

Fall 2020 Courses Relating to Sustainability & Environmental Awareness

Anthropology

ANTH UN1002 The Interpretation of Culture. 3 points.

The anthropological approach to the study of culture and human society. Case studies from ethnography are used in exploring the universality of cultural categories (social organization, economy, law, belief system, art, etc.) and the range of variation among human societies. Last third of the class is focused on environmental change, the Anthropocene, and climate change.

Sustainability-Focused

Credits: 3 points

Professor: Paige West

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.

Sustainability-Focused

Credits: 3 points

Professor: Camilla Sturm

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.

Sustainability-Focused

Credits: 4 points

Professor: J.C. Salyer

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.

Sustainability-Focused

Credits: 3 points

ARCH UN2101 Architectural Design: Systems and Materials.

This architectural design studio explores material assemblies, techniques of fabrication, and systems of organization. These explorations will be understood as catalysts for architectural analysis and design experimentation. Both designed objects and the very act of making are always embedded within a culture, as they reflect changing material preferences, diverse approaches to durability and obsolescence, varied understandings of comfort, different concerns with economy and ecology. They depend on multiple resources and mobilize varied technological innovations. Consequently, we will consider that making always involves making a society, for it constitutes a response to its values and a position regarding its technical and material resources. Within this understanding, this studio will consider different cultures of making through a number of exercises rehearse design operations at different scales—from objects to infrastructures.

Sustainability-Focused

Credits: 4.5 points

ARCH UN2103 Architectural Design: Environments and M.

This architectural design studio course explores modes of visualization, technologies of mediation and environmental transformations. These explorations will be used as catalysts for architectural analysis and design experimentation. Introducing design methodologies that allow

us to see and to shape environmental interactions in new ways, the studio will focus on how architecture may operate as a mediator – an intermediary that negotiates, alters or redirects multiple forces in our world: physical, cultural, social, technological, political etc. The semester will progress through three projects that examine unique atmospheric, spatial and urban conditions with the aid of multimedia visual techniques; and that employ design to develop creative interventions at the scales of an interface, space and city.

Sustainability-Focused

Credits: 4.5 points

Art History

AHIS BC3842 Design Designing.

Everything we contact has been designed. Design makes and unmakes desires on a global scale. It organizes our lives—from the way we move to the interface that tracks our movements. We've trained for the end for a while now, apocalypse is announced on every image channel. In a world, soon impossible to physically inhabit, the things we consume now consume us. The stakes have never been higher. To make a new world, we must use design. Our planet need not be disposed. It is an infrastructure for another one. To make contact with it we need to understand design as a value system for propelling possibility, not possession. The designed world requires new relation to things and fullness of use. As we read, write, experience and make our own projects, *Designing Design* helps us: acquire intimate knowledge of how we got here, recognize our historical allies and foes, and foster imagination and intelligence to live and make responsibly. This course requires no prior design experience.

Sustainability-focused

Credits: 4 points

Professor: Irena Haiduk

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.

Sustainability-focused

Credits: 4.5 points

Professor: Diana L Heller

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.

Sustainability-inclusive

Credits: 3 points

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.

Sustainability-inclusive

Credits: 3 points

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.

Sustainability-inclusive

Credits: 5 points

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.

Sustainability-inclusive

Credits: 3 points

Professor: Christian Rojas

CHEM BC3272 Advanced Inorganic Chemistry.

Prerequisites: CHEM BC3271 Inorganic Chemistry This course combines builds on the foundation developed in Inorganic Chemistry (CHEM BC3271) and applies inorganic chemical concepts and techniques to specific applications. A particular focus will be on understanding the roles of the transition metals in biological systems.

Sustainability-inclusive

Credits: 3 points

Professor: Michael Campbell

Dance

DNCE BC2564 Dance Composition: Content

Continued study of choreography as a communicative performing art form. Focuses on the exploration of ideas and meaning. Emphasis is placed on the development of personal style as an expressive medium and unity of style in each work. Group as well as solo compositions will be assigned.

