<table>
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<tr>
<th>Name of Course</th>
<th>Department</th>
<th>Instructor</th>
<th>Course Type</th>
<th>Course Number</th>
<th>Time &amp; Day</th>
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<tr>
<td>Life at the End of Life</td>
<td>American Studies</td>
<td>Robert Pollack</td>
<td>Undergraduate &amp; Graduate Seminar</td>
<td>UN3930</td>
<td>Th 4:10-6PM</td>
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<tr>
<td>Anthropology of the Anthropocene</td>
<td>Anthropology</td>
<td>Paige West</td>
<td>Undergraduate &amp; Graduate Seminar</td>
<td>UN3829</td>
<td>W 10:10AM-12PM</td>
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<td>Absent Bodies</td>
<td>Anthropology</td>
<td>Lesley Sharp</td>
<td>Undergraduate Seminar</td>
<td>UN3861</td>
<td>W 12:10-2PM</td>
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<td>Emerging City: Environmental History of New York</td>
<td>Anthropology</td>
<td>Zoe Crossland, Jonathan Nichols</td>
<td>Undergraduate &amp; Graduate Seminar</td>
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<td>Landscape: Multispecies Approaches</td>
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<td>Zoe Crossland</td>
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<td>Listening: An Ethnography of Sound</td>
<td>Anthropology</td>
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<td>Living, Thinking, Doing with Animals</td>
<td>Anthropology</td>
<td>Hannah Chazin</td>
<td>Undergraduate Lecture</td>
<td>UN3151</td>
<td>MW 10:10-11:25AM</td>
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<td>Mastery of Non-Mastery</td>
<td>Anthropology</td>
<td>Michael Taussig</td>
<td>Graduate Seminar</td>
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<td>Tu 2:10-4PM</td>
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<td>On Precarity</td>
<td>Anthropology</td>
<td>Maria Jose de Abreu</td>
<td>Undergraduate Lecture</td>
<td>UN2026</td>
<td>Tu Th 6:10-7:25PM</td>
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<td>Origins of Human Society</td>
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<td>Astronomy</td>
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<td>The Future(s) of the Global Economy &amp; Society</td>
<td>Committee on Global Thought</td>
<td>Linda Tvrdy</td>
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<td>GR6340</td>
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<td>Earth Resources &amp; Sustainable Development</td>
<td>Earth &amp; Environmental Sciences</td>
<td>Peter Kelemen</td>
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<td>Environmental Geochemistry &amp; Health in NYC</td>
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<td>Human Nature: DNA, Race &amp; Identity</td>
<td>Ecology, Evolution &amp; Environmental Biology</td>
<td>Marya Pollack, Robert Pollack</td>
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<td>GR9008</td>
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<td>Craft &amp; Science: Making Objects in the Early Modern World</td>
<td>History</td>
<td>Pamela Smith</td>
<td>Graduate &amp; Advanced Undergraduate Lab Seminar</td>
<td>GR8906</td>
<td>M 10:10AM-2PM</td>
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<td>Nature &amp; Power: Environmental History in North America</td>
<td>History</td>
<td>Karl Jacoby</td>
<td>Undergraduate &amp; Graduate Lecture</td>
<td>UN2222</td>
<td>Tu Th 11:40AM-12:55PM</td>
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<td>Health &amp; Healing in Africa</td>
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<td>Rhiannon Stephens</td>
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<td>Undergraduate &amp; Graduate Lecture</td>
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<td>History</td>
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<td>Sara Tjossem</td>
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<td>International &amp; Public Affairs</td>
<td>Sara Tjossem</td>
<td>Graduate Seminar</td>
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<td>The Nature &amp; Significance of Animal Minds</td>
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<td>Philosophy</td>
<td>Haim Gaifman</td>
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<td>Philosophy of Science</td>
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<td>Psychology</td>
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<td>Undergraduate &amp; Graduate Seminar</td>
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<td>Social Psychology</td>
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<td>The Brain &amp; Memory</td>
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<td>Topics in Neurobiology &amp; Behavior</td>
<td>Psychology</td>
<td>Ciara Torres</td>
<td>Undergraduate &amp; Graduate Seminar</td>
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<td>Th 6:10-8PM</td>
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<td>Food, Public Health &amp; Policy</td>
<td>Public Health</td>
<td>Anne Paxton</td>
<td>Undergraduate Lecture</td>
<td>UN1100</td>
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<td>Genetics, Biodiversity, &amp; Society</td>
<td>Science &amp; Public Policy</td>
<td>Brian Morton</td>
<td>Undergraduate Seminar</td>
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<td>Disasters &amp; Development</td>
<td>Sustainable Development</td>
<td>John Mutter</td>
<td>Undergraduate Lecture</td>
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<td>Energy Law</td>
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<td>Michael Gerrard</td>
<td>Undergraduate &amp; Graduate Lecture</td>
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<td>Environmental Policy &amp; Governance</td>
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<td>Undergraduate Lecture</td>
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<td>Human Populations &amp; Sustainable Development</td>
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<td>Susana Adamo</td>
<td>Undergraduate &amp; Graduate Lecture</td>
<td>UN3400</td>
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<td>Introduction to Sustainable Development</td>
<td>Sustainable Development</td>
<td>Jason Smerdon</td>
<td>Undergraduate Seminar</td>
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<td>Workshop in Sustainable Development</td>
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<td>Stuart Gaffin, Radley Horton</td>
<td>Undergraduate &amp; Graduate Lecture</td>
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<td>Urban Studies</td>
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<td>Women's, Gender, Sexuality Studies</td>
<td>Laura Kay</td>
<td>Undergraduate Seminar</td>
<td>BC3131</td>
<td>Tu 4:10-6PM</td>
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Science and Society Fall 2018 Course Descriptions

