

Fall 2019 Courses Relating to Sustainability & Environmental Awareness

Anthropology

ANTH UN1007 The Origins of Human Society. 3 points.

Mandatory recitation sections will be announced first week of classes.

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.

Credits: 3 points

Offerings: Fall semesters

Professor: Servin Fowles

ANTH UN3861 Anthropology of the Anthropocene

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".

Credits: 4 points

Offerings: Fall semesters

Professor: Patrick F Nason

ANTH BC3932 Climate Change / Global Migration / Human Rights

While the existence of processes of anthropogenic climate change is well established, predictions regarding the future consequences of these processes are far less certain. In no area is the

uncertainty regarding near and long term effects as pronounced as in the question of how climate change will affect global migration. This course will address the issue of climate migration in four ways. First, the course will examine the theoretical and empirical literatures that have elucidated the nature of international migration in general. Second, the course will consider the phenomena of anthropogenic climate change as it relates to migration. Third, the course will consider how human rights and other legal regimes do or do not address the humanitarian issues created by anthropogenic climate change. Fourth, the course will synthesize these topics by considering how migration and climate change has arisen as a humanitarian, political, and economic issue in the Pacific. Human Rights elective.

Credits: 4 points

Offerings: Fall semesters

Professor: Patrick F Nason

Architecture

ARCH UN1010 Design Futures: New York City.

How does design operate in our lives? What is our design culture? In this course, we explore the many scales of design in contemporary culture -- from graphic design to architecture to urban design to global, interactive, and digital design. The format of this course moves between lectures, discussions, collaborative design work and field trips in order to engage in the topic through texts and experiences.

Credits: 3 points

Offerings: Fall semesters

Art History

AHIS GU4150 Tourism, Nature, and the North American Landscape

This course takes as its departure point that space is constructed in the act of viewing. We will look at how visual culture reflected and contributed to changing notions of the cultural meaning of the American landscape from the nineteenth and early twentieth centuries. Through lectures and discussions centered on the development of tourism in diverse American locations—from the Hudson River Valley to the far west to the Caribbean—we will survey the development of tourism in the United States and consider how it served as a means of cultivating taste and expressing cultural, national, racial, gendered and class identity. And we will interrogate the implication of the developing tourist industry with new technologies of vision and consider how both impacted American attitudes toward the natural environment.

Credits: 3 points

Offerings: Fall semesters

Professor: Elizabeth Hutchinson

Biology

BIOL BC1002 Global Health and Ecology

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. Enrollment in BIOL BC1012 (BC1002 lab) is required, and limited to 16 students per section.

Credits: 4.5 points

Offerings: Fall semesters

Professor: Diana L Heller

BIOL BC2240 Plant Evolution and Diversity

Survey of plant biology emphasizing evolutionary and ecological perspectives on mating and reproduction, physiology, anatomy, and morphology.

Credits: 3 points

Offerings: Fall semesters

Professor: Hilary Callahan

BIOL BC2801 Laboratory in Genetics.

Prerequisites: BIOL BC1500, BIOL BC1501, BIOL BC1502, BIOL BC1503; and pre or corequisite, BIOL BC2100 and Enrollment limited to 16 students per section.

Exercises in genetics at both the Mendelian and molecular levels. Basic principles of genetic analysis will be studied using *Drosophila* and bacteria. A project in molecular genetics, involving such techniques as PCR, gel electrophoresis, and cloning, will be undertaken using plant genes.

Credits: 3 points

Offerings: Fall semesters

Professor: Brian Morton

BIOL BC3310 Cell Biology

This course explores the components, systems, and regulatory mechanisms involved in eukaryotic cellular function. Topics include: signal transduction, translational and protein quality control, organellar and cytoskeletal dynamics, and some coordinated responses such as proliferation and programmed cell death. Throughout the course we will see how general cell biology can be specialized to achieve specific cellular functions through regulation of the basic machinery. We will also explore the cellular and molecular bases for a variety of human pathologies, with an emphasis on cancer. In addition to lecture, we will spend some time discussing the material, including selected articles from the primary literature, and learning through group presentations.

Credits: 3 points

Offerings: Fall semesters

Professor: Jonathan Snow

BIOL BC3311 Laboratory in Cell Biology.

