

ENVIRONMENTAL STUDIES PROGRAM

ENVIRONMENTAL STUDIES MAJOR

Chair: José Antonio Constantine

Associate Director: Sarah Gardner

Professor: N. Howe. Associate Professors: J. Constantine, L. Martin. Assistant Professors: G. Forte, B. Meché. Lecturers: S. Gardner, J. Pedroni, J. Racela. Distinguished Visiting Professor: L. von Mutius.

FACULTY AND STAFF AFFILIATES (2023-24)

- Alex Apotsos, Lecturer in Geosciences
- Lois M. Banta, Professor of Biology
- Julie C. Blackwood, Associate Professor of Mathematics
- Alice C. Bradley, Assistant Professor of Geosciences
- Nicole G. Brown, Associate Professor of Classics
- Cory E. Campbell, Instructional Technology Specialist
- Anthony Carrasquillo, Assistant Professor of Chemistry
- Gregory Casey, Assistant Professor of Economics
- Phoebe A. Cohen, Chair and Associate Professor of Geosciences
- Mea S. Cook, Associate Professor of Geosciences
- Joan Edwards, Samuel Fessenden Professor of Biology
- Laura Ephraim, Associate Professor of Political Science
- Jessica M. Fisher, Associate Professor of English
- Antonia Foias, Professor of Anthropology and Sociology
- Jennifer L. French, Rosenberg Professor of Spanish and Environmental Studies
- Matthew Gibson, Associate Professor of Economics
- Allison Gill, Assistant Professor of Biology
- Kim Gutschow, Senior Lecturer of Religion and Anthropology and Sociology
- Sarah Jacobson, Professor of Economics
- Paul Karabinos, Professor of Geosciences
- Joel Lee, Associate Professor of Anthropology
- Scott Lewis, Assistant Professor of Physical Education and Associate Director of Outing Club
- James Manigault-Bryant, Chair and Professor of Africana Studies
- Luana Maroja, Professor of Biology
- Karen R. Merrill, Professor of History
- Manuel Morales, Professor of Biology and Director of Research Hopkins Forest
- James Nolan, Chair of Anthropology and Sociology and Washington Gladden 1859 Professor of Sociology
- Kenneth Savitsky, Professor of Psychology
- Greta F. Snyder, Lecturer in Women's, Gender, and Sexuality Studies
- Claire Ting, Professor of Biology

ENVIRONMENTAL STUDIES

The Environmental Studies Program at Williams College offers a major in Environmental Studies and a concentration in Environmental Studies. The concentration is designed to complement a major in a different discipline. The critical environmental issues of our time call upon citizens to grasp complex scientific concepts, address conflicting human values, and make difficult economic, political and ethical choices. The curricular options in Environmental Studies—the major and concentration—are interdisciplinary programs designed to prepare students to understand these issues by integrating perspectives and methodologies from the natural sciences, the social sciences, and the arts and humanities, which together form a solid liberal arts foundation.

The Environmental Studies Program is housed within the Center for Environmental Studies (CES). CES manages the 2600-acre Hopkins Memorial Forest and the Environmental Analysis Laboratory in the Morley Science Laboratory, both of which afford many opportunities for hands-on environmental field work and lab experience. CES also sponsors a wide range of programs including the Friday Log Lunch Speaker Series, The Class of 1960 Scholars Program, the Hopkins Forest Caretaker Program, and the CES Summer Grants Program, which provides generous support for summer research and internships. The Center for Environmental Studies is housed in the Class of 1966 Environmental Center, a renovated historic structure certified as a Living Building Challenge by the International Living Future Institute.

LEARNING GOALS

Environmental Studies students are encouraged to examine environmental issues in the vicinity of Berkshire County, other regions of the US, and the world. Many of the courses include an experiential component so that students encounter the complexities of environmental issues firsthand and learn to address all aspects of environmental challenges.

Incoming students with an interest in Environmental Studies should consider taking ENVI 101: Nature and Society during their first year at Williams. This gateway course is required for the major and the concentration and provides an intellectual framework for critical, interdisciplinary environmental inquiry in the social sciences and humanities while surveying the most pressing environmental problems of our time. In the spring, many first-year students also take ENVI 102: Introduction to Environmental Science, which provides an overview of the discipline in the context of the interconnected global earth system: the geosphere, atmosphere, hydrosphere, and biosphere. In this class, students are introduced to scientific methods from physics, chemistry, geology, and biology that are used to examine real-world case studies at global and local scales.

While ENVI 101 is a recommended starting point for both the major and the concentration, many students come to Environmental Studies through an interest in applying a specific discipline to environmental problems. Students with strong interests in more traditional disciplines such as biology, chemistry, geosciences, or economics are advised to begin the introductory course sequence for those subjects in their first semester as well. These students have two main options: a major in a traditional discipline with a concentration in Environmental Studies—a popular choice for students who wish to attend graduate school in the so-called “hard sciences”—or a double major.

The Environmental Studies Program also serves as the on-campus base for the Williams-Mystic Program, an extraordinary maritime studies program housed at Williams Mystic Campus on the Atlantic coast in Connecticut. Students who wish to pursue a concentration in Coastal and Ocean Studies combine a one-semester course of study at the Williams-Mystic campus with core courses and elective courses as described in the college catalog. Students may spend a semester at the Mystic campus in either the sophomore, junior, or senior year; choosing which semester to spend at Mystic should be done in consultation with a member of the Coastal and Ocean Studies advisory committee.

Students interested in the Environmental Studies major or concentration are encouraged to consult with members of the Environmental Studies Program and to contact the Environmental Studies Chair (jac9@williams.edu) or Associate Director (sgardner@williams.edu).

STUDY AWAY

Many study away options are available to students in Environmental Studies, including the Williams-Mystic Maritime Studies Program. Students considering either a semester or year away who intend to major in Environmental Studies should consult the Chair or Associate Director of Environmental Studies and the Dean in charge of study abroad as early as possible to discuss their options. Students may take up to two courses outside of Williams toward their major, but must have approval in writing from the Chair of Environmental Studies.

THE MAJOR IN ENVIRONMENTAL STUDIES

The Environmental Studies major is a ten-course major. All majors are required to take ENVI 101 and ENVI 102; three “foundational” courses in the sciences, social sciences, and humanities (one in each category chosen from a list of options); and one 400-level seminar (chosen from a list of options). In addition to these six core courses, students select four electives, three of which must be from one of the main curricular areas (sciences, social sciences, and humanities).

ENVI 101 – Nature and Society: An Introduction to Environmental Studies, establishes an intellectual framework for interdisciplinary environmental thinking in the humanities, policy studies, and social sciences. ENVI 102 – Introduction to Environmental Science, introduces students to the interdisciplinary study of the Earth’s systems through the synthesis of physical, chemical, geological, and biological perspectives. Students with a score of 5 on the AP Environmental Science exam may take a 200-level environmental science lab course (cross-listed with Environmental Studies) in lieu of ENVI 102.

In addition to 101 and 102, all majors must take three more advanced “foundational” courses in the three main branches of the environmental curriculum: humanities, social science and policy, and environmental science—one from each of three lists of courses (see below).

Building on this five-course foundation, Environmental Studies majors gain depth in their chosen area of study by taking three electives from one of the three main curricular branches, plus a fourth elective from another branch to provide cross-disciplinary breadth. These electives should be chosen in close consultation with a faculty adviser to ensure intellectual coherence and academic rigor.

In their junior or senior year, students choose a 400-level senior seminar (or “research practicum”) that focuses on advanced, interdisciplinary research and/or problem-solving, typically with an applied, experiential, and/or service-learning focus.

ADVISING

Majors (or first-years and sophomores interested in the major offered by CES) are encouraged to talk at any time with the Chair, Associate Director of Environmental Studies, or any other Environmental Studies faculty. All incoming majors will be assigned a faculty advisor in the spring of their sophomore year.

Planning for Prerequisites on your Path through the Major

While ENVI 101 or ENVI 102 are recommended starting points for the major, and are prerequisites for many other ENVI course offerings, please note that some of the course options for the major may have other courses as prerequisites that may not count toward the programs. For example, ENVI/ECON 213 (*Intro to Environmental and Natural Resource Economics*) has a prerequisite of ECON 110 (*Principles of Microeconomics*). We strongly suggest that you do advance planning to avoid being blocked from taking a relevant course.

Credit for AP, IB, A-levels and other pre-Williams Courses

Students are not allowed to place out of ENVI 101. Students with a score of 5 on the AP Environmental Science exam may take a 200-level environmental science lab course (cross-listed with Environmental Studies) in lieu of ENVI 102.