UN3930: Life at the End of Life
American Studies
Robert Pollack
Undergraduate & Graduate Seminar
Th 4:10-6PM
This seminar is designed to provide opportunities for readings and reflections on the experience of volunteer service work in the At Your Service program at Terence Cardinal Cooke Health Care Center. Students will learn how to critically reflect on their experiences at the health care center in the context of questions raised in the texts read in the seminar. Shared experiences and reflections on texts and interactions at TCC will enhance the critical reflection of all students engaged in the course. Students will experience what it means to be a long-term or short-term patient in a nursing home. Students will provide assistance and support, whether emotional or recreational, or by simply serving as the person consistently there for someone during chronic illness or at the end of their life. At the core of this framework is the patient; however, it is important to think about the impact this will have on the student as well. Students will develop skills necessary to critically reflect on the significance of emotional care as a medical practitioner, as well as form a deeper understanding of the role of palliative care and comfort care in a life cycle of care. Students are required to read “The Anatomy of Hope” by Jerome Groopman, M.D., and “What Doctors Feel: How Emotions Affect the Practice of Medicine” by Danielle Ofri, M.D. Ph.D.
At least one prior semester of volunteer work in a clinical setting relevant to the syllabus is recommended. Application required, see americanstudies.columbia.edu for details.
Vergil course page

UN3829: Anthropology of the Anthropocene
Anthropology
Paige West
Undergraduate and Graduate Seminar
W 10:10AM-12PM
This course focuses on the political ecology of the Anthropocene. As multiple publics become increasingly aware of the extensive and accelerated rate of current global environmental change, and the presence of anthropogenesis in ever expanding circumstances, we need to critically analyze the categories of thought and action being developed in order to carefully approach this change. Our concern is thus not so much the Anthropocene as an immutable fact, inevitable event, or definitive period of time (significant though these are), but rather for the political, social, and intellectual consequences of this important idea. Thus, we seek to understand the creativity of "The Anthropocene" as a political, rhetorical, and social category. We also aim to examine the networks of capital and power that have given rise to the current state of planetary change, the strategies for ameliorating those changes, and how these are simultaneously implicated in the rhetorical creation of "The Anthropocene".
Enrollment limited to 15. Priority given to majors in Anthropology.
Vergil course page

UN3861: Absent Bodies
Anthropology
Lesley Sharp
Undergraduate Seminar
W 12:10-2PM
Across a range of cultural and historic contexts, one encounters traces of bodies - and persons - rendered absent, invisible, or erased. Knowledge of the ghostly presence nevertheless prevails, revealing an inextricable relationship between presence and absence. This course addresses the theme of absent bodies in such contexts as war and other memorials, clinical practices, and industrialization, with interdisciplinary readings drawn from anthropology, war and labor histories, and dystopic science fiction.
Prerequisites: Open to undergrad majors; others with the instructor's permission.

Vergil course page

GU4522: Emerging City: Environmental History of New York
Anthropology
Zoe Crossland and Jonathan Nichols
Undergraduate and Graduate Seminar
Class Time TBD
Are we living in the ‘Anthropocene’, a time period that is qualitatively different in terms of human destruction of ecosystems and effects on the planet, or are we seeing the cumulative and unevenly distributed effects of much longer-term trajectories? To assess these questions a range of different sedimentological markers have been proposed: the polluting by-products of the Industrial Revolution; the wide-ranging deposition of synthetic plastics; and the distinct signature of 20th century nuclear tests. The Anthropocene debate brings together a future oriented political project to raise awareness of the accelerating rate of change to the world’s environments, and geological, archaeological and palaeoenvironmental data that are used to explore the past. To understand the full implications and effects of the debates around human impact on the environment we will track the environmental history of New York City and its environs. This course for advanced undergraduate and graduate students will provide training in palaeoenvironmental and archaeological methods and data literacy, as well as offering a critical assessment of the ways in which this evidence is interpreted and brought into larger scientific and policy debates. Students will be taught to collect, analyze and combine disparate data sets from several disciplines by exploring the palaeoenvironmental history of the New York City urban area, drawing on archaeology, history and the earth and environmental sciences to do so. Sessions at Lamont Doherty Earth Observatory & NYC Archaeology.
Prerequisites: Instructor’s permission required.
Vergil course page forthcoming

GR6038: Place, Space, Nature
Anthropology
Paige West
Undergraduate and Graduate Seminar
M 2:10-4PM
This class examines the social production of space, place, and nature. Three discursive and material fields that must be understood if we are to practice a conceptually rigorous and politically engaged contemporary anthropology. In the course, we will examine how these fields have recently been studied, described, conceptualized, and theorized. We will explore these ideas through the reading of works by anthropologists, historians, and geographers, looking at how the
changing nature of places affects both the discipline of anthropology and the ways in which anthropologists conduct research in places. 

Prerequisites: the instructor's permission. 

Vergil course page

UN2026: On Precarity
Anthropology
Maria de Abreu
Undergraduate Lecture
Tu Th 6:10-7:25PM

The topic of precarity is a growing field in the social sciences. The main purpose of this course is to explore the wide semantics and potentials of the term in relation to domains such as labor, law, ethics, technology, health, relationships, moods, shifts in opinion, in fashions or the durability of goods. Our interest in precarity is grounded in two interrelated key motives: the first addresses it as an object of study in its own right. Judging from recent unemployment rates of the industrialized west, the mass scale displacement of populations or the corrosion of security, there is enough reason to put precarity into context. Yet, we might also proceed by inquiring about its potentials as a methodology, one might even call it “a style of reasoning”. Given how much history relies on causation, sequence and linearity how to relate to precarity as a temporal structure in light of the complexities of the present? How does such multilateral present redefine the very conception of that present, of the historical and the now? We will be relating to precarity not just as a condition of existence but also as an infrastructure with which to think societies across space and time. The course will focus on narratives, practices and structures that problematize and displace prima facie logics of the either/or. Instead, we want to highlight conjoined operations of the both/and which are changing the very nature of how we think norms, time and episteme. Taking a clue from the proliferation of forms of precarity, the course will be organized around specific 2-week themes. The first sessions will be a lecture and the remaining will combine lecture and discussion of the assigned items. As a whole, the course aims to sensitize students to the complexities and conditioning possibilities involved in the process of knowledge-making and to provide students with tools to better structure and critically access the information they receive and generate.

