clients and experts.

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**ENGL - English**

**ENGL 641-10 STUDIES IN AMERICAN LITERATURE-PUBLIC HUMANITIES AND RACIAL IMAGINARIES**
Examines the public life and social history of literature, with a focus on racial representations in the United States from the nineteenth century to the digital present.

**ENGL 680-10 SEMINAR: SCENES OF WRITING, SITES OF LEADERSHIP**
Introduces students to the scholarly conversations in writing studies that focus on locations beyond the first year writing program, such as the writing center, writing-across-the-curriculum program and community based literacy programs.

**ENGL 685-10 CULTURAL THEORY AND CRITICISM-HOW TEXTS SOUND: FILM, CULTURE AND LITERATURE**
Introduction to Sound Studies, with particular attention paid to Film Studies (tracing the history of sound film, with its roots in telephony and radio) and the aesthetic questions it raises.
ENGL 870-10 SP TOPICS IN LITERARY HISTORY- CLIMATE FICTIONS (EARLY/MODERN/LATE)
Inhabits debates about how to employ or narrativize global warming, mass extinction, or 'climate fictions', with an eye to how these debates might transform literary history and critical practice.

ENGL 874-10 SP TOPIC: PRINT AND MATERIAL CUL: SCRAPBOOKS AS LIT DOC: DIG SCHOLARSHIP AND THE SCRAPBOOKS OF ALICE DUNBAR NELSON
Themes include early twentieth century constructions of race and gender, social memory, archival documentation and digital scholarship.

ENTR - Entrepreneurship

ENTR 267-13 INNOVATION & THE GRAND CHALLENGES: GLOBAL HEALTH
Introduces students to societal grand challenges, namely global health, and shows how they can begin to impact the world around them by employing an innovative and entrepreneurial mindset. Devises, real solutions to challenges in global health for positive social impact, using team-thinking.

ENTR 467-10 ENTREPRENEURIAL SELLING
Covers the key aspects of how 'sales' broadly defined, is critical to the formation, evolution and ultimately, the success of any new venture. Considers entrepreneurs need to be able to sell, whether it is communicating their vision, explaining their product, recruiting a team, listening to potential customers or raising capital. Teaches the concepts of verbal and written selling skills, and will build these personal skills in a very hands-on manner.

ENTR 467-12 CULTIVATING ENTREPRENEURSHIP IN POLICYMAKING & PUBLIC INSTITUTIONS
Develops skills in cultivating an entrepreneurial mindset with a specific focus on the impact of entrepreneurship within governance structures of public institutions.

FASH - Fashion & Apparel Studies

FASH 417-10 BUSINESS MODEL INNOVATION
Examines social, sustainability, economic and environmental impacts of current apparel industry business models and creates plans for new methods and/or business approaches that create positive change. Focuses on innovative solutions through research and discovery.

FASH 667-10 APPAREL PRODUCT DEVELOPMENT AND INNOVATION
Focuses on design research and research through practice methods, in the conceptualization and development of innovative fashion products.

GEOL - Geology

GEOL 467-13 GEOLOGY OF THE SOUTHWEST
Studies the geology of the Southwest. Includes a one week field trip to the Southwest during Spring Break 2018. Locations to be determined.

GEOL 667-13 GEOLOGY OF THE SOUTHWEST
Studies the geology of the Southwest. Includes a one week field trip to the Southwest during Spring Break 2018. Locations to be determined.
**HDFS - Human Development & Family Studies**

**HDFS 467-10 MONTESSORI AS AN EDUCATION ALTERNATIVE**
The Montessori educational approach is expanding in public schools across the US. Explore, through coursework and field experiences, the philosophy and approach as an innovative model of education that addresses students' academic and social emotional needs. DE/Federal clearances and TB required.

**HDFS 667-10 MONTESSORI AS AN EDUCATION ALTERNATIVE**
The Montessori educational approach is expanding in public schools across the US. Explore, through coursework and field experiences, the philosophy and approach as an innovative model of education that addresses students' academic and social emotional needs. DE/Federal clearances and TB required.

**HIST - History**

**HIST 337-10 TOPICS IN AMERICAN HIST: AMONG THE AMERICANS**
Takes the measure of contemporary American life and character and launches upon an adventure in moral imagination. Enters upon a longstanding conversation about American virtue and default, about evil done and denied, about the things worth saving.