Sustainability-inclusive

Credits: 3 points

Professor: Colleen Thomas

DNCE BC3338 Contact Improvisation

Prerequisites: Limited to twenty people. Examination of the gender-neutral partnering technique that is now common in contemporary dance. Focus is placed on recent improvisatory forms, sensation building, center connection and risk. Emphasis is placed on listening and sensing rather than controlling or leading.

Sustainability-inclusive

Credits: 0-1 points

Professor: Colleen Thomas

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.

Sustainability-inclusive

Credits: 3 points

Professor: Ashley Timmer

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.

Sustainability-inclusive

Credits: 4 points

Professor: Daniel Hamermesh

ECON BC3026 Econ of the Public Sector.

Prerequisites: (ECON BC3035 or ECON UN3211) The purpose of the course is to think about public policy issues through an economic lens. We will explore the basic economic foundations of individual decision-making and discuss the ways in which economists hypothesize that individuals respond to the incentives embedded within public policies. We will pay particular attention to the nature and detail of existing public policies, and use economic analysis to predict how these policies might influence behavior. We will also explore some of the relevant empirical literature on a set of policy topics, to see how these predictions hold up.

Sustainability-inclusive

Credits: 3 points

Professor: Elizabeth O Ananat

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.

Sustainability-inclusive

Credits: 4 points

Professor: John Park, Lalith Munasinghe, and Martina Jasova

ECON BC3041 Theoretical Foundations: Political Economy.

Prerequisites: An introductory course in economics or permission of the instructor. Intellectual origins of the main schools of thought in political economy. Study of the founding texts in classical political economy, Marxian economics, neoclassicism, and Keynesianism.

Sustainability-inclusive

Credits: 3 points

Professor: Andre Burgstaller, David Weiman

ECON BC3063 Senior Seminar: Logic and Limits to Economic Justice.

Prerequisites: Permission of the instructor and the completion of all courses (except for the senior requirement) required for the economics track, political economy track, or economics and mathematics majors. Exceptions to these prerequisites may be granted by the chair of the department only. Seminar sections are limited to 15 students. A topic in economic theory or policy of the instructors choice. See department for current topics and for senior requirement preference forms.

Sustainability-inclusive

Credits: 4 points

Professor: Belinda Archibong

Education

EDUC BC3050 Science in the City

Prerequisites: the instructors permission. In partnership with the American Museum of Natural History students investigate science, science pedagogical methods, and ways to use New York City as a resource for science teaching and learning. Sessions will be held at Barnard and the museum. Field trips and fieldwork required. Non-science majors pre-service elementary students and first year students, welcome. Note: Students in the Childhood Urban Teaching Program may use this course as a pedagogical elective.

Sustainability-focused

Credits: 4 points

Professor: Maria S Rivera Maulucci

English

ENGL BC3183 American Literature Since 1945

In the wake of World War II, the so-called American Century rises out of the ashes of fascism, haunted by the specter of bombs blurring the boundary between victory and defeat. An ideological civil war ensues, punctuated by literary resistance to grand narratives and their discontents. Authors include Ellison, O'Connor, Ginsberg, Bishop, Pynchon, Robinson, Merrill, Morrison, Didion, and Wallace.

Sustainability-inclusive

Credits: 3 points

Professor: Margaret S Vandenburg

Environmental Science

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.

Sustainability-focused

Credits: 4.5 points

Professor: Terryanne Maenza-Gmelch

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.

Sustainability-focused

Credits: 3 points

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.

Sustainability-focused

Credits: 3 points

Professor: Elizabeth Cook

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.

Sustainability-focused

Credits: 3 points

Professor: Brian Mailloux

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.

Sustainability-focused

Credits: 3 points

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.