Vergil course page

UN1007: Origins of Human Society
Anthropology
Adam Watson
Undergraduate Lecture
MW 2:40-3:55PM

An archaeological perspective on the evolution of human social life from the first bipedal step of our ape ancestors to the establishment of large sedentary villages. While traversing six million years and six continents, our explorations will lead us to consider such major issues as the development of human sexuality, the origin of language, the birth of “art” and religion, the domestication of plants and animals, and the foundations of social inequality. Designed for anyone who happens to be human.

Vergil course page

UN3880: Listening: An Ethnography of Sound
Anthropology
John Pemberton
Undergraduate Seminar
W 2:10-4PM
This course explores the possibilities of an ethnography of sound by attending to a range of listening encounters: in urban soundscapes of the city and in natural soundscapes of acoustic ecology; from histories of audible pasts and echoes of auditory cultural spaces; through repeated listenings in the age of electronic reproduction, and through chance encounters at the limits of listening with experimental music. Sound, noise, voice, reverberation, and silence, from the technological resonances produced by Edison, Bell, and others, to the theoretical reflections of John Cage and beyond: the course turns away from the screen and dominant epistemologies of the visual, for an extended moment, in active pursuit of sonorous objects and cultural sonorities.
Prerequisites: the instructor's permission.

GR6028: Mastery of Non-Mastery
Anthropology
Michael Taussig
Graduate Seminar
Tu 2:10-4PM
Focusing on specific instances of craft as resistance to the speed-up in our work and lives, this seminar explores the possibilities for a new ethic and practical relationship between technology and nature, not as domination but as a continuous unwinding of such domination that I call, following Benjamin and Bataille, "the mastery of non-mastery." Drawing on an anthropology of mimesis, metamorphosis, and the bodily unconscious, such unwinding includes perusal of Hegel's chapter on master and slave, Mauss' "Techniques of the Body," and discussion of the trick as in shamanic conjuring and fictocriticism.
Prerequisites: Instructor’s permission required.

GR5129: Landscape: Multispecies Approaches
Anthropology
Zoe Crossland
Graduate Seminar
Tu 4:10-6PM
What might a multi-species approach bring to the study of landscape? How might we reconfigure place-making narratives that center on the human to offer instead stories of place’s emergence through the entanglements of different forms of life and nonlife? What forms of recognition and erasure are caught up in such a de-centered ecology? This course brings the longstanding literature on place-making together with the recent move toward multispecies anthropology. Our aim will be to explore both the limits and the possibilities of such a conjunction: variously, in its potential to offer alternate narrative modalities, in the quality of attention that it brings to different forms of dwelling, and in its questioning of assumed ontological and epistemological commitments, however defined.
Perquisites: Instructor's permission required.
UN3151: Living, Thinking, Doing with Animals
Anthropology
Hannah Chazin
Undergraduate Lecture
MW 10:10-11:25AM
This course examines how humans and animals shape each other’s lives. We’ll explore the astounding diversity of human-animal relationships in time and space, tracing the ways animals have made their impact on human societies (and vice-versa). Using contemporary ethnographic, historical, and archaeological examples from a variety of geographical regions and chronological periods, this class will consider how humans and animals live and make things, and the ways in which humans have found animals “good to think with”. In this course, we will also discuss how knowledge about human-animal relationships in the past might change contemporary and future approaches to living with animals.
Vergil course page

UN1610: Theories of the Universe
Astronomy
Joseph Patterson
Undergraduate Lecture
Tu Th 2:40-3:55PM
Milestones in the science of cosmology over the past 6000 years. Skylore and observation in ancient cultures. The twin revolutions of the Greeks: Pythagoras and Ptolemy; and Aristotle, Aquinas, and the Great Chain of Being. The "scientific revolution": the impersonal and deterministic world-order of Newton, Laplace, and Kelvin. The erosion of that world-order by mathematics and experiment in the 20th century (relativity, quantum physics, dark matter, and the expanding universe). Today's searches for a new grand order in the Universe, which can cope - or maybe not - with these blows to yesterday's comfortable wisdom.
Vergil course page

GU4160: Biotechnology Law
Biology
Alan Morrison
Graduate Lecture
W 6:10-8PM
This course will introduce students to the interrelated fields of patent law, regulatory law, and contract law that are vital to the biotech and biopharmaceutical sectors. The course will present core concepts in a way that permits students to use them throughout their corporate, academic, and government careers.
Prerequisites: at least 4 college-level biology or biotechnology courses.
Link to Vergil

BC1002: Global Health and Ecology
Biology
Diana Heller
Undergraduate Lecture
Tu Th 10:10-11:25AM
What disease is the number one killer worldwide? What will be the next pandemic?
Fundamentals of human physiology and microbiology are explored in the context of major
global health issues. Principles of ecology are outlined, with an emphasis on the bidirectional
impact of the interactions of humans with the global environment. Lab exercises introduce
biological techniques for studying these topics.