**HIST 337-13 AMERICAN 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 discussion.

**HIST 339-12 CATALOG TITLE = TOPICS IN EUROPEAN HISTORY. LONG TOPIC TITLE = INNOVATION & TECHNOLOGY: MAKING THE MODERN WORLD**
Understands the interaction between technology, organization, and innovation. Considers what created the modern world; how the West gained the edge in productivity over India and China after 1800. Explains 'modernity'; everything from big business to environmental catastrophe.

**HIST 365-10 TOPICS IN ASIAN & PACIFIC HISTORY: SOUTH ASIA SINCE 1600**
Introductory course. Provides an outline of major events and themes in South Asian history, from the Mughal Empire in the 16th century through British colonialism in the 18th to 20th centuries, to independence and partition in 1947, and the re-emergence of India as a global player in the 21st century.

**HIST 398-10 TOPICS IN MEDIEVAL HISTORY JEWS, MUSLIMS, & CHRISTIANS IN THE MIDDLE AGES**
Explores the relationship between Muslims, Christians, and Jews in the Middle Ages. Studies the patterns of co-existence, violence, and intolerance that characterized those relationships.

**HLPR - Health Behavior**

**HLPR 467-10 MIND, BODY, BEHAVIOR**
Study and application of mind-body behavioral interventions, inclusive of stress reduction, relaxation, meditation and yoga, and their collective importance to health, wellness, and performance. Develops abilities to critically evaluate mind-body research and apply these interventions.

**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. Explores the dilemma confronting policy makers, providers, and community members, through cases and presentations. Exposure to community engagement.

**HLPR 667-10 MIND, BODY, BEHAVIOR**
Study and application of mind-body behavioral interventions, inclusive of stress reduction, relaxation, meditation and yoga, and their collective importance to health, wellness, and performance. Develops abilities to critically evaluate mind-body research and apply these interventions.

**HLTH - Health Sciences**

**HLTH 367-10 PRE-PROFESSIONAL SEMINAR FOR DISABILITY STUDIES**
Explores options and prepares students for an array of different careers and grad study in the disabilities service field. Assists students with identifying interest areas and job possibilities in various settings and with different populations. Guest speakers provide insights into service field.

**ITAL - Italian**

**ITAL 367-70 INTERNSHIP**
120-150 hours of non-paid, graded, credited employment at an Italian company, non-profit, or other organization, with academic expectations (journal & final report). Application and employer interview required. Placement is not guaranteed. Must have at least junior standing and a min. GPA of 3.0.

**JWST - Jewish Studies**

**JWST 398-10 TOPICS IN MEDIEVAL HISTORY JEWS, MUSLIMS, & CHRISTIANS IN THE MIDDLE AGES**
Explores the relationship between Muslims, Christians, and Jews in the Middle Ages. Studies the patterns of co-existence, violence, and intolerance that characterized those relationships.

**LEST - Legal Studies**

**LEST 401-10 SENIOR SEMINAR**
Investigates the empirical study of law and its effects. Topics include criminalization and deviance, neighborhood conflicts, agency and identity, the role of legal institutions including police, courts and prisons in shaping society as well as law in everyday life.

**LLCU - Languages, Literatures & Cultures**

**LLCU 367-10 CULTURE IN INTERACTIVE MEDIA**
Focuses on the role played by culture, race and gender in interactive media. Topics include cultural representation and the impact of cultural background on media users and producers.

**LLCU 367-11 HUMAN RIGHTS AND LA FILM**
Provides an interdisciplinary overview of human rights (e.g. political, social, cultural and economic rights) and their abuses in Latin America. Presents a scope of indigenous filmmakers bringing images into ethical context. Requires additional readings. Students expected to participate in debates.
MALS - Master of Arts in Liberal Studies

MALS 667-11 TWO CULTURES: FOUR EPOCHS
Two Cultures: Four Epochs  Focus on iSTEAM (Interdisciplinary Science, Technology, Engineering, Art, Mathematics). Addresses the classic division between STEM and the arts and humanities and how we might build a "Third Culture." Couples four plays/movies with counterparts in science, technology.

MALS 667-12 WHO, OR WHAT, DRIVES HISTORY
Suggests that great individuals do not power history. Focuses on how the individual, has become the province of biographers, with whom historians are reluctant to claim kinship.

MAST - Marine Studies

MAST 267-10 SEMINAR: OCEAN, MEDIA & POLAR SCIENCE
An active learning course where students use data from polar regions to critically evaluate climate change claims made in the media.