Introductory Required Courses (2 courses)

ENVI 101 Nature and Society: An Introduction to Environmental Studies

ENVI 102 Introduction to Environmental Science

Foundational Required Courses for all Environmental Studies Majors (3 courses, 1 from each category)

Culture/Humanities Foundational (1 course)

[ENVI 229 / HIST 264 SEM Environmental History](#)

Taught by: [Laura Martin](#)

[Catalog details](#)

[ENVI 244 / PHIL 244\(S\) TUT Environmental Ethics](#)

Taught by: [Julie Pedroni](#)

[Catalog details](#)

[ENVI 260 / ARTS 261 SEM Design and Environmental Justice](#)

Taught by: [Giuseppina Forte](#)

[Catalog details](#)

[ENVI 298\(F\) SEM Cultural Geography](#)

Taught by: [Nicolas Howe](#)

[Catalog details](#)

Environmental Science Foundational (with lab, 1 course)

[BIOL 203 / ENVI 203\(F\) LEC Ecology](#)

Taught by: [Manuel Morales](#)

[Catalog details](#)

[CHEM 363 / ENVI 363\(F\) LEC Environmental Fate of Organic Chemicals](#)

Taught by: [Anthony Carrasquillo](#)

[Catalog details](#)

[GEOS 215 / CAOS 215 LEC Climate Changes](#)

Taught by: [Mea Cook](#)

[Catalog details](#)

[GEOS 301 / ENVI 331\(S\) LEC Geomorphology](#)

Taught by: [Chris Halsted](#)

[Catalog details](#)

[GEOS 309 / CAOS 309 LEC Modern Climate](#)

Taught by: [Alice Bradley](#)

[Catalog details](#)

Social Science/Policy Foundational (1 course)

[ECON 213 / CAOS 213 / ENVI 213\(S\) LEC Introduction to Environmental and Natural Resource Economics](#)

Taught by: [Sarah Jacobson](#)

[Catalog details](#)

[ENVI 269 / CAOS 269\(F\) LEC Environmental Law and Policy](#)

Taught by: [Lindi von Mutius](#)

[Catalog details](#)

[ENVI 275 / STS 275 SEM Environmental Science, Policy, and Justice](#)

Taught by: [Laura Martin](#)

[Catalog details](#)

[ENVI 288 / GBST 288\(F\) SEM Environmental Security: Policy Dilemmas and Solutions](#)

Taught by: [Brittany Meché](#)

[Catalog details](#)

[ENVI 297 / GBST 287 SEM Global Sustainable Development](#)

Taught by: [Brittany Meché](#)

[Catalog details](#)

[ENVI 319\(S\) LEC The Law and Policy of Climate Change](#)

Taught by: [Lindi von Mutius](#)

[Catalog details](#)

Electives (4 courses)

Four electives from three lists of approved courses in Environmental Studies or cross-listed courses in other units. These three lists correspond with the three categories of foundational courses (e.g. environmental science, social science and policy, culture and humanities). Students must choose at least three of these four electives from one list, ensuring depth in their general area of interest. See the Environmental Studies Program website for up-to-date lists of electives in each category.

Senior Seminar Required Course (1 course)

In the junior or senior year, students take one 400-level seminar in Environmental Studies. One of these seminars, Environmental Planning, is offered every fall. The others are offered regularly on rotation. These seminars focus on advanced, interdisciplinary research and/or problem-solving, typically with an applied, experiential, and/or service-learning focus.

INDEPENDENT STUDY AND WINTER STUDY

In addition to courses fulfilling the Environmental Studies major requirements, the following courses are offered:

- ENVI 397, 398 Independent Study of Environmental Problems
- ENVI 493-W31-494 Honors Thesis and Senior Research

Winter Study courses play an important role in the program, offering opportunities to learn about aspects of environmental studies with which students would like to become more familiar. We encourage students to bear in mind their interests in the environment and maritime studies when reviewing each year's Winter Study offerings.

HONORS IN ENVIRONMENTAL STUDIES MAJOR

A student pursuing either the major or concentration in Environmental Studies can pursue an honors thesis, which is a year-long project conducted over the fall semester, Winter Study, and spring semester of the senior year. Given the breadth of environmental studies, a thesis may follow a variety of formats. In general, it is a good idea for the student to use the thesis to build upon prior coursework and/or prior research, internship, or activism experience, and many students conduct thesis research during the summer before senior year. Students completing an Environmental Studies thesis may elect to opt out of the ENVI Senior Seminar.

Prospective thesis students should submit their proposals by the first week of April in their Junior year. However, students who plan to request a CES-ENVI summer student research/internship grant should have their proposals completed by the end of spring break to ensure that applications for summer funding can be made in a timely fashion. The ENVI Advisory Committee will review all thesis proposals and will notify students of decisions by the end of April.

Prospective thesis students should identify and work with an advisor to prepare the thesis proposal. Potential advisors may be any faculty member or affiliate of the Environmental Studies Program. If the advisor is a faculty affiliate, the student should also identify an ENVI faculty member to serve as second reader. The second reader provides additional guidance throughout the thesis process and evaluates the final product along with the thesis advisor. In cases when a prospective thesis student is unable to identify a thesis advisor, they should reach out to the chair for guidance.

The Environmental Studies Program will endeavor to facilitate networking among students who are working on theses in the same semester so that a thesis cohort can support each other through the research and writing process. The final thesis will be evaluated by the thesis advisor and in some cases a second reader, who will then decide to award no Honors, Honors or, in recognition of exceptional work, Highest Honors. When submitting your thesis to Williams' library archive, please be sure to follow the Special Collections guidelines.

COURSES IN ENVIRONMENTAL STUDIES

ENVI 100 Introduction to Weather and Climate (QFR)

How is it that we have such a hard time predicting if it's going to rain next week, but we can be confident in projections of future climate change decades from now? This course will explore how fundamental laws of physics determine why air moves and changes, creating the wind, clouds, precipitation, and extreme events that form our weather. Building off of our understanding of the atmosphere, we'll look at longer time scales to develop an understanding of earth's climate system, global heat and moisture transport, climate change, and the ways that humans can change our planet. We will use weather and climate models to learn how scientists and meteorologists predict future conditions. Labs include benchtop experiments, data analysis projects, and self-scheduled meteorological observations. This course is in the Oceans and Climate group for the Geosciences major.

Requirements/Evaluation: weekly problem sets, lab assignments, midterm exam, and final exam

Prerequisites: none

Enrollment Limit: 60

Enrollment Preferences: first year and second year students, Geosciences majors

Expected Class Size: 60

Grading:

Distributions: (D3) (QFR)

Quantitative/Formal Reasoning Notes: This course will have regular problem sets which require substantial quantitative reasoning. Labs will require analysis, presentation, and explanation of quantitative data, and exams will require some quantitative problem solving.

Attributes: ENVI Natural World Electives EXPE Experiential Education Courses

Not offered current academic year

ENVI 101 (F)(S) Nature and Society: An Introduction to Environmental Studies

Environment and society interact on scales from the local to the global. This course explores these interactions and introduces students to the interdisciplinary methods of environmental studies. We will investigate the social, political, and historical aspects of environmental problems -- including environmental racism, species extinction, climate change, massive urbanization -- as well as their possible solutions. Throughout the course, we will ask how unequal distributions of power affect people and environments. Case studies, readings, discussions, and field exercises will help students develop their understanding of how built and unbuilt environments influence and are influenced by human activities.

Requirements/Evaluation: participation, in-class exercises, several short writing assignments (varying from 2-5 pages), mid-term exam, final exam

Prerequisites: none

Enrollment Limit: 30/section

Enrollment Preferences: Environmental Studies majors and concentrators

Expected Class Size: 30/section

Grading: yes pass/fail option, yes fifth course option

Unit Notes: required course for the Environmental Studies major and concentration

Distributions: (D2)

Attributes: AMST Space and Place Electives ENVI Core Courses EVST Core Courses GBST Urbanizing World

Fall 2024

LEC Section: 01 TF 2:35 pm - 3:50 pm

Spring 2025

LEC Section: 01 TR 8:30 am - 9:45 am Giuseppina Forte

ENVI 102 (S) Introduction to Environmental Science

Environmental Science is an interdisciplinary field that develops scientific and technical means for assessing and mitigating human impacts on the environment. This course provides an overview of the discipline in the context of the interconnected global earth system: the geosphere, atmosphere, hydrosphere, and biosphere. Students are introduced to scientific methods from physics, chemistry, geology, and biology that are used to examine

real-world case studies at global and local scales. Topics may include: climate change, air and water pollution, resource extraction and management, land use change, and their effects on environmental quality, biodiversity, and human health. During weekly fieldwork and laboratory sessions, students gain hands-on experience in collecting, analyzing, and interpreting data that can be used to make recommendations for addressing local environmental issues.

Class Format: Two 75-minute lecture/discussion sessions and one 3-hour field/laboratory session each week.