GR6340: The Future(s) of the Global Economy and Society
Committee on Global Thought
Linda Tvrdy
Graduate Seminar
Class Time TBD
This course will introduce students to the technological, economic, social and political forces
that are ushering in a new set of Global Future(s). It will also introduce students to innovative
tools and methods to help meet the challenges that the Global Future(s) present. We will begin
by examining the historical development of global trade and economic governance and then
guide students to the leading edge of the Global Future(s). The subject areas we will explore
include the changing nature of capitalism, economic production and the nature of work. We will
also examine how the rapid rate of innovation in science and technology will affect the Global
Future(s). The course will focus on the effects of global change at the individual as well as the
institutional levels. Students will learn the elements of Design Thinking and how to use it to
rapidly prototype (minimum viable) solutions to problems of the Global Future(s).

GU4200: Freud
Institute for Comparative Literature and Society
Jonathan House
Undergraduate and Graduate Seminar
W 6:10-8PM
Because of advances in feminist theory, infant research, clinical practice attachment theory and
historical scholarship, a consensus has emerged concerning Freud's oeuvre over the past fifty
years: the figure of the mother is largely absent from all aspects of his thinking. This includes his
self-self-analysis, case histories, theory of development and account of religion and civilization.
This fact will provide our point of reference for examining the development of Freud's thought.
We will first explore the biographical roots of this lacuna in Freud's thinking. We will then see
how it played itself out as his long and abundant career unfolded. We will examine texts
regarding all the aspects of his thinking and from the different periods of his life.

W1002: Computing in Context
Computer Science
Adam Cannon
Undergraduate and Graduate Lecture
Tu Th 2:40-3:55PM
Introduction to elementary computing concepts and Python programming with domain-specific
applications. Shared CS concepts and Python programming lectures with track-specific sections.
Track themes will vary but may include computing for the social sciences, computing for economics and finance, digital humanities, and more.
Intended for non-majors. Students only receive credit for either ENGI E1006 or COMS W1002.

**Vergil course page**

**E6998: Social Networks**
Computer Science
Augustin Chaintreau
Undergraduate and Graduate Lecture
Tu 2:10-4PM
Selected topics in computer science.
Prerequisites: Instructor's permission.

**Vergil course page**
**Piazza course page**

**GU4600: Earth Resources and Sustainable Development**
Earth and Environmental Sciences
Peter Kelemen
Undergraduate and Graduate Lecture
Tu Th 1:10-2:25PM
Survey of the origin and extent of mineral resources, fossil fuels, and industrial materials, that are nonrenewable, finite resources, and the environmental consequences of their extraction and use, using the textbook “Earth Resources and the Environment”, by James Craig, David Vaughan and Brian Skinner. This course will provide an overview, but will include focus on topics of current societal relevance, including estimated reserves and extraction costs for fossil fuels, geological storage of CO2, sources and disposal methods for nuclear energy fuels, sources and future for luxury goods such as gold and diamonds, and special, rare materials used in consumer electronics (e.g., “Coltan”, mostly from Congo) and in newly emerging technologies such as superconducting magnets and rechargeable batteries (e.g., heavy rare earth elements, mostly from China). Guest lectures from economists, commodity traders and resource geologists will provide “real world” input.
Prerequisites: none; high school chemistry recommended.

**Vergil course page**

**UN3700: Environmental Geochemistry and Health in NYC**
Earth and Environmental Sciences
Franziska Landes
Undergraduate Seminar
MW 10:10-11:25AM
In this course students will explore environmental contaminants in urban soil, water and air. We will discuss contaminant source, chemical behavior in the environment, health impacts, human exposure, assessment techniques and mitigation strategies. Students will develop and practice skills such as researching key information and contaminants as well as graphing and interpreting data. We will focus in particular on New York City referring to local case studies and data sets, as well as engaging in a local project collecting and analyzing soils samples for lead.
Prerequisites: introductory chemistry and environmental science or the instructor's permission.

**Vergil course page**
UN1201: Environmental Risks and Disasters
Earth and Environmental Sciences
Goran Ekstrom
Undergraduate Lecture
Tu Th 8:40-9:55AM
An introduction to risks and hazards in the environment. Different types of hazards are analyzed and compared: natural disasters, such as tornadoes, earthquakes, and meteorite impacts; acute and chronic health effects caused by exposure to radiation and toxic substances such as radon, asbestos, and arsenic; long-term societal effects due to environmental change, such as sea level rise and global warming. Emphasizes the basic physical principles controlling the hazardous phenomena and develops simple quantitative methods for making scientifically reasoned assessments of the threats (to health and wealth) posed by various events, processes, and exposures. Discusses methods of risk mitigation and sociological, psychological, and economic aspects of risk control and management.
Prerequisites: high school science and math.
Vergil course page

UN2330: Science for Sustainable Development
Earth and Environmental Sciences
Ruth DeFries and John Mutter
Undergraduate Lecture
MW 8:40-9:55AM
Provides an introduction to natural science approaches essential to understanding central issues of sustainable development. Topics may include climate, ecology/agriculture/biodiversity, energy, natural disasters, population dynamics, public health and water resources. Treatment includes background, methods and applications from selected settings throughout the world. Taught by specialists in a number of fields.
Vergil course page

GU4917: The Earth/Human Interactions
Earth and Environmental Sciences
Peter Eisenberger
Undergraduate Lecture
MW 1:10-2:25PM
Based upon the most current understanding of our planet, our interactions, and how we make decisions, a new knowledge-based "green" framework is developed for our relationship to our planet and to each other as well as its general implications for human stewardship of our planet. This new knowledge-based framework is explored using case studies, class participation, and term papers on specific current scientific and policy issues like global warming that impact the sustainability and resilience of our planet.
Vergil course page

GU4321: Human Nature: DNA, Race and Identity
Ecology, Evolution, and Environmental Biology
Marya Pollack and Robert Pollack
Undergraduate and Graduate Seminar
W 2:10-4PM
The course focuses on human identity, beginning with the individual and progressing to communal and global viewpoints using a framework of perspectives from biology, genetics, medicine, psychiatry, religion and the law.