Sustainability-focused

Credits: 4 points

Professor: Logan Brenner

History

HIST BC2366 Climate & History: Intersecting Science, Environment, & Society

Climate change poses an imminent threat to the future of humanity and is a crucial feature of the Anthropocene, namely the age of anthropogenic transformations of the Earth's environments on a global scale. How did we get here? History is fundamental to answer this question. This course examines the relationship between climate, scientific knowledge, and human societies. The class will first survey the role of climate as an historical actor of global history, rather than as the backdrop of political, social and economic events. In the second part of the course, we will examine the history of weather and climate science, as well as climate change denialism. The

class offers a wide range of case studies around the world of the tight relationship between climate and history. The instructor encourages all majors to register from the humanities, social sciences, and natural sciences.

Sustainability-focused

Credits: 3 points

Professor: Angelo Caglioti

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.

Sustainability-inclusive

Credits: 4 points

Professor: Lisa Tiersten

HIST BC3368 History of Sense in England & France

Examination of European understandings of human senses through the production and reception of art, literature, music, food, and sensual enjoyments in Britain and France. Readings include changing theories concerning the five senses; efforts to master the passions; the rise of sensibility and feeling for others; concerts and the patronage of art; the professionalization of the senses.

Sustainability-inclusive

Credits: 4 points

Professor: Deborah Valenze

Physical Education

PHED BC1550 Fitness Outside

The course is held completely outside, using no electricity or technology, and highlights the outdoor experience to promote good health, improve brain function, focus and memory, reduce stress, and improve self-esteem and resilience. Students experience green space and nature with an immediate lowering of stress hormones thus boosting mood and happiness. This course is

designed to provide the right amount of technique and motivation for every fitness level by combining light cardiovascular and muscular endurance exercises in an outdoor setting.

Political Science

POLS UN1601 International Politics

Lecture and discussion. The basic setting and dynamics of international politics, with emphasis on enduring impulses and processes.

Sustainability-inclusive

Credits: 4 points

Professor: Kimberly Marten

Psychology

PSYCH UN1010 Introductory Lab in Experimental Psychology

Introduction to the biological approach to the experimental study of behavior. Includes consideration of the types of biological data relevant to psychology, as well as the assumptions and logic permitting the interpretation of biological data in psychological terms.

Sustainability-Inclusive

Credits: 1.5 points

Professor: Kara Pham

Religion

RELI UN2306 Introduction to Judaism

A historical overview of Jewish belief and practice as these have crystallized and changed over the centuries. Special attention to ritual and worship, the forms of religious literature, central concepts, religious leadership and institutions, Israel among the nations.

Sustainability-Inclusive

Credits: 3 points

Professor: Beth A Berkowitz

RELI UN3321 Religion and Climate Crisis: India

Connections between dramatic climate assaults and religious practices and perspectives, taking Hindu India as an example: glaciers and floods, extreme weather, overpopulation, air and water pollution, deforestation. Hindu contexts, causes, and responses.

Sustainability-Focused

Credits: 4 points

Professor: John S Hawley

RELI GU4304 Krishna

Study of a single deity in the Hindu pantheon as illuminated in art, music, dance, drama, theological treatises, patterns of ritual, and texts both classic and modern. Special attention to Krishna's consort Radha, to Krishna's reception in the West, and to his portrayal on Indian television.

Sustainability-Inclusive

Credits: 4 points

Professor: John S Hawley

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.

Sustainability Inclusive

Credits: 3 points

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.

Sustainability-Inclusive

Credits: 3 points

Professor: Christian Siener

URBS UN3545 Junior Seminar in Urban Studies

Prerequisites: Non-majors admitted by permission of instructor. Students must attend first class. Enrollment limited to 16 students per section. General Education Requirement: Historical Studies. Introduction to the historical process and social consequences of urban growth, from the middle of the nineteenth century to the present.

Sustainability-Inclusive

Credits: 4 points

Professor: Mary Rocco, Deborah Becher