Requirements/Evaluation: Weekly quizzes, final project, lab assignments, participation

Prerequisites: none

Enrollment Limit: 48

Enrollment Preferences: first- and second-year students, Environmental Studies majors and concentrators

Expected Class Size: 48

Grading: yes pass/fail option, yes fifth course option

Unit Notes: Required course for Environmental Studies major and concentration

Distributions: (D3)

Attributes: ENVI Core Courses EVST Core Courses EXPE Experiential Education Courses

Spring 2025

LEC Section: 01 TR 9:55 am - 11:10 am Anthony J. Carrasquillo

LAB Section: 02 T 1:00 pm - 4:00 pm Anthony J. Carrasquillo

LAB Section: 03 W 1:00 pm - 4:00 pm Jay Racela

LAB Section: 04 R 1:00 pm - 4:00 pm Jay Racela

ENVI 103 (F) Global Warming and Environmental Change

Cross-listings: GEOS 103

Secondary Cross-listing

Earth is the warmest it has been for at least five centuries, and the surface of our planet is responding. From extreme floods and drought to landslides and wildfires, the natural processes that shape Earth's surface are tied to temperature and precipitation. People are beginning to feel the impacts, but in different ways depending on where they call home. In this course, we will investigate how climate change is altering landscapes and the natural processes that support them, highlighting all the ways that people are being affected today. Ultimately, we will develop an understanding of the consequences of climate change that connects physical processes with geography. Specific topics include foundations of the Earth system, plate tectonics and the construction of landscapes, Earth materials, rivers and flooding, hillslope processes, coastal processes, and climate impacts on natural resources such as fresh water and soil. Labs will use local field sites and analytical exercises to evaluate recent cases that reflect an interaction of the landscape and climate. We will also visit and engage with Black communities and community leaders across New England who are grappling with the unjust distribution of resources to mitigate climate impacts and who have been disproportionate bearers of environmental risk.

Requirements/Evaluation: written reports from laboratories and readings, class participation, a midterm and final exam

Prerequisites: none

Enrollment Limit: 48

Enrollment Preferences: first year and second year students, Geosciences majors and Environmental Studies majors and concentrators

Expected Class Size: 48

Grading: yes pass/fail option, no fifth course option

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

GEOS 103(D3) ENVI 103(D3)

Attributes: ENVI Natural World Electives EXPE Experiential Education Courses

Not offered current academic year

ENVI 104 (F) Oceanography

Cross-listings: GEOS 104 / CAOS 104

Secondary Cross-listing

The oceans cover three quarters of Earth's surface, yet oceanography as a modern science is relatively young: the first systematic explorations of the geology, biology, physics and chemistry of the oceans began in the late 19th century. This introduction to ocean science includes the creation and destruction of ocean basins with plate tectonics; the source and transport of seafloor sediments and the archive of Earth history they contain; currents, tides, and waves; photosynthesis and the transfer of energy and matter in ocean food webs; the composition and origin of seawater, and how its chemistry traces biological, physical and geological processes; oceans and climate change; and human impacts.

Class Format: two 75-minute lecture/discussion meetings each week; 2-hour lab every second week; one all-day field trip to the Atlantic coast of New England.

Requirements/Evaluation: lab activities, homework, reading-comprehension quizzes, three tests

Prerequisites: none

Enrollment Limit: 48

Enrollment Preferences: first year and second year students, Geosciences majors, Maritime Studies concentrators

Expected Class Size: 48

Grading: yes pass/fail option, yes fifth course option

Unit Notes: This course and GEOS 110 Oceans and Society cannot both be taken for credit.

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 104(D3) GEOS 104(D3) CAOS 104(D3)

Attributes: ENVI Natural World Electives EXPE Experiential Education Courses

Fall 2024

LEC Section: 01 TR 9:55 am - 11:10 am Chris Halsted

LAB Section: 02 T 1:00 pm - 3:00 pm Chris Halsted

LAB Section: 03 W 1:00 pm - 3:00 pm Chris Halsted

ENVI 105 (S) The Co-Evolution of Earth and Life

Cross-listings: GEOS 101

Secondary Cross-listing

Our planet is about 4.6 billion years old and has supported life for at least the last 3.5 billion of those years. This course will examine the relationship between Earth and the life that inhabits it, starting with the first living organisms and progressing to the interaction of our own species with the Earth today. Students will investigate the dynamic nature of the Earth-life system and learn about the dramatic changes that have occurred throughout the history of our planet. We will ask questions such as: How did the Earth facilitate biologic evolution, and what effects did those biologic events have on the physical Earth? When did photosynthesis evolve and how did this biological event lead to profound changes in the world's oceans and atmospheres? How and why did animals evolve and what role did environmental change play in the radiation of animal life? How did the rise and spread of land plants affect world climate? How do plate tectonics, glaciation, and volcanism influence biodiversity and evolutionary innovation? What caused mass extinctions in the past and what can that teach us about our current extinction crisis? Labs will involve hands-on analysis of rocks, fossils, and real-world data as well as conceptual and analytical exercises; field trips will contextualize major events in Earth history and will help students learn to read the rock record. Through these investigations, the class will provide a comprehensive overview of Earth's dynamic history.

Class Format: one laboratory per week plus one all-day field trip

Requirements/Evaluation: lab assignments, weekly quizzes, and a final independent project

Prerequisites: none

Enrollment Limit: 30

Enrollment Preferences: first year and second year students, Geosciences majors

Expected Class Size: 30

Grading: yes pass/fail option, no fifth course option

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 105(D3) GEOS 101(D3)

Attributes: ENVI Natural World Electives EXPE Experiential Education Courses

Spring 2025

LEC Section: 01 TR 9:55 am - 11:10 am Phoebe A. Cohen

LAB Section: 02 T 1:00 pm - 3:00 pm Phoebe A. Cohen

ENVI 108 (S) Energy Science and Technology (QFR)

Cross-listings: PHYS 108

Secondary Cross-listing

Energy use has skyrocketed in the United States and elsewhere in the world, causing significant economic and political shifts, as well as concerns for the environment. This course will address the physics and technology of energy generation, consumption, and conservation. It will cover a wide range of energy sources, including fossil fuels, hydropower, solar energy, wind energy, and nuclear energy. We will discuss energy use in transportation, manufacturing, building heating and lighting, and energy storage. Students will learn to compare the efficiencies and environmental impacts of various energy sources and uses.

Class Format: Two meetings per week. Some weeks that means two lectures. Other weeks, that means one lecture plus one lab, with the class divided between two lab sections.

Requirements/Evaluation: weekly assignments, two hour tests, and a final project culminating in an oral presentation to the class and a 10-page paper; all of these will be substantially quantitative

Prerequisites: high school physics, high school chemistry, and mathematics at the level of MATH 130

Enrollment Limit: 10 per lab

Enrollment Preferences: non-physics majors

Expected Class Size: 20

Grading: yes pass/fail option, yes fifth course option

Distributions: (D3) (QFR)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 108(D3) PHYS 108(D3)

Quantitative/Formal Reasoning Notes: problems sets, exams, and projects will all have a quantitative aspects.

Attributes: ENVI Natural World Electives

Spring 2025

LEC Section: 01 MR 1:10 pm - 2:25 pm Protik K. Majumder

LAB Section: 02 R 1:10 pm - 2:25 pm Protik K. Majumder

LAB Section: 03 R 2:25 pm - 3:50 pm Protik K. Majumder

ENVI 109 (F) Oceans and Society

Cross-listings: GEOS 110 / CAOS 110

Secondary Cross-listing

Oceans impact society in many ways: they provide much of our protein, they hide untapped mineral wealth, their circulation regulates global climate, they transport and accumulate our plastic garbage, marine storms batter coastal infrastructure, and sea-level rise threatens communities. However, despite the oceans' importance throughout history--for trade, as a source of food, and because of their unpredictable dangers--we know shockingly little about them. More than 6000 people have reached the summit of Everest, Earth's highest elevation; but only 22 have visited Challenger Deep, the deepest point below the ocean surface. We have mapped the surfaces of Mars and Venus in far more detail than the topography of Earth's ocean basins. New marine organisms are discovered regularly. And we still don't fully understand the complex details of how ocean and atmosphere work

together as the planet's climate engine. In this course, you will examine ocean science themes with direct societal relevance that are also at the forefront of scientific investigation. Topics will be selected based on current events, but are likely to include deep sea mining, meridional overturning, sea level rise, atmospheric rivers, and aquaculture. By taking focused dives into a range of subjects you will learn about the evolution and operation of the ocean as a physical and geological system as well as investigating the intersections between ocean functions, climate change, and human societies. Exercises and discussions will foreground active learning. A field trip to the Atlantic coast will integrate experiential investigation of the intersection between coastal change, extreme weather, and communities. The aim is to have energised interdisciplinary discussions about topics of pressing societal relevance, to understand some of the fundamentals of ocean science, to develop expertise in gathering and distilling information by researching new topics, and thereby to improve critical and analytical thinking.

Class Format: Two 75-minute lecture/discussion meetings each week; 2-hour lab every second week; one all-day field trip to the Atlantic coast.

Requirements/Evaluation: Evaluation is based on engagement with in-class activities, six graded lab exercises, four short writing/research assignments, and a five-page term paper

Prerequisites: none

Enrollment Limit: 60

Enrollment Preferences: First year and second year students

Expected Class Size: 60

Grading: yes pass/fail option, yes fifth course option

Unit Notes: This course and GEOS 104 Oceanography cannot both be taken for credit.