**GU4260: Food, Ecology, and Globalization**
Ecology, Evolution, and Environmental Biology
Eleanor Sterling
Undergraduate and Graduate Seminar
W 6:10-8PM
Description to come

**GU4850: Cognitive Mechanisms and Economic Behavior**
Economics
Michael Woodford
Undergraduate and Graduate Lecture
MW 1:10-2:25PM
Standard economic theory seeks to explain human behavior (especially in "economic" settings, such as markets) in terms of rational choice, which means that the choices that are made can be predicted on the basis of what would best serve some coherent objective, under an objectively correct understanding of the predictable consequences of alternative actions. Observed behavior often seems difficult to reconcile with a strong form of this theory, even if incentives clearly have some influence on behavior; and the course will discuss empirical evidence (both from laboratory experiments and observations "in the field") for some well-established "anomalies." But beyond simply cataloging anomalies for the standard theory, the course will consider the extent to which departures from a strong version of rational choice theory can be understood as reflecting cognitive processes that are also evident in other domains such as sensory perception; examples from visual perception will receive particular attention. And in addition to describing what is known about how the underlying mechanisms work (something that is understood in more detail in sensory contexts than in the case of value-based decision making), the course will consider the extent to which such mechanisms --- while "suboptimal" from a normative standpoint that treats perfect knowledge of one's situation as costless and automatic --- might actually represent efficient uses of the limited information and bounded information-processing resources available to actual people (or other organisms). Thus, the course will consider both ways in which the realism of economic analysis may be improved by taking into account cognitive processes, and ways in which understanding of cognitive processes might be advanced by considering the "economic" problem of efficient use of limited (cognitive) resources.
Prerequisites: ECON UN3211, ECON UN3213 and STAT UN1201.

**GR6493: Behavioral Economics**
Economics
Mark Dean
Graduate Lecture
F 10:10AM-12PM
The standard model of economic behavior describes a perfectly rational, self-interested utility maximizer with unlimited cognitive resources. In many cases, this provides a good approximation to the types of behavior that economists are interested in. However, over the past 30 years, experimental and behavioral economists have documented ways in which the standard model is not just wrong, but is wrong in ways that are important for economic outcomes. Understanding these behaviors, and their implications, is one of the most exciting areas of current economic inquiry. This course will study three important topics within behavioral economics: bounded rationality, temptation and self-control and reference dependent preferences. It will draw on research from behavioral economics, experimental economics, decision theory, psychology and neuroscience in order to describe the models that have been developed to explain failures of the standard approach, the evidence in support of these models, and their economic implications.

Prerequisites: Completion of 1st year graduate program in Economics or the instructor's permission.

GR9008: Development and Environmental Economic Workshop
Economics
Cristian Pop-Eleches and Jack Willis
Graduate Workshop
Th 4:15-5:45PM
Description to come.

BC3052: Math and the City
Education
Instructor TBD
Undergraduate Seminar
W 4:10-7PM
In partnership with NYC public school teachers, students will have opportunities to engage in mathematical learning, lesson study, curriculum development, and implementation, with a focus on using the City as a resource. Students will explore implications for working with diverse populations. Fieldwork and field trips required. Non-math majors, pre-service elementary students and first-year students welcome.
Prerequisites: the instructor's permission.

BC3058: Science in the City II
Education
Instructor TBD
Undergraduate Seminar
W 4:30-6:20PM
Students investigate the science of learning, the Next Generation Science Standards, scientific inquiry and engineering design practices, and strategies to include families in fostering student achievement and persistence in science. Fieldwork required. Open to Non-science majors, pre-service elementary students, and first-year students.
Prerequisites: the instructor's permission.
GU4599: Bioethics and Narrative
English and Comparative Literature
Rachel Adams
Undergraduate and Graduate Lecture
MW 2:40-3:55PM
Bioethics grapples with some of the most charged issues of our contemporary moment: where life begins and ends, the definition of personhood, the role of technology in creating, shaping, and sustaining human life, the significance of genetic information, the scientific basis of race and gender, allocation of medical resources, relations among doctors, scientists, patients, and families. Although these issues concern us all, they tend to be debated by select groups of specialists, favoring the perspectives of philosophers, doctors, scientists, and clinicians. This course offers an alternative by considering bioethical questions through the lens of consumers, patients, research subjects, family members and caregivers. Rather than privileging the “case study,” a genre that provides the clinician’s view of the bioethical scenario, we will focus on stories, asking how narrative provides new insight and bring attention to previously unrepresented points of view. Each week, narratives in film and print will be paired with critical readings that highlight the bioethical issues at stake.

UN3635: Speculative Fiction and the Environment
English and Comparative Literature
Phillip Polefrone
Undergraduate Seminar
W 12:10-2PM
The act of speculation is central to our thinking about the environment, be it through projections of catastrophe, visions of a more sustainable society, or conceptualizations of vast and complex planetary systems. This course will explore this form of speculation by tracing the intersection of speculative fiction and environmentalism in the American twentieth century, the setting for the maturation of the genre and the movement alike. For the purposes of this course, “speculative fiction” (SF) will be taken to include the commonly accepted genre of science-fiction and fantasy as well as any work of fiction based on a counterfactual present world, an extrapolative future, an alternative past, or a reality entirely imagined. More conceptually, we will consider SF in the expansive sense Donna Haraway proposes: “science fiction, speculative fabulation, string figures, speculative feminism, science fact, so far,” asking what these distinct but related acts of mind can reveal about environmental thought. The semester will be divided into pre-1960 and post-1960 works, a boundary that on one hand divides the Golden Age and New Wave periods of science fiction, and on the other hand roughly marks the birth of the modern environmental movement. As the course moves chronologically through representative works of environmental SF, it will also trace the development of foundational concepts in ecology and environmentalism by cross-referencing works of SF with texts in ecology and environmentalist theory that either established or discuss contemporaneous theories. This exploration will touch on topics such as: ecofeminism, ecological economics, ecological succession and the climax community, the Gaia hypothesis, environmental justice, and early recognition of climate change.