Prerequisites: BIOL BC3310 (which can be taken as a pre- or co-requisite). Enrollment is limited to 16; must attend first lab to hold place.

Introduction to cell biological techniques used to investigate structural, molecular, and physiological aspects of eukaryotic cells and their organization into tissues. Techniques include light and electron microscopy, cell culture, isolation of cellular organelles, protein electrophoresis, and Western Blot analysis.

Credits: 3 points

Offerings: Fall semesters

Professor: Jonathan Snow

Chemistry

CHEM BC2001 General Chemistry I.

Atoms; elements and compounds; gases; solutions; equilibrium; acid-base, precipitation, and oxidation-reduction reactions; thermochemistry. Laboratory experience with both qualitative and quantitative techniques.

Credits: 5 points

Offerings: Fall semesters

Professor: Rachel Austin

CHEM BC3231 Organic Chemistry II.

Extension of concepts from Organic Chemistry I to conjugated systems; chemistry of the carbonyl group; NMR and IR spectroscopy; bioorganic chemistry.

Credits: 3 points

Offerings: Fall semesters

Professor: Dina C Merrer

Dance

DNCE BC2570 Dance in New York City

Study of the cultural roots and historical contexts of specific communities using New York City's dance scene as a laboratory. Students observe the social environments in which various modes of dance works are created while researching the history of dance in New York City. Course includes attendance at weekly events, lecture-demonstrations, and performances.

Credits: 3 points

Offerings: Fall semesters

Professor: Marjorie Folkman

Economics

ECON BC3011 Inequality and Poverty

Prerequisites: ECON BC3035 or ECON BC3033, or permission of the instructor.

Conceptualization and measurement of inequality and poverty, poverty traps and distributional dynamics, economics and politics of public policies, in both poor and rich countries.

Credits: 3 points

Offerings: Fall semesters

Professor: Ashley Timmer

ECON BC3035 Intermediate Microeconomic Theory.

Preferences and demand; production, cost, and supply; behavior of markets in partial equilibrium; resource allocation in general equilibrium; pricing of goods and services under alternative market structures; implications of individual decision-making for labor supply; income distribution, welfare, and public policy. Emphasis on problem solving.

Credits: 4 points

Offerings: Fall semesters

Professor: Elizabeth Ananat and Lalith Munasinghe

ECON BC3018 Econometrics.

Specification, estimation and evaluation of economic relationships using economic theory, data, and statistical inference; testable implications of economic theories; econometric analysis of topics such as consumption, investment, wages and unemployment, and financial markets.

Credits: 4 points

Offerings: Fall semesters

Professor: Anja Tolonen

ECON BC3031 Economics of Life

Prerequisites: ECON BC3035 ECON BC3018 Econometrics previously or concurrently taken is highly recommended. This course covers an immense variety of topics in what might be called demographic economics. Included are dating and marriage, along with the economics of beauty; fertility and its avoidance; how people use their time, and what determines those uses, including some discussion of labor-force behavior; interactions among family members—bargaining in the household and with family members outside the household; divorce; the economics of addiction, to such agents as alcohol, other drugs, tobacco and even work; religion, including its effects on economic outcomes; and death, including how we die, how long we live, and the nature and determinants of bequests. The central unifying feature throughout the course is the concentration on the economics of these activities and outcomes—the roles of incentives and institutions in affecting them.

Credits: 3 points

Offerings: Fall semesters

Professor: Daniel Hamermesh

Education

EDUC BC3044 Education and Social Change in Comparative Global Contexts

This course will examine the relationship between education and social change in different regions of the world, with a focus on vulnerable populations (e.g., indigenous groups, street and working children, immigrants, women and girls, refugees). In particular, we will explore the questions: What is the role of education in democratization and transitions to democracy? How is education implicated in relations of social and economic inequality? Education is commonly assumed to be a vehicle for social transformation and democratization, but in many countries

where education has expanded, poverty and social inequality persist. How does education reproduce inequalities of race, class, gender, and language in different societies, and how might it challenge these inequalities? Where do we glimpse the transformative potential of education? Viewing education in its broadest sense (both formal and informal), we will examine the ways that education has been used by different states to achieve national political ends—to “promote democracy” and/or to produce particular kinds of citizens—and the ways it has been used by popular and grassroots organizations to empower groups that have been neglected by the State.