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

GEOS 110(D3) CAOS 110(D3) ENVI 109(D3)

Attributes: ENVI Natural World Electives EXPE Experiential Education Courses MAST Interdepartmental Electives

Not offered current academic year

ENVI 134 The Tropics: Biology and Social Issues (DPE)

Biology and Social Issues of the Tropics explores the biological dimensions of social and environmental issues in tropical societies, focusing specifically on the tropics of Africa, Asia, Latin America, Oceania, and the Caribbean. Social issues are inextricably bound to human ecologies and their environmental settings. Each section of the course provides the science behind the issues and ends with options for possible solutions, which are debated by the class. The course highlights differences between the tropics and areas at higher latitudes while also emphasizing global interconnectedness. It begins with a survey of the tropical environment, including a global climate model, variation in tropical climates and the amazing biodiversity of tropical biomes. The next section focuses on human population biology, and emphasizes demography and the role of disease particularly malaria, AIDS and Covid-19 (SARS-CoV-2). The final part of the course covers the place of human societies in local and global ecosystems including the challenges of tropical food production, the interaction of humans with their supporting ecological environment, and global climate change. This course fulfills the DPE requirement. Through lectures, debates and readings, students confront social and environmental issues and policies from the perspective of biologists. This builds a framework for lifelong exploration of human diversity in terms of difference, power and equity.

Class Format: Debate

Requirements/Evaluation: two hour exams, a short paper, debate presentation, and a final exam

Prerequisites: none

Enrollment Limit: 62

Enrollment Preferences: Preference will be given to Environmental Studies majors/concentrators, students in need of a Division III or DPE requirement, and then Seniors, Juniors, Sophomores, and First Year students.

Expected Class Size: 62

Grading:

Unit Notes: Does not count for credit in the Biology major.

Distributions: (D3) (DPE)

Difference, Power, and Equity Notes: This course highlights differences between the tropics and higher latitudes. For each section we focus on difference--different natural habitats and biodiversity, different patterns of population growth, different human disease profiles, different types of agriculture and different contributions to and impacts of climate change. For each section we highlight differences in power and the inequities of

resource distribution. We then debate potential solutions to ameliorate these inequities.

Attributes: ENVI Natural World Electives GBST African Studies PHLH Biomedical Determinants of Health

Not offered current academic year

ENVI 201 (S) The Geoscience of Epidemiology and Public Health (DPE)

Cross-listings: GEOS 207

Secondary Cross-listing

The Coronavirus pandemic has highlighted the many ways that diseases can be transmitted in the environment. As a society we are becoming aware of the many ways that geological processes and materials influence human health, in ways both beneficial and dangerous. This course unites geoscience, biomedicine and public health approaches to address a wide range of environmental health problems. These include water-related illnesses (e.g. diarrhea, malaria); minerals and metals, both toxic (e.g. asbestos, arsenic) and essential (e.g. iodine); radioactive poisoning (e.g. radon gas); and the transport of pathogens by water and wind. In many cases, the environmental health problems disproportionately affect marginalised populations, contributing to greater disease and death among poor communities and populations of colour. We will examine the broad array of dynamic connections between human health and the natural world. We will discuss the social justice implications of a range of environmental health problems. And we will examine current research into how coronaviruses, such as the one causing COVID-19, are transported in the environment. This course is in the Sediments and Life group for the Geosciences Major.

Requirements/Evaluation: Evaluation will be based on short weekly writing assignments as well as an individual project and poster presentation.

Prerequisites: No prerequisites

Enrollment Limit: 34

Enrollment Preferences: Preference to first-years, sophomores, and prospective Geosciences majors

Expected Class Size: 30

Grading: yes pass/fail option, yes fifth course option

Distributions: (D3) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 201(D3) GEOS 207(D3)

Difference, Power, and Equity Notes: Through a series of case studies, we will examine ways in which marginalised groups (whether due to poverty, race, or ethnicity) are disproportionately affected by environmental health issues. Themes of power and equity in terms of decision making, access to knowledge, and funding availability, will be woven into all aspects of the class and will underpin our analysis of the science.

Attributes: ENVI Natural World Electives GEOS Group B Electives - Sediments + Life PHLH Nutrition, Food Security+Environmental Health

Not offered current academic year

ENVI 202 (F) Critical Practice of Architecture: Theories, Methods, and Techniques (DPE)

Cross-listings: ARTS 222

Secondary Cross-listing

In this course, students will transform an architectural or urban space through design interventions that contribute to reorienting public perception, imagination, and politics. Skills taught include methods and techniques for critical architecture practice, including architecture drawing, 2D graphic design, and 3D modeling (digital and physical). Students will also build on design strategies (e.g., spatial hijacking and détournement), community architecture, and visual techniques to rethink normative understandings of space and time. Through selected readings and discussions, we will examine key ideas that have inspired design thinking and activism. The class culminates in a presentation to external reviewers and a final exhibition.

Requirements/Evaluation: This is an intensive studio tutorial requiring working in the architecture studio and/or PC lab outside of scheduled class hours. The class will meet in large and small groups throughout the semester for critique and discussion. Assignments include weekly discussions and design projects requiring drawings and model design. Final project: design project to reorient public perception, imagination, and politics. Evaluation will be based on the design quality at theoretical/conceptual levels.

Prerequisites: Drawing I or permission of instructor.

Enrollment Limit: 12

Enrollment Preferences: Studio Art majors, Art History and Studio Art majors, Envi majors and concentrators

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Materials/Lab Fee: \$350-\$450 lab fee charged to term bill. Lab and materials fees for all studio art classes are covered by the Book Grant for all Williams financial aid recipients.

Distributions: (D1) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

ARTS 222(D1) ENVI 202(D1)

Difference, Power, and Equity Notes: This design studio invites students to think critically about how power, equity, and difference are manifested through the built environment. It will equip them with the tools to become active agents of change through design activism. We will use design as a cultural practice and creative technique to envision more just and equitable futures through interventions in architectural or urban spaces.

Attributes: ENVI Humanities, Arts + Social Science Electives

Fall 2024

STU Section: 01 TR 9:55 am - 11:10 am Giuseppina Forte

ENVI 203 (F) Ecology (QFR)

Cross-listings: BIOL 203

Secondary Cross-listing

This course combines lectures & discussion with field and indoor laboratory activities to explore factors that determine the distribution and abundance of plants and animals in natural systems. The course begins with an overview of global environmental patterns and then builds from the population to ecosystem level. Throughout the course, we will emphasize the connection between basic ecological principles and current environmental issues. Selected topics include population dynamics (competition, predation, mutualism); community interactions (succession, food chains and diversity) and ecosystem function (biogeochemical cycles, energy flow). Laboratory activities are designed to engage students in the natural history of the region and build skills in data analysis and scientific writing.

Requirements/Evaluation: pre-class quizzes, lab reports, two mid-term exams, and a final exam

Prerequisites: BIOL 102, or ENVI 102, or permission of instructor

Enrollment Limit: 30

Enrollment Preferences: students planning to pursue Biology and/or ENVI

Expected Class Size: 30

Grading: yes pass/fail option, yes fifth course option

Distributions: (D3) (QFR)

This course is cross-listed and the prefixes carry the following divisional credit:

BIOL 203(D3) ENVI 203(D3)

Quantitative/Formal Reasoning Notes: Much of the material in this course centers on the interpretation and application of mathematical models used to describe ecological systems. The laboratory section of this course also contains a large data analysis component (based in R). Students are introduced to linear models, multidimensional data analysis and contingency tables.

Attributes: ENVI Natural World Electives EVST Environmental Science

Fall 2024

LEC Section: 01 TR 8:30 am - 9:45 am Manuel A. Morales

LAB Section: 02 T 1:00 pm - 3:50 pm Manuel A. Morales

LAB Section: 03 W 1:00 pm - 3:50 pm Manuel A. Morales

ENVI 208 (S) Saharan Imaginations (DPE) (WS)

Cross-listings: ARAB 209 / COMP 234

Secondary Cross-listing

Deconstructing reductive Saharanism, which the course conceptualizes as a universalizing discourse about deserts, this course seeks to critically examine the myriad assumptions that are projected upon deserts across times and cultures. In addition to their depiction as dead and empty, deserts have become a canvas for the demonstration of religiosity, resilience, heroism and athleticism. Cultural production, particularly literature and film, do, however, furnish a critical space in which important questions can be raised about deserts' fundamental importance to different cultures and societies. Drawing on novels, films, and secondary scholarship, the course will help students understand how myth, memory, history, coloniality/postcoloniality, and a strong sense of ethics are deeply intertwined in the desert sub-genre of African, Euro-American, and Middle Eastern literatures. Whether grappling with transcontinental issues of climate change, cannibalization of biodiversity or overexploitation of natural resources, desert-focused cultural production invites us to interrogate the politics of space and place as well as mobility and spatial control as they relate to this supposedly dead nature.