GR8906: Craft and Science: Making Objects in the Early Modern World
History
Undergraduate and Graduate Laboratory Seminar
Pamela Smith
M 10:10AM-2PM
This course studies the materials, techniques, settings, and meanings of skilled craft and artistic practices in the early modern period (1350-1750), in order to reflect upon a series of issues, including craft knowledge and artisanal epistemology; the intersections between craft and science; and questions of historical methodology and evidence in the reconstruction of historical experience. The course will be run as a “Laboratory Seminar,” with discussions of primary and secondary materials, as well as text- and object-based research and hands-on work in a laboratory. One component of the Making and Knowing Project of the Center for Science and Society, this course contributes to the collaborative production of a transcription, English translation, and critical edition of a late sixteenth-century manuscript in French, BnF Ms. Fr. 640. In fall 2018, the course will focus on the cultural context, materials, and techniques of “making impressions” upon a variety of surfaces, including making reliefs for ornament and for printing, and inscribing metal, including engraving and etching. Several entries in the manuscript use what we think of as “print techniques” for metal decoration or making seals and molds, and other entries discuss printers’ type, and make use of prints for image transfer. Students will begin with skill-building exercises in culinary reconstruction, pigment making, and molding, and then, with advice from a visiting “expert maker,” will choose a research focus from the entries in the manuscript that cover such topics as draftsmanship, engraving techniques, print transfer, and other topics that intersect with printing and printmaking. The course will be taught this year only in fall 2018. It is not necessary to have either prior lab experience or French language skills. Please don’t hesitate to contact Pamela Smith, ps2270@columbia.edu, if you have questions.

Vergil course page

UN2222: Nature and Power: Environmental History in North America
History
Karl Jacoby
Undergraduate and Graduate Lecture
Tu Th 11:40AM-12:55PM
Environmental history seeks to expand the customary framework of historical inquiry, challenging students to construct narratives of the past that incorporate not only human beings but also the natural world with which human life is intimately intertwined. As a result, environmental history places at center stage a wide range of previously overlooked historical actors such as plants, animals, and diseases. Moreover, by locating nature within human history, environmental history encourages its practitioners to rethink some of the fundamental categories through which our understanding of the natural world is expressed: wilderness and civilization, wild and tame, natural and artificial. For those interested in the study of ethnicity, environmental history casts into particularly sharp relief the ways in which the natural world can serve both to undermine and to reinforce the divisions within human societies. Although all human beings share profound biological similarities, they have nonetheless enjoyed unequal access to natural resources and to healthy environments—differences that have all-too-frequently been justified by depicting such conditions as “natural.”

Vergil course page

UN3769: Health and Healing in Africa
History
Rhiannon Stephens
Undergraduate Seminar
Th 12:10-2PM
This course charts the history of health and healing from, as far as is possible, a perspective interior to Africa. It explores changing practices and understandings of disease, etiology, healing and well-being from pre-colonial times through into the post-colonial. A major theme running throughout the course is the relationship between medicine, the body, power and social groups. This is balanced by an examination of the creative ways in which Africans have struggled to compose healthy communities, albeit with varied success, whether in the fifteenth century or the twenty-first.

UN3911: Medicine and Western Civilization
History
David Rothman
Undergraduate Seminar
M 4:10-6PM
This seminar seeks to analyze the ways by which medicine and culture combine to shape our values and traditions. To this end, it will examine notable literary, medical, and social texts from classical antiquity to the present.
Prerequisites: the instructor's permission.

UN2122: Scientific Revolution in Western Europe
History
Matthew Jones
Undergraduate and Graduate Lecture
Tu Th 1:10-2:25PM
Introduction to the cultural, social, and intellectual history of the upheavals of astronomy, anatomy, mathematics, alchemy from the Renaissance to the Enlightenment.

UN3814: The Modern History of the Brain
History
Zachary Levine
Undergraduate Seminar
M 10:10AM-12PM
The Modern History of the Brain explores the intellectual, cultural, and scientific history of the brain, focusing on the sciences of the brain in Europe and the United States in the past two centuries. We will examine how the brain has been studied and represented, how conceptions of the brain have interacted with ideas about the self and the soul, and how disciplines in the brain and mind sciences have merged and developed. This course will be relevant to students interested in modern American and European history, the history of science, and students interested in psychology and the neurosciences. No preliminary knowledge or coursework is required.
GU4800: Language and Society
Linguistics
John McWhorter
Undergraduate and Graduate Lecture
MW 11:40AM-12:55PM
How language structure and usage varies according to societal factors such as social history and socioeconomic factors, illustrated with study modules on language contact, language standardization, and literacy, quantitative sociolinguistic theory, language allegiance, language, and power.

Vergil course page

U6236: History of Ecology and Environmentalism
International and Public Affairs
Sara Tjossem
Graduate Seminar
Class Time TBD
We will explore various conceptions of nature and ecology in changing ideas of conservation, preservation, the Dust Bowl, the atomic age, growing environmentalism, and the current focus on biodiversity as one route to a sustainable society. We will look at how scientific information has been constructed and used in environmental debates over pollution and overpopulation and will question the utility of distinguishing between "first nature" (untouched by humans) and "second nature" (nature modified by humans). Along the way, we will address connections between environmentalism and nationalism, the relationship between environmental change and social inequality, the rise of modern environmental politics, and different visions for the future of nature.