MAST 667-26 ADVANCED OPEN WATER SCUBA DIVE
Prepares students with the skills and knowledge necessary to continue their training for open water scuba certification.

MATH - Mathematics

MATH 267-10, 11 INTEGRATED APPROACH TO CALCULUS I
Course integrates Calculus and PreCalculus. Students taking Fall and Spring will get credit for Math 241.

MATH 267-12 INTEGRATED APPROACH TO CALCULUS II
Course integrates Calculus and PreCalculus. Students taking Fall and Spring will get credit for Math 241. This is a continuation of Integrated Approach to Calculus I, which is a prerequisite to Integrated Approach to Calculus II.

MATH 567-10 MATHEMATICAL TECHNIQUES IN DATA SCIENCE
Introduction to the fundamental techniques used in data science. Focuses on developing a good practical knowledge, and a mathematical understanding of the common tools that are used to analyze modern datasets. Provides hands-on experience in data analysis.

MATH 667-10 INTRODUCTION TO MATHEMATICAL FINANCE

MATH 829-10 NUMERICAL METHODS FOR COMPUTATIONAL FLUID DYNAMICS
Different aspects of nonlinear hyperbolic PDEs arising in fluid dynamics and other application areas. Topics include: solution properties of hyperbolic PDEs, finite volume methods with various reconstruction techniques, and the discontinuous Galerkin method.

MATH 829-11 ALGEBRAIC TOPOLOGY
Major ideas and fundamental techniques in algebraic topology. Prerequisites are first courses in algebra and analysis, as indicators for familiarity with the fundamentals of topological spaces, groups, rings and modules.
MSEG - Materials Science & Engineering

**MSEG 667-10 THEORY, EXPERIMENT AND APPLICATIONS IN VIBRATIONAL SPECTROSCOPY**
Covers the fundamentals of vibrational spectroscopy including normal modes of vibration and conditions for scattering and absorption. Experimental methods discussed include: FT-IR, Planar Array IR (PA-IR), 2D IR, AFM-IR, RAMAN AND FT Raman spectroscopy.

**MSEG 667-14 MATERIALS FOR OPTICS, NANOPHOTONICS, AND PLASMONICS**
Covers the optical properties of bulk materials and low-dimensional structures including quantum wells and dots. Discusses emerging technologies such as photonic crystals, plasmonics, metamaterials, and nanophotonics. Presents new materials for optics.

**MSEG 667-19 MACROMOLECULAR DESIGN AND BIOCONJUGATIONS**
Provides an examination of strategies for sequence-specific orthogonality (e.g., "click" chemistry), protection and deprotection schemes, convergent versus divergent syntheses, grafting to versus grafting from approaches, solid-phase synthesis, polymer architectures, and purification.

MUSC - Music

**MUSC 667-10 ALEXANDER TECHNIQUE: THE ART OF LIVING**
Experience and learn to co-operate with your design for natural co-ordination, bringing more ease, and presence into your life. We take this practice first into everyday activities, and then into the expressive arts and other specialized skills.

NSCI - Neuroscience

**NSCI 467-10 NEUROBIOLOGY OF LEARNING AND MEMORY**
Educates the individual about how neural circuits mediate learning and memory, and standard methods for identifying neural circuits and processes that mediate learning and memory.

**NSCI 467-11 BEHAVIORAL EPIGENETICS**
Provides an overview of the field of behavioral epigenetics, focusing on landmark and current studies in human and animal models. Examines multi-generational trajectories and clinical implications.

**NSCI 467-12 NEUROSCIENCE LAB**
Laboratory exercises dealing with neuroanatomy, neurophysiology, animal behavior, and neuroscience research methods.

**NSCI 637-11 BEHAVIORAL EPIGENETICS**
Provides an overview of the field of behavioral epigenetics, focusing on landmark and current studies in human and animal models. Examines multi-generational trajectories and clinical implications.

**NSCI 667-10 NEUROBIOLOGY OF LEARNING AND MEMORY**
Educates the individual about how neural circuits mediate learning and memory, and standard methods for identifying neural circuits and processes that mediate learning and memory.

NTDT - Nutrition & Dietetics

**NTDT 267-10 CULINARY NUTRITION**
Laboratory experience in application and translation of nutrition recommendations into food preparation. Includes basic preparation and recipe modifications for: therapeutic diets for chronic medical conditions; food allergy, intolerance, and strict preferences; and food insecurity.