Credits: 4 points

Offerings: Fall semesters

Professor: T. Abu El-Haj

Environmental Science

EESC BC3014 Field Methods in Environmental Science

Problem-oriented, hands-on approach emphasizing the tools, techniques, and observational skills necessary for the understanding of forest ecology and deer management. Field and laboratory work as well as data analysis and interpretation. Field Methods utilizes the outdoor resources of the Hudson River Valley, especially the forest environment at Black Rock Forest, a 4,000-acre preserve near Cornwall, N.Y.

Credits: 3 points

Offerings: Fall semesters

Professor: Peter Bower

EESC BC3017 Environmental Data Analysis

Acquisition, analysis, interpretation, and presentation of environmental data, assessment of spatial and temporal variability. Focus on water quality issues and storm surges. Uses existing and student-generated data sets. Basic principles of statistics and GIS, uses standard software packages including EXCEL and ArcGIS. Includes a half-day field trip on a Saturday or Sunday.

Credits: 3 points

Offerings: Fall semesters

EESC BC1001 Environmental Science I.

This class examines the basic principles of environmental science using current local and global environmental news as case studies. Issues covered are climate change, invasive species, water resources, sustainability, *etc.* A major goal is for students to understand the science behind environmental issues. Readings from the scientific literature, various newspaper articles,

magazines and an online textbook are carefully coordinated with the topics. Because of our location, the lab curriculum features studies of the Hudson River and its forested shorelines. The lab is closely paired with the lecture and features hands-on and inquiry-based lab and field studies of statistics, data presentation, writing in the format of a scientific paper, data collection (on land and on the Hudson River), water chemistry, microbiology, microscopic and macroscopic life in the river, birds and plants in Riverside Park, biodiversity on a green roof, local geology, topographical maps, compass use, and museum studies. Students must also register for one of the eight lab sections EESCX1011.

Credits: 4.5 points

Offerings: Fall semesters

Professor: Terryanne Maenza-Gmelch

EESC BC3016 Environmental Measurements.

Prerequisites: Enrollment limited. Required field trip on first Friday of the semester.

Hands-on approach to learning environmental methods. Students take a one-day cruise on the Hudson River to collect environmental samples. These samples are then analyzed throughout the semester to characterize the Hudson River estuary. Standard and advanced techniques to analyze water and sediment samples for nutrients and contaminants are taught.

Credits: 3 points

Offerings: Fall semesters

Professor: Brian Mailloux

EESC BC3023 The Hudson: The Estuary, The River, and Our Environment.

An interdisciplinary study of the relationship between ecosystem function and sustainable human habitation for one of the great rivers of the world. Topics include: geological origins, the watershed, basic hydrology, and estuarine dynamics; habitats and plants, energy flow, and nutrient dynamics; the invertebrates; fishes, fisheries, and other animals; water quality, water supply, and sewage treatment; sediment dynamics and PCBs; colonization and revolution; industrialization and transformation of the landscape; the Storm King controversy, conservation and environmentalism

Credits: 3 points

Offerings: Fall semesters

Professor: Peter Bower

EESC BC3033 Waste Management

Project-oriented study of waste management issues and policy. Cradle-to-grave analysis of product and waste streams. Analysis of municipal solid waste, landfills, incineration, recycling, sewage waste and sewage treatment.

Credits: 3 points

Offerings: Alternate fall semesters

Professor: Peter Bower

EESC BC3050 Big Data with Python: Python for Environmental Analysis and Visualisation.

Big Data is changing how we interact with and understand the environment. Yet analyzing Big Data requires new tools and methods. Students will learn to use Python programming to analyze and visualize large environmental and earth's systems data sets in ways that Excel is not equipped to do. This will include both time series and spatial analyses with programming occurring interactively during class and assignments designed to strengthen methods and results. Students will learn to write code in Python, plot, map, sub-select, clean, organize, and perform statistical analyses on large global scale data sets, using the data in analysis, and take any data set no matter how large or complicated.

Credits: 3 points

Offerings: Fall semesters

Professor: Brian Mailloux

EESC BC3300 Workshop in Sustainable Development.