U6320: Political Context of Environmental Management
International and Public Affairs
Sara Tjossem
Graduate Seminar
Class Time TBD
This class explores how the political system identifies public issues as problems requiring public action, and creates and implements policy solutions. It assesses what conditions foster change by anticipating likely outcomes and effective points of intervention to achieve policy goals. The course emphasizes the politics of environmental policymaking, using agriculture as a case study because it is a global enterprise with local to global scales of inquiry. We will explore the tension between the market and economic models and politics and political models of policymaking; interests and interest-group politics; the connections among expertise, knowledge, and policymaking; and the particular politics of policy issues that cross jurisdictional boundaries, including federalism and globalization.

UN3840: The Nature and Significance of Animal Minds
Philosophy
Simon Brown
Undergraduate Seminar
W 12:10-2PM
Humans have a complicated relationship with other animals. We love them, befriend them and save them. We hunt, farm and eat them. We experiment on and observe them to discover more about them and to discover more about ourselves. For many of us, our pets are amongst the most familiar inhabitants of our world. Yet when we try to imagine what is going on in a dog or cat's mind--let alone that of a crow, octopus or bee--many of us are either stumped about how to go about this, or (the science strongly suggests) getting things radically wrong. Is our thought about and behavior towards animals ethically permissible, or even consistent, can we reshape our habits of thought about animals to allow for a more rational, richer relationship with the other inhabitants of our planet? In this course, students will reflect on two closely intertwined questions: an ethical question, what sort of relationship ought we to have with animals; and a metaphysical question, what is the nature of animal minds? Readings will primarily be from philosophy and ethics and the cognitive sciences, with additional readings from literature and biology.

There are no prerequisites for this class--it will be helpful but not necessary to have taken previous classes in philosophy (especially ethics and philosophy of mind) or in cognitive science.

UN3100: Paradoxes
Philosophy
Haim Gaifman
Undergraduate Lecture
Class Time TBD
Various paradoxes, from many areas, including mathematics, physics, epistemology, decision theory and ethics, will be analyzed. The goal is to find what such paradoxes imply about our ways of thinking, and what lessons can be derived. Students will have a choice to focus in their papers on areas they are interested in.

UN3551: Philosophy of Science
Philosophy
David Albert
Undergraduate Lecture
Class Time TBD
Philosophical problems within science and about the nature of scientific knowledge in the 17th-20th centuries. Sample problems: causation and scientific explanation; induction and real kinds; verification and falsification; models, analogies and simulations; the historical origins of the modern sciences; scientific revolutions; reductionism and supervenience; differences between physics, biology and the social sciences; the nature of life; cultural evolution; human nature; philosophical issues in cosmology.
Prerequisites: one philosophy course or the instructor's permission.

GU4239: Cognitive Neuroscience in Narrative Film
Psychology
Christopher Baldassano
Undergraduate and Graduate Seminar
W 10:10AM-12PM
This seminar will provide a broad survey of how narrative stories, films, and performances have been used as tools to study cognition in psychology and neuroscience.

Prerequisites: PSYC UN1010 or equivalent introductory course in neuroscience or cognitive psychology.

**Vergil course page**

**UN2630: Social Psychology**
Psychology
Tory Higgins
Undergraduate Lecture
Tu Th 2:40-3:55PM
Surveys important methods, findings, and theories in the study of social influences on behavior. Emphasizes different perspectives on the relationship between individuals and society.

**Vergil course page**

**UN3445: The Brain and Memory**
Psychology
Mariam Aly
Undergraduate Seminar
M 2:10-4PM
This seminar will give a comprehensive overview of episodic memory research: what neuroimaging studies, patient studies, and animal models have taught us about how the brain creates, stores, and retrieves memories.

Prerequisites: (PSYC UN1010) or equivalent introductory course in neuroscience or cognitive psychology and the instructor's permission.

**Vergil course page**

**GU4440: Topics in Neurobiology and Behavior**
Psychology
Ciara Torres
Undergraduate and Graduate Seminar
Th 6:10-8PM
Examines current topics in neurobiology and behavior.

Prerequisites: the instructor's permission.

**Vergil course page**

**UN1100: Food, Public Health, and Public Policy**
Public Health
Anne Paxton
Undergraduate Lecture
MW 1:10-2:25PM
The course will provide an introduction to the science, policy, politics, and economics related to food as a critical element of public health. The course will have a primary focus on the US, but will include a global perspective. Students will learn and apply the fundamentals of public health scientific research methods and theoretical approaches to assessing the food landscape though a public health lens. In addition, the course will cover how nutrition – at first glance a matter of individual choice – is determined by an interconnected system of socio-economic-environmental influences, and is influenced by a multitude of stakeholders engaged in policy making processes.
The course will be structured into four “themes”: 1) Why food is a public health priority, 2) Evidence, causal inference and measurement and its role in understanding and designing public health research on food, 3) The food environment, and 4) Change agents and levers: individuals, policy, and politics in food and public health. The course will use a systems thinking approach and systems thinking tools to examine and understand the interconnectedness of the social, economic, environmental, political and economic influences and consequences that affect food and public health.

BC3333: Genetics, Biodiversity, and Society
Science and Public Policy
Brian Morton
Undergraduate Seminar
Tu 2:10-4PM
Module I: Development and Valuation of Plant Genetic Resources: science and consequences of plant breeding, biotechnology, and genetic engineering; costs and benefits of maintaining biodiversity; public policy issues and options. Module II: Genetic Technology and Society: human genome project, scientific basis and interpretation of genetic screening; individual choice, social implications, and ethical issues.
Prerequisites: Instructor's permission required. Students should contact B. Morton.