**NTDT 367-10 NUTRITION & GASTROENTEROLOGY**
Provides students with in-depth knowledge of relationships among diet, bacterial imbalance, and digestive disorders. Topics will include FODMAP diets, gluten-free diets, and the role of prebiotics, probiotics, and the gastrointestinal microbiota and microbiome in health and disease.

**PHIL - Philosophy**

**PHIL 367-10 APPLIED EPISTEMOLOGY: FAKE NEWS, PROPAGANDA, AND CONSPIRACY THEORIES**
Attempts to identify and address challenges to knowing, as they exist today. The internet has democratized knowledge but it is also full of misleading information. Considers what new challenges to knowledge have been created in the information age; and what old problems are given new life.

**PLSC - Plant & Soil Sciences**

**PLSC 367-10 URBAN FORESTRY**
Introductory course on urban forestry, studying urban environmental effects on trees and ecosystem services provided by urban trees. Students learn how to conduct tree inventories and create campus tree maps using GIS (geographic information system).

**PLSC 367-11 URBAN FORESTRY: ECOLOGY OF CAMPUS TREES**
An introductory course on urban forestry, studying urban environmental effects on trees and ecosystem services provided by urban trees. Learn how to conduct tree inventories and create campus tree maps using GIS (geographic info system).

**POSC - Political Science**

**POSC 467-12 CULTIVATING ENTREPRENEURSHIP IN POLICYMAKING & PUBLIC INSTITUTIONS**
Develops skills in cultivating an entrepreneurial mindset with a specific focus on the impact of entrepreneurship within governance structures of public institutions.

**PSYC - Psychology**

**PSYC 467-12 TRAUMA AND RESILIENCE**
Focuses on research related to: 1) the psychological and biological effects of adversity and trauma, 2) the process of recovery, 3) treatments for post-traumatic stress disorder, depression, and suicidality in adulthood, and 4) factors that promote mental health and resilience.

**PSYC 467-13 ADVANCED RESEARCH METHODS**
An advanced course in correlational and experimental research in the behavioral sciences. Work in teams to critically read empirical research and formulate novel hypotheses. Design, carry out, analyze, and present results of studies orally and in writing.

**PSYC 467-14 DEVELOPING CONCEPTS OF THE SELF**
Examines how individuals think about the self. Topics include: how self-concepts develop; and how self-concepts may guide interactions with others, decisions and life choices. Require a series of autobiographical reflection and writing assignments.

SPAN - Spanish

SPAN 367-70 SPEAKING & WRITING SKILLS 5&6
Offers linguistic support and enables the student to understand/engage in a variety of situations. Allows exchanging informational and personal opinions using linguistic structures. Course is required for all students in the Language and Cultural Program.

SPAN 467-70 ENG-SPAN TRANSL I GEN THEMES
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 ENGLISH-SPANISH TRANSL II
Specialized Subjects deal with the new approaches to language, learning and interpreting for communicative abilities. Carry out written/oral tasks to communicate with Spanish students who are not fluent in English. Prereq: English-Spanish Translation I.

SPAN 467-74 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 467-75 SPEAKING & WRITING SKILLS 7&8
Offers linguistic support and enables the student to understand/engage in a variety of situations. Allows exchanging informational and personal opinions using linguistic structures. Course is required for all students in the Language and Cultural Program.

UAPP - Urban Affairs & Public Policy

UAPP 467-12 BEHAVIORAL ECONOMICS AND PUBLIC POLICY
Incorporates psychology, sociology, geography and other social sciences into economics. Examines real-world evidence. Understands behavioral economics, including methods, findings & controversies. Improves ability to think critically about contemporary public policy by incorporating behavioral insights.

UNIV - University Studies

UNIV 667-10 SPECIAL TOPICS IN SUSTAINABILITY AND THE ENVIRONMENTAL HUMANITIES: A MULTIDISCIPLINARY EXPLORATION
Introduces students to Sustainability and the Environmental Humanities, and explores how these fields dovetail with the sciences and environmental policy. Engages students from across disciplines to examine food systems; changing ethical structures and values; and mid-Atlantic watershed ecology.

WOMS - Women's Studies

WOMS 367-10 GENDER BASED VIOLENCE PREVENTION
Explores gender-based violence and examines gender-based violence prevention.