Students address real-world issues in sustainable development by working in groups for an external client agency. Instruction in communication, collaboration, and management; meetings with and presentations to clients and academic community. Projects vary from year to year. Readings in the course are project-specific and are identified by the student research teams.

Credits: 4 points

Offerings: Fall semesters

Professor: Martin Stute

History

HIST BC3327 Consumer Culture in Modern Europe

Prerequisites: Permission of the instructor. Enrollment limited to 15. Preregistration required. The development of the modern culture of consumption, with particular attention to the formation of the woman consumer. Topics include commerce and the urban landscape, changing attitudes toward shopping and spending, feminine fashion and conspicuous consumption, and the birth of advertising. Examination of novels, fashion magazines, and advertising images.

Credits: 4 points

Offerings: Fall semesters

Professor: Lisa Tiersten

Sociology

SOCI UN3235 Social Movements

Prerequisites: One introductory course in Sociology suggested. Social movements and the theories social scientists use to explain them, with emphasis on the American civil rights and women's movements. Topics include theories of participation, the personal and social consequences of social movements, the rationality of protest, the influence of ideology, organization, and the state on movement success, social movements, and the mass media.

Credits: 3 points

Offerings: Fall semesters

Professor: Debra Minkoff

Urban Studies

URBS UN2200 Introduction to GIS Methods

Prerequisites: Must attend first class for instructor permission. Due to the high demand for our limited-enrollment spatial analysis course (URBS V3200) 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. Note: this course does fulfill the C requirement in Urban Studies.

Credits: 3 points

Offerings: Fall semesters

Professor: Christian Siener

URBS UN3440 Shrinking Cities

While some cities thrive and struggle to house the global majority, others struggle with the effects of urban shrinkage—population loss, disinvestment and abandonment. The path to urban decline is paved by social, economic and spatial forces that result in shrinking cities. This class explores how to understand and engage with urban decline. It includes a consideration of sundry efforts to reverse, live with, and rethink urban decline in a variety of locales. The hope is that this exercise will shed light not only on iconic declining places like Detroit, but also on the nature of uneven development and how it is the rule rather than the anomalous exception within capitalist urbanization.

Course materials draw on disciplines such as planning, economics, architecture, history and sociology to help understand urban decline and its outcomes from a variety of perspectives. Over the course of the semester, we will investigate larger processes—globalization, deindustrialization and socioeconomic change—to understand how cities and communities responded to the consequences of these forces. We will engage with the global literature on shrinking cities but will be focused primarily on exploring the dynamics of shrinkage in US cities. To that end, following a wide-reaching examination of nation-wide phenomena, we will study in-depth a sample of cities to understand local and regional variations and responses. How do we treat cities that do not grow? Given the constrained or complete lack of resources in these places, to what extent should some cities be allowed to “die”? What is the impact on the residents that remain in these places?

Credits: 3 points

Offerings: Fall semesters

Professor: Mary Rocco

URBS UN3565 Cities in Developing Countries

Prerequisites: Must attend first class for instructor permission. Preference to Urban Studies majors. This lecture course examines different facets of urban development and planning in cities of the developing countries. We will begin by studying common problems in developing urban regions, gaining an understanding of common settlement patterns and urban systems in changing metropolitan areas. The class aims to formulate a repository of concepts, urban trends, and terms around the ever-growing cities of the globe. We will also focus on specific issues in representative cities of the regions studied. These particular cases, which will be selected from cities in Asia, Africa, the Middle East, Latin America and the Caribbean, will present discussions of planning and policy development regarding water and sanitation, transportation and infrastructure, historic preservation, disaster risk reduction and housing. Students will also work

in teams to analyze a particular urban problem in a developing city, and present team findings to the class via Canvas.

Credits: 3 points

Offerings: Fall semesters

Professor: Marcela Tovar

Women's Studies

WMST BC3513 Critical Animal Studies

"This course collaborates between students and professor, humans and animals, subjects and objects, to investigate the Animal Problem. What are non-human animals? How do we relate to them? How do we account for our animal nature while reconciling our cultural aspirations? What are our primary desires with respect to non-human animals?"

Credits: 4 points

Offerings: Fall semesters

Professor: Janet Jakobsen