UN3360: Disasters and Development
Sustainable Development
John Mutter
Undergraduate Lecture
MW 6:10-7:25PM
Human welfare status is very unevenly distributed throughout the globe – some of us live very comfortable lives, others remain in desperate poverty showing little progress away from their condition. Between are countries that are rapidly developing and converging toward the welfare of the richest. At all levels of economic development, human activities place significant pressure on the environment and threaten all of Earth’s vital functions and support systems for human life. This challenge requires timely responses based on solid understanding of the human/environment interface, technological and economic approaches to mitigate adverse effects on the environment, and routes to understanding the complex dynamics of the coupled human/natural systems that can chart a pathway to improvement in the lives of the poorest and continued well-being for those who have achieved prosperity without forcing natural systems into decline or massive fluctuation. This course offers undergraduate students, for the first time, a comprehensive course on the link between natural disaster events and human development at all levels of welfare. It explores the role that natural disasters might have and have had in modulating development prospects. Any student seriously interested in sustainable development, especially in light of climate change, must study the nature of extreme events - their causes, global distribution, and the likelihood of future change. This course will cover not only the nature of extreme events, including earthquakes, hurricanes, floods and droughts but also their transformation into disaster through social processes. It will ultimately help students to understand the link between such extreme events, the economic/social shock they represent and development outcomes. The course will combine careful analysis of the natural and social
systems dynamics that give rise to disasters and examine through group learning case studies from the many disasters that have occurred in the first decade of the 21st century.
Prerequisites: EESC 2330; SDEV W2300.

UN3366: Energy Law
Sustainable Development
Michael Gerrard
Undergraduate and Graduate Lecture
Tu Th 4:20-6:10PM
This course concerns the regulation of energy, energy resources, and energy facilities. Among the topics will be the regulation of rates and services; the roles of the Federal Energy Regulatory Commission and the state public utility commissions; and the interaction with environmental law. Attention will be devoted to energy resources (such as oil, natural gas, and coal) and to generating, transmission and distribution facilities. The current and future roles of renewable energy, energy efficiency, and nuclear energy will receive special attention, as will the regulation and deregulation of electricity.

UN3350: Environmental Policy and Governance
Sustainable Development
Lisa Dale
Undergraduate Lecture
MW 11:40AM-12:55PM
Sustainability is a powerful framework for thinking about business, economics, politics and environmental impacts. An overview course, “Environmental Policy and Governance” will focus specifically on the policy elements of sustainability. With an emphasis on the American political system, the course will begin by exploring the way the American bureaucracy addresses environmental challenges. We will then use the foundations established through our understanding of the US system to study sustainable governance at the international level. With both US and international perspectives in place, we will then address a range of specific sustainability issues including land use, climate change, food and agriculture, air quality, water quality, and energy. Over the course of the semester, we will study current events through the lens of sustainability policy to help illustrate course concepts and theories.

UN3400: Human Populations and Sustainable Development
Sustainable Development
Susana Adamo
Undergraduate and Graduate Lecture
Tu Th 8:40-9:55AM
Population processes and their outcomes in terms of population size and distribution have a fundamental role in sustainable development and also broad policy implications. This course will introduce students to the scientific study of human populations as a contribution toward understanding social structure, relations, and dynamics, as well as society-nature interactions. The aim is to offer a basic introduction to the main theories, concepts, measures, and uses of demography. The course will cover the issues of population size, distribution and composition,
and consumption, at different scales from global to regional to local, as well as the implications for population-environment relationships. It will also address the fundamental demographic processes of mortality, fertility, and migration, including their trends and transitions, we will consider these topics in the context of economic development, sustainability, and cultural change. The course will also include an overview of basic demographic techniques and tools used for identifying, managing, analyzing and interpreting population data, and an introduction to population projections. Lab sessions will supplement readings and lectures by enabling students to explore data sources, calculate rates, and graphically represent demographic data.

**UN1900: Introduction to Sustainable Development**
Sustainable Development
Jason Smerdon
Undergraduate Seminar
Tu 11:40AM-12:55PM
The course is designed to be a free-flowing discussion of the principles of sustainable development and the scope of this emerging discipline. This course will also serve to introduce the students to the requirements of the undergraduate program in sustainable development and the content of the required courses in both the special concentration and the major. The focus will be on the breadth of subject matter, the multidisciplinary nature of the scholarship and familiarity with the other key courses in the program.

**UN3280: Workshop in Sustainable Development**
Sustainable Development
Stuart Gaffin and Radley Horton
Undergraduate and Graduate Workshop
Two Sections: Tu Th 12:10-2PM and Tu Th 2:10-4PM
The upper level undergraduate Sustainable Development Workshop will be modeled on client based graduate-level workshops, but with more time devoted to methods of applied policy analysis and issues in Sustainable Development. The heart of the course is the group project on an issue of sustainable development with a faculty advisor providing guidance and ultimately grading student performance. Students would receive instruction on methodology, group work, communication and the context of policy analysis. Much of the reading in the course would be project-specific and identified by the student research teams. For registration issues contact Cari Shimkus (cshimkus@ei.columbia.edu).

**UN2200: Introduction to GIS Methods**
Urban Studies
Instructor TBD
Undergraduate Lecture
Two Sections: M 6:10-8PM and Tu 6:10-8PM
The Urban Studies program is offering an introductory course to the fundamentals of GIS (Geographic Informational Systems), specifically for non-majors. Students create maps using ArcGIS software, analyze the physical and social processes presented in the digital model, and use the data to solve specific spatial analysis problems.
Prerequisites: Must attend first class for instructor permission.

**BC3131: Women and Science**
Women, Gender, Sexuality Studies
Laura Kay
Undergraduate Seminar
Tu 4:10-6PM
History and politics of women's involvement with science. Women's contributions to scientific discovery in various fields, accounts by women scientists, engineers, and physicians, issues of science education. Feminist critiques of biological research and of the institution of science.