Requirements/Evaluation: active participation, short presentation, short weekly responses on GLOW, midterm exam, and final paper

Prerequisites: none

Enrollment Limit: 14

Enrollment Preferences: If the course is over-enrolled, students will be required to provide a 200-word paragraph in which they explain how the course fits within their plan of study at Williams.

Expected Class Size: 14

Grading: no pass/fail option, no fifth course option

Distributions: (D1) (DPE) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:

ARAB 209(D1) COMP 234(D1) ENVI 208(D1)

Writing Skills Notes: Students will receive constant and extensive feedback on their written work. Students will write regular weekly responses on Glow, a reflection statement, two 5pp. papers for midterms, and one 10pp. final paper.

Difference, Power, and Equity Notes: Students will gain critical awareness of the imbrication of power, hegemony, economic injustice, and colonial policies in the disruption of indigenous conceptions of the Saharan space. Students will also be able to question representations of the Sahara as a dead or empty space by engaging with locally produced alternative conceptualizations of place. Finally, students will produce written assignments that address issues of power and environmental discrimination.

Attributes: ENVI Humanities, Arts + Social Science Electives

Spring 2025

SEM Section: 01 MR 2:35 pm - 3:50 pm Brahim El Guabli

ENVI 209 Modern Climate (QFR)

What will happen to the Earth's climate in the next century? What is contributing to sea level rise? Is Arctic sea ice doomed? In this course we will study the components of the climate system (atmosphere, ocean, cryosphere, biosphere and land surface) and the processes through which they interact. Greenhouse gas emission scenarios will form the basis for investigating how these systems might respond to human activity. This course will explore how heat and mass are moved around the atmosphere and ocean to demonstrate how the geographic patterns of climate change arise. We will also focus on climate feedback effects--like the albedo feedback associated with sea ice and glacier loss--and how these processes can accelerate climate change. In labs we will learn MATLAB to use process and full-scale climate models to investigate the behavior of these systems in response to increasing greenhouse gasses in the atmosphere. This course is in the Oceans and Climate group for the Geosciences major.

Requirements/Evaluation: 4 multi-week lab projects and several short quizzes

Prerequisites: Any of GEOS 100, GEOS 103, ENVI 102, GEOS 215, or permission of instructor

Enrollment Limit: 20

Enrollment Preferences: GEOS and ENVI majors

Expected Class Size: 20

Grading:

Distributions: (D3) (QFR)

Quantitative/Formal Reasoning Notes: Lab projects consist of a series of numerical climate modeling projects, which require significant quantitative and logical reasoning.

Attributes: ENVI Natural World Electives EVST Environmental Science GEOS Group A Electives - Climate + Oceans

Not offered current academic year

ENVI 211 (S) Race, Environment, and the Body

Cross-listings: SOC 211 / AMST 211 / AFR 211

Secondary Cross-listing

This course is organized around three distinct, but overlapping, concerns. The first concern is how polluting facilities like landfills, industrial sites, and sewage treatment plants are disproportionately located in communities of color. The second concern is the underlying, racist rationales for how corporations, in collaboration with state agencies, plot manufacturers of pollution. The final concern is how the environmental crises outlined in the first two sections of the course are experienced in the body. In reviewing a range of Black cultural productions--like literature, scholarship, music, and film--we will not only consider how environmental disparities physically affect human bodies, but also how embodiments of eco-crises lend to imaginaries of the relationship between the self and the natural world.

Class Format: discussion

Requirements/Evaluation: class participation, 2-3 short papers (5-7 pages), and a self-scheduled final

Prerequisites: none

Enrollment Limit: 20

Enrollment Preferences: preference given to AFR concentrators, ENVI concentrators and majors, and ANSO majors.

Expected Class Size: 20

Grading: no pass/fail option, no fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 211(D2) SOC 211(D2) AMST 211(D2) AFR 211(D2)

Attributes: AFR Core Electives AMST Comp Studies in Race, Ethnicity, Diaspora AMST Space and Place Electives ENVI Humanities, Arts + Social Science Electives PHLH Nutrition, Food Security+Environmental Health PHLH Social Determinants of Health

Not offered current academic year

ENVI 212 (F) The Economics and Ethics of CO2 Offsets (WS)

Cross-listings: ECON 214

Secondary Cross-listing

Some electric utilities and other CO2 emission polluters are allowed to purchase carbon offsets to achieve a portion of their mandated emissions cuts, in effect, to pay others to reduce carbon emissions in their stead. Some individuals, college and universities, and for-profit and non-profit institutions have chosen voluntarily to purchase carbon offsets as a way of reducing their carbon footprint. But do offsets actually succeed in reducing carbon emissions? What separates a legitimate offset from one that is not? How should we measure the true impact of an offset? How do carbon offsets compare to other policies for reducing carbon emissions in terms of efficiency, equity, and justice? Is there something inherently wrong about "commodifying" the atmosphere? Is there something inherently wrong about selling or buying the right to pollute? Should colleges and universities be using the purchase of offsets to achieve "carbon neutrality?"

Class Format: Each student will be the tutorial partner of one other student, and each pair of tutorial partners will meet with the instructor for 75 minutes each week.

Requirements/Evaluation: a 5- to 7-page paper every other week; a 3-page written critique every other week; one re-write paper

Prerequisites: ECON 110 or the equivalent, permission of instructor

Enrollment Limit: 10

Enrollment Preferences: first-year students and sophomores intending to major in Economics and/or to major or concentrate in Environmental Studies

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Distributions: (D2) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:

ECON 214(D2) ENVI 212(D2)

Writing Skills Notes: Each student will write five 5-7 page papers on which I will provide written feedback regarding grammar, style, and argument. Each student will write five 3-page critiques of their partner's papers. As the final assignment, each student will revise one of their five papers.

Attributes: ENVI Environmental Policy POEC Depth

Not offered current academic year

ENVI 213 (S) Introduction to Environmental and Natural Resource Economics (QFR)

Cross-listings: ECON 213 / CAOS 213

Secondary Cross-listing

We'll use economics to provide one perspective on reasons humans harm the environment and overuse natural resources, and what we can do about it. We'll study climate change, pollution in general, cost benefit analysis, environmental justice, natural resources (like fisheries, forests, and fossil fuels), and energy. We'll talk about how economists put a dollar value on nature and ecosystem services (as well as human health and life!), and the concerns people may have about doing so. We will take an economic approach to global sustainability, and study the relationship between the environment and economic growth. Consideration of justice and equity will be woven throughout the whole semester.

Requirements/Evaluation: problem sets, short essays, final paper; intermediate assignments may include a poster, one or more short presentation(s), other brief writing assignment(s)

Prerequisites: ECON 110 or equivalent

Enrollment Limit: 30

Enrollment Preferences: first-year and sophomore students

Expected Class Size: 30

Grading: yes pass/fail option, yes fifth course option

Unit Notes: this course will count toward both the Environmental Studies major and concentration

Distributions: (D2) (QFR)

This course is cross-listed and the prefixes carry the following divisional credit:

ECON 213(D2) ENVI 213(D2) CAOS 213(D2)

Quantitative/Formal Reasoning Notes: We will use formal theory expressed in math and graphs, perform calculations, and consume statistical data.

Attributes: ENVI Environmental Policy EVST Social Science/Policy POEC Depth

Spring 2025

LEC Section: 01 MWF 8:30 am - 9:45 am Sarah A. Jacobson

ENVI 214 (S) Mastering GIS

Cross-listings: GEOS 214

Secondary Cross-listing

The development of Geographic Information Systems (GIS) has allowed us to investigate incredibly large and spatially complex data sets like never before. From assessing the effects of climate change on alpine glaciers, to identifying ideal habitat ranges for critically endangered species, to determining the vulnerability of coastal communities to storms, GIS has opened the door for important, large-scale environmental analyses. And as these technologies improve, our ability to understand the world grows ever greater. This course will teach you how to use GIS to investigate environmental problems. We will review fundamental principles in geography, the construction and visualization of geospatial datasets, and tools for analyzing geospatial data. Special attention will also be given to analysis of remotely sensed (satellite) imagery and to collection of field data. By the end of the course, you will be able to conduct independent GIS-based research and produce maps and other geospatial imagery of professional quality.

Class Format: lecture, three hours per week and laboratory, three hours per week

Requirements/Evaluation: weekly lab exercises, weekly quizzes, and a research project

Prerequisites: at least one course in Geosciences or Environmental Studies

Enrollment Limit: 18

Enrollment Preferences: Geosciences majors and Environmental Studies majors and concentrators.

Expected Class Size: 18

Grading: yes pass/fail option, no fifth course option

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 214(D3) GEOS 214(D3)

Attributes: ENVI Natural World Electives EXPE Experiential Education Courses

Spring 2025

LEC Section: 01 TR 8:30 am - 9:45 am Alex A. Apotsos

LAB Section: 02 TR 1:00 pm - 4:00 pm Alex A. Apotsos

ENVI 215 Climate Changes (QFR)

Paleoclimatology is the reconstruction of past climate variability and the forces that drove the climate changes. The Earth's climate system is experiencing unprecedented and catastrophic change because of anthropogenic emission of greenhouse gases and land use change.

Paleoclimatology allows humans to put modern climate changes into the context of the history of this planet, and shows how and why it is unprecedented and catastrophic. Each climate event we study from Earth's past teaches us lessons on why the climate system responds to anthropogenic perturbations, what climate changes we're committed to in the future, how long-lasting they will be, and what climate consequences we can avoid if we take action and reduce greenhouse gas emissions sooner. In this course, we will discuss the major mechanisms that cause natural climate variability, how climate of the past is reconstructed, and how climate models are used to test mechanisms that drive climate variation. With these tools, you will analyze and interpret data and model simulations from climate events from Earth's history, and apply these findings to anthropogenic climate changes happening now and that are projected to happen in the future. Laboratories and homework will emphasize developing problem solving skills as well as sampling and interpreting geological archives of climate change. This course is in the Oceans and Climate group for the Geosciences major.

Class Format: This class has three scheduled lectures per week, and one lab meeting per week which will consist of field excursions, lab exercises, problem solving and discussion

Requirements/Evaluation: lab exercises and homework (25%), three quizzes (50%), and a final project (25%)

Prerequisites: 100-level course in GEOS, CHEM, or PHYS or ENVI 102 or permission of instructor

Enrollment Limit: 24

Enrollment Preferences: Geosciences majors and Environmental Studies majors and concentrators and Maritime Studies concentrators

Expected Class Size: 16

Grading:

Distributions: (D3) (QFR)

Quantitative/Formal Reasoning Notes: Labs and homework include quantitative problem solving, visualization and analysis of quantitative data, and scientific computing with Matlab. No previous programming experience is assumed.

Attributes: ENVI Natural World Electives EVST Environmental Science EXPE Experiential Education Courses GEOS Group A Electives - Climate + Oceans

Not offered current academic year

ENVI 220 (S) Field Botany and Plant Natural History

Cross-listings: BIOL 220

Secondary Cross-listing

This field-lecture course covers the evolutionary and ecological relationships among plant groups represented in our local and regional flora. Lectures focus on the evolution of the land plants, the most recent and revolutionary developments in plant systematics and phylogeny, the cultural and economic uses of plants and how plants shape our world. The course covers the role of plants in ameliorating global climate change, their importance in contributing to sustainable food production and providing solutions to pressing environmental problems. Throughout we emphasize the critical role

of biodiversity and its conservation. The labs cover field identification, natural history and the ecology of local species.

Class Format: both field and indoor laboratories

Requirements/Evaluation: Based on two hour exams, field quizzes, a final project, and a final exam

Prerequisites: none

Enrollment Limit: 30

Enrollment Preferences: Biology majors, and Environmental Studies majors & concentrators

Expected Class Size: 24

Grading: no pass/fail option, yes fifth course option

Unit Notes: satisfies the distribution requirement for the Biology major

Materials/Lab Fee: There is a charge for the lab manual (\$25); the sketchbook (\$7) and hand lens (\$23) can be self-provided or purchased from the department.

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 220(D3) BIOL 220(D3)

Attributes: ENVI Natural World Electives EXPE Experiential Education Courses PHLH Nutrition,Food Security+Environmental Health

Spring 2025

LEC Section: 01 MWF 10:00 am - 10:50 am Joan Edwards

LAB Section: 02 T 1:00 pm - 3:50 pm Joan Edwards

LAB Section: 03 W 1:00 pm - 3:50 pm Joan Edwards

ENVI 224 (F) The Rise and Fall of Civilizations

Cross-listings: ANTH 214

Secondary Cross-listing

Over the centuries, philosophers and historians have asked how societies evolved from simple hunter-gatherer bands to complex urban civilizations. Human prehistory and history have shown the repeated cycles of the rise, expansion and collapse of early civilizations in both the Old and New World. What do the similarities and differences in the development of these first civilizations tell us about the nature of societal change, civilization and the state, and human society itself? The course will examine these issues through an introductory survey of the earliest civilizations in Mesopotamia, Egypt, India, Mesoamerica and South America. Classical and modern theories on the nature, origin, and development of the state will be reviewed in light of the archaeological evidence.

Class Format: Class discussion and debates will complement lectures based on powerpoint presentation.

Requirements/Evaluation: midterm, final exam, 15pp analytical paper, two quizzes

Prerequisites: none

Enrollment Limit: 30

Enrollment Preferences: First and second years.

Expected Class Size: 19

Grading: no pass/fail option, yes fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 224(D2) ANTH 214(D2)

Attributes: ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

ENVI 229 (F) Environmental History

Cross-listings: HIST 264

Primary Cross-listing

This course is an introduction to Environmental History: the study of how people have shaped environments, how environments have shaped human histories, and how cultural change and material change are intertwined. As such, it challenges traditional divides between the humanities and the sciences. Taking U.S. environmental history as our focus, we will strive to understand the historical roots of contemporary environmental problems, such as species extinction, pollution, and climate change. We will take field trips to learn to read landscapes for their histories and to examine how past environments are represented in museum exhibits, digital projects, and physical landscapes. And we will develop original arguments and essays based on archival research. It is imperative that we understand this history if we are to make informed and ethical environmental decisions at the local, national, and global scale.

Class Format: with field trips

Requirements/Evaluation: several short essays; final research project

Prerequisites: none

Enrollment Limit: 18

Enrollment Preferences: juniors, seniors

Expected Class Size: 15

Grading: no pass/fail option, no fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 229(D2) HIST 264(D2)

Attributes: ENVI Humanities, Arts + Social Science Electives EVST Culture/Humanities EXPE Experiential Education Courses HIST Group F Electives - U.S. + Canada

Not offered current academic year

ENVI 231 (S) Africa and the Anthropocene (DPE)

Cross-listings: STS 231 / AFR 231

Primary Cross-listing

Despite its low contributions to global carbon emissions, the continent of Africa is predicted to experience some of the worst effects of climate change. This interdisciplinary course investigates the causes and consequences of this troubling contradiction. It positions the African continent as an important site for understanding how legacies of empire, racial and gendered inequality, resource extraction, and capital accumulation impact contemporary global environmental politics. Students will engage theoretical texts, reports from international organizations, films, novels, and web-based content. Topics include: humanism/post-humanism; migration and displacement; representations of conflict; and sustainable development.

Requirements/Evaluation: Assignments include: 2 short written commentaries (2-3 pages each), mid-term current event analysis (5-7 pages), final analytical essay (10-12 pages) and class presentation

Prerequisites: none

Enrollment Limit: 19

Enrollment Preferences: Environmental Studies majors and concentrators

Expected Class Size: 19

Grading: no pass/fail option, yes fifth course option

Distributions: (D2) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

STS 231(D2) ENVI 231(D2) AFR 231(D2)

Difference, Power, and Equity Notes: Africa and the Anthropocene considers inequity in environmental politics from the vantage of the African continent. Through selected readings and classroom discussions students will tackle questions of power, racial and gendered difference, empire, and economic stratification. The course contributes to the DPE requirement by helping students to develop skills to better analyze abiding challenges in global society.

Attributes: AFR Black Landscapes ENVI Humanities, Arts + Social Science Electives GBST African Studies GBST Economic Development Studies

Not offered current academic year

ENVI 234 (S) Global Poverty and Economic Development (DPE)

Cross-listings: ECON 204 / ECON 507

Secondary Cross-listing

Why are some nations rich while other nations are poor, and what can be done to end global poverty and promote shared prosperity? This course explores the historical determinants of global poverty and inequality, and analyzes the range of policy options available to promote economic development and equalize opportunities. Drawing on research in development economics, development studies, political science, and anthropology, we seek to understand the factors that shaped the global economy and contributed to the cross-country income disparities observed today. In addition, we'll use the tools of modern empirical microeconomics to assess the possibilities for eliminating global poverty and underdevelopment in the future. Undergraduate students will receive 200-level credit and should not register at the 500-level.

Class Format: discussion

Requirements/Evaluation: class discussion, short written assignments and/or empirical exercises, in-class quizzes and exams

Prerequisites: one economics course or permission of instructor

Enrollment Limit: 25

Enrollment Preferences: first-year and sophomore students

Expected Class Size: 25

Grading: no pass/fail option, yes fifth course option

Distributions: (D2) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

ECON 204(D2) ECON 507(D2) ENVI 234(D2)

Difference, Power, and Equity Notes: This course provides a setting for students to learn about the causes and consequences of poverty in developing countries. It requires students to engage with questions of political and economic power, stressing attentiveness to how market relationships may not generate welfare-maximizing opportunities for poor and marginalized populations. The course builds analytical and empirical skills for diagnosing and addressing constraints on economic development.

Attributes: ENVI Environmental Policy GBST African Studies GBST Economic Development Studies POEC Comparative POEC/Public Policy Courses

Not offered current academic year

ENVI 243 (S) Reimagining Rivers (DPE) (WS)

Cross-listings: ANTH 243

Primary Cross-listing

In the era of climate change and widening inequality, how we live with rivers will help define who we are. Rivers are the circulatory systems of civilization, yet for much of modern history they have been treated as little more than sewers, roads, and sources of power. Today they are in crisis. Rivers and the people who rely on them face a multitude of problems, including increased flooding, drought, pollution, and ill-conceived dams. These problems will threaten human rights, public health, political stability, and ecological resilience far into the future unless we learn to manage rivers more justly and sustainably. Can we reimagine rivers before it is too late? This course will pursue this question by examining the social, cultural, and political dimensions of conflict over rivers in the twentieth and twenty-first centuries. Drawing on scholarship from a wide range of social science and humanities disciplines and focusing on case studies in Asia, Africa, Europe, and the Americas, it will explore a diverse array of sources: film, fiction, ethnography, history, journalism, and more.

Requirements/Evaluation: Each week, each student will either write a 5-page essay on assigned readings or write a 2-page critique of a partner's paper.

Prerequisites: None

Enrollment Limit: 10

Enrollment Preferences: Environmental Studies majors and concentrators

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Distributions: (D2) (DPE) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 243(D2) ANTH 243(D2)

Writing Skills Notes: Students take turns writing 5-page essays and 2-page responses to those essays, with each writing 6 in total. For each five-page paper, I meet with the student to discuss technical aspects of the paper and specific ways in which it could be improved. At the end of the semester, students have the option of handing in one revised paper as part of a portfolio of papers from throughout the semester. This enables me to have an ongoing, in-depth discussion with each student about their writing skills.

Difference, Power, and Equity Notes: This course focuses on the role of rivers in struggles over cultural difference, social power, and environmental equity. Throughout the course, students read and write extensively about environmental justice, and they engage with diverse theoretical approaches to studying the intersection of water, power, and social identity. Our focus from beginning to end is on the profound impact of river management on the lives of marginalized indigenous, agrarian, and urban communities.

Attributes: ENVI Humanities, Arts + Social Science Electives

Spring 2025

TUT Section: T1 TBA Nicolas C. Howe

ENVI 244 (S) Environmental Ethics (WS)

Cross-listings: PHIL 244

Primary Cross-listing

What ethical standards should guide our individual and societal choices when those choices affect current and future environmental conditions? This course will introduce students to fundamental concepts, methods, and issues in environmental ethics. Initial tutorial meetings will focus on theoretical materials that will background later discussions and will include classic readings from the environmental ethics literature, among others. Most sessions will pair readings about key concepts with specific cases that raise complex ethical issues, including the concept of moral standing and, e.g., people who do not yet exist, non-human individuals, species, and complex living systems; the concept of moral responsibility and complicity in environmentally damaging practices; the legitimacy of cost-benefit analysis as an environmental policy tool; and the valuation of human lives.

Requirements/Evaluation: five essays (5-7 pages each) and five prepared oral responses to partners' essays; evaluation will be based on essays, oral responses, and quality of discussion

Prerequisites: ENVI 101 or one course in PHIL

Enrollment Limit: 10

Enrollment Preferences: declared and prospective Environmental Studies majors and concentrators

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Unit Notes: meets Value Theory requirement only if registration is under PHIL

Distributions: (D2) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 244(D2) PHIL 244(D2)

Writing Skills Notes: Students will write five tutorial papers of 5-7 pages in length, one of which they will revise and submit at the end of the term. In each of the tutorial papers students will describe and evaluate arguments that appear in the assigned readings, and will develop arguments in support of their own ethical positions. Students will receive written and oral feedback, concentrated particularly in the first half of the semester, to improve their ability to present clear and effective written arguments.

Attributes: ENVI Humanities, Arts + Social Science Electives EVST Culture/Humanities PHIL Contemporary Value Theory Courses

Spring 2025

TUT Section: T1 TBA Julie A. Pedroni

ENVI 254 (S) Food, Forests, & Fungi: Environmental Health in the Anthropocene (DPE) (WS)

Cross-listings: STS 254 / ANTH 254

Secondary Cross-listing

This tutorial will examine the impacts of the climate crisis on human, environmental, and planetary health via the lens of food systems & plant medicines in the Anthropocene. We use anthropological, environmental, evolutionary, & ecological approaches to explore the ecosystems connecting humans, plants, animals, and fungi that have been massively disrupted by systems of industrial agriculture, industrial forestry, corporate food systems, and corporate biomedicine. We will dwell on the growing signs of our climate catastrophe including the sharp rise of global temperatures, floods, hurricanes, alongside declining freshwater reserves, melting cryosphere, and falling crop yields, that are helping produce a growing wave of hunger and climate refugees in every world region. Along the way, we will hear from and read about youthful climate activists from Extinction Rebellion, Ende Gelände, Fridays for the Future, 350.org, and the Sunrise Movement who are designing and implementing innovative, local, and sustainable solutions to inaction, apathy, and inertia even as situations of internal migration or displacement, food scarcity, food sovereignty, water shortages, and other climate-related disruptions are increasing in both developing and developed parts of our globe. We learn how activist narratives intersect with wider movements to promote more local and circular economies of regenerative agriculture and forestry, ethically produced and sourced organic food, wild & cultivated botanicals, and complementary medicines that are healing both humans and the planet.

Requirements/Evaluation: Weekly attendance, reading 200-300 pages/week, weekly lead essays or oral responses to texts, showing up in mind & body each week.

Prerequisites: none, but a class in ENVI or ANTH preferred

Enrollment Limit: 10

Enrollment Preferences: ANTH, ENVI, STS majors and concentrators

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Distributions: (D2) (DPE) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:

STS 254(D2) ANTH 254(D2) ENVI 254(D2)

Writing Skills Notes: Students will write essays: either a lead essay of 1400 words, or written & oral feedback on the lead essay plus an oral response to text. Students receive intensive weekly feedback on their essays and a mid semester writing chat with instructor to negotiate and understand strengths and weaknesses of their writing.

Difference, Power, and Equity Notes: We will examine the ways that food systems reproduce social and structural inequalities within public health, environmental health, climate health. We also examined the interconnected nature of the health of our planet, food systems, forests, and fungal networks and how climate activism and action can fight unequal access to food, forests, nature, and health.

Attributes: ENVI Humanities, Arts + Social Science Electives PHLH Nutrition, Food Security+Environmental Health

Not offered current academic year

ENVI 255 (F) Environmental Observation

Cross-listings: GEOS 255

Secondary Cross-listing

To study the environment, we need to observe and measure it. We collect data--numbers that represent system states--and analyze them to create understanding of the world we live in. Advances in technology create more opportunities to discover how the planet works. Through a survey of observational approaches (including weather stations, direct sampling, remote sensing, community-based monitoring, and other techniques), this course will investigate the process of turning a physical property in the environment into a number on a computer and then into meaningful information. We will explore both direct field measurements and remote sensing techniques, diving into how to choose the appropriate sensor for a scientific question, how sensors work, analysis approaches and statistical methods, and how to interpret the resulting data. We will also learn how to mitigate measurement bias through a combination of lab experiments and field work and how to make interpretations of measurements that accurately reflect what is being measured. The course will focus on the near-surface environment, including the atmosphere, water, and biosphere. Students will carry out a research project using observation techniques covered in class to explore a scientific question of interest. This course is in the Oceans and Climate group for the Geosciences major.

Requirements/Evaluation: Weekly labs, four quizzes, and a final project

Prerequisites: at least one prior course in GEOS or ENVI

Enrollment Limit: 20

Enrollment Preferences: sophomores, then GEOS majors

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

GEOS 255(D3) ENVI 255(D3)

Attributes: ENVI Natural World Electives EXPE Experiential Education Courses GEOS Group A Electives - Climate + Oceans

Fall 2024

LEC Section: 01 MWF 10:00 am - 10:50 am Alice C. Bradley

LAB Section: 02 W 1:00 pm - 4:00 pm Alice C. Bradley

LAB Section: 03 R 1:00 pm - 4:00 pm Alice C. Bradley

ENVI 256 (F) Race, Environment, and the Body

Cross-listings: SOC 255 / AFR 255 / AMST 257

Secondary Cross-listing

This course examines the relationship between structural racism and racial/ethnic health disparities. Through class discussions of readings and media images, we will explore three topics: 1) how racism intersects with classism, sexism, and xenophobia to govern the implementation of local, state and federal health care policies; 2) how the uneven enforcement of health care policies ultimately produces differences in mortality, morbidity, and quality of life among various populations; and 3) anti-racist public health scholarship that offers strategies for creating racial health equity.

Class Format: Discussion

Requirements/Evaluation: Class participation, 2-3 short papers (5-7 pages), and a final presentation

Prerequisites: None

Enrollment Limit: 20

Enrollment Preferences: Preference given to AFR majors, ENVI concentrators and majors, and ANSO majors.

Expected Class Size: 20

Grading: no pass/fail option, no fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

SOC 255(D2) AFR 255(D2) AMST 257(D2) ENVI 256(D2)

Attributes: AFR Core Electives AMST Comp Studies in Race, Ethnicity, Diaspora AMST Space and Place Electives ENVI Humanities, Arts + Social Science Electives PHLH Nutrition, Food Security+Environmental Health PHLH Social Determinants of Health

Fall 2024

LEC Section: 01 TF 1:10 pm - 2:25 pm Christopher O. Ndubuizu

ENVI 257 (S) Cities, Suburbs, and Rural Places (DPE)

Cross-listings: AMST 247 / LATS 230

Secondary Cross-listing

Long associated with cities in the scholarly and popular imagination, transnational migrants have increasingly settled in U.S. suburbs and rural localities and have made these places home. Through the lens of new destinations for immigrants, this course introduces spatial methods, perspectives, and concepts to understand cities, suburbs, and rural places. We ask how geographically specific forces and actors shape migrants' living conditions, as well as consider the spatially uneven outcomes of complex processes like globalization. We analyze how different actors discursively and materially demarcate who belongs and who does not, and how these boundaries shape migrants' everyday practices. This interdisciplinary course highlights the legal, economic, political, environmental, social, and cultural dimensions of how transnational migrants become part of and create homes in new destinations. Through a range of textual materials (academic, literary, popular, visual), we explore the construction of landscapes, how people shape space at local and regional scales, and where people do life's work and come together to build cultural space. Rooted

in critical race geographies, case studies are comparative across different racial and ethnic groups in the U.S. West, South, Midwest, and Northeast. This course will be mostly discussion-based, grading based on participation, short writing exercises, four assignments, and a final project.

Class Format: This is also a discussion course. While I will spend some time at the beginning of the class lecturing, most of the time will be spent in class discussions.

Requirements/Evaluation: Grading based on participation, short writing exercises, four assignments, and a final project. All writing materials and exams are based on coursework.

Prerequisites: None

Enrollment Limit: 25

Enrollment Preferences: LATS concentrators or those intending to become LATS concentrators

Expected Class Size: 25

Grading: yes pass/fail option, yes fifth course option

Distributions: (D2) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 257(D2) AMST 247(D2) LATS 230(D2)

Difference, Power, and Equity Notes: Students examine how race, gender, sexuality, class, and documentation status also impact how immigrants 'transition' to new migration destinations. We consider how the exercise of unequal power affects migration, settlement, and place-making. Students analyze representations and demographic data to determine how people are portrayed and what their material conditions are.

Attributes: AMST Comp Studies in Race, Ethnicity, Diaspora AMST Space and Place Electives ENVI Humanities, Arts + Social Science Electives LATS Core Electives

Spring 2025

LEC Section: 01 TR 9:55 am - 11:10 am Edgar Sandoval

ENVI 260 (S) Design and Environmental Justice (DPE)

Cross-listings: ARTS 261

Primary Cross-listing

This seminar/digital art studio offers key literature to examine the relationship between design and environmental justice. It will help build a vocabulary to study the environment as disputed terrain between technological fixes and issues of race, ethnicity, gender, sexuality, class, and colonial status. Students will develop textual/graphic projects about a chosen case study aiming to reorient public perception and imagination around environmental justice. Case studies include contemporary issues like "natural" disasters, eco-cities, and urbanization in the Global South and North. Skills taught include design-thinking and collaborative design, digital art (Photoshop), and participation in collective reviews and public presentations. The class culminates in a presentation to external reviewers and a final exhibition.

Class Format: Because this seminar is cross-listed with ARTS, there is a studio component (short assignments and final project).

Requirements/Evaluation: Active presence in class discussions and presentations, quality of work, depth and quality of the investigative process, willingness to experiment, and contributions to a collaborative learning environment. This intensive seminar/digital art studio requires working in the architecture studio and/or PC lab outside of scheduled class hours.

Prerequisites: Drawing I, ENVI 101, or permission from the instructor.

Enrollment Limit: 15

Enrollment Preferences: Envi majors and concentrators, Studio Art majors, Art History and Studio Art majors

Expected Class Size: 12

Grading: no pass/fail option, no fifth course option

Materials/Lab Fee: \$300-\$450 lab fee charged to term bill. Lab and materials fees for all studio art classes are covered by the Book Grant for all Williams financial aid recipients.

Distributions: (D2) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

ARTS 261(D1) ENVI 260(D2)

Difference, Power, and Equity Notes: This seminar/digital art studio examines the interrelationship between design and environmental justice from an intersectional perspective. It encourages students to develop a critical understanding of the role that technical rationality, devoid of ethics and respect for difference, plays in producing racist, heteropatriarchal, and ecocidal forms of oppression. In parallel, we will explore place-based practices that counter neoliberal and extractivist approaches to the (built) environment.

Attributes: ENVI Humanities, Arts + Social Science Electives EVST Culture/Humanities

Not offered current academic year

ENVI 261 (S) Science and Militarism in the Modern World (WS)

Cross-listings: STS 261

Primary Cross-listing

In 1961, United States President Dwight D. Eisenhower warned about the global dangers of what he called the "military-industrial complex." In this course, we will interrogate the military-scientific complex, or the imbrication of militarism and scientific knowledge. Surveying conflicts from World War II through to the present-day War on Terror, this course will consider how empire, networks of expert knowledge, resource extraction, environmental contamination, and land degradation have shaped the modern world. Students will engage a range of textual materials including books, films, photographs, and news reports. Course requirements include weekly writing assignments and participation in small group discussions.

Class Format: This course adopts a tutorial model. Students will be divided into 5 groups of 2. Each week the groups will meet with me. Each pair will include one "presenter," who shares a 5-7 page paper responding to the week's theme, and one "respondent," who will offer a 2-3 page response to the presenter's paper. The roles of presenter and respondent will alternate each week. Each student will produce 5 papers as "presenter" and 5 papers as "respondent."

Requirements/Evaluation: Each student will produce five (5-7 page) papers as "presenter" and five (2-3 page) papers as "respondent." Grades will be issued based on the portfolio of papers and active participation in discussions.

Prerequisites: None

Enrollment Limit: 10

Enrollment Preferences: ENVI and STS majors and concentrators

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Distributions: (D2) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 261(D2) STS 261(D2)

Writing Skills Notes: This is a writing intensive tutorial. Students will complete weekly written assignments and receive in-depth feedback to improve their writing. Over the course of the semester, students will write 10 papers ranging from 2-7 pages.

Attributes: ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

ENVI 264 (S) Architecture as Politics: Space, Design, Technology (DPE)

Cross-listings: ARTS 254

Secondary Cross-listing

This course delves into the intersection of architecture as a form of political expression, technology, and their collective impact on societal change. Emphasizing architecture as a discipline deeply intertwined with politics and shaped by technological advancement, this course will examine how a spectrum of art tools--from traditional to digital and computational--helps shape buildings and public spaces, shifts power structures, and hinders or promotes social justice. The curriculum blends theoretical exploration with practical application. Students will engage in critical analysis, technology-driven design workshops, and peer evaluations, culminating in a final project that melds techno-political theory with cutting-edge architectural practices. This course is ideal for students keen on leveraging technological architectural techniques to craft spaces with profound political and social impact.

Requirements/Evaluation: This is an intensive studio tutorial requiring working outside of scheduled class hours. In this course, students can work with the following media assuming that they can master them for a 200-level course: architecture models (physical and digital), photo reportages, 2D collages (e.g., Photoshop), digital humanities (cartographies, counter mapping, oral histories, digital archives), and curatorial platforms. Students will participate in tutorials plus a final project of significant scope. Evaluation will be based primarily on the quality of the final project but also on

participation.

Prerequisites: Drawing I or permission of instructor.

Enrollment Limit: 10

Enrollment Preferences: Studio Art majors, Art History and Studio Art majors, ENVI majors and concentrators.

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Materials/Lab Fee: \$350-\$450 lab fee charged to term bill. Lab and materials fees for all studio art classes are covered by the Book Grant for all Williams financial aid recipients.

Distributions: (D1) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

ARTS 254(D1) ENVI 264(D1)

Difference, Power, and Equity Notes: This tutorial will employ theories and approaches from design activism and critical environmental studies to analyze the relationship between space and difference, including, but not limited to, race, class, ethnicity, gender, sexuality, religion, and species. Students will apply these theories and approaches to creating place-based projects.

Spring 2025

TUT Section: T1 TR 11:20 am - 12:35 pm Giuseppina Forte

ENVI 269 (F) Environmental Law and Policy

Cross-listings: CAOS 269

Primary Cross-listing

America's environmental statutes, regulations, legal precedents, and policies have grown in complexity over the last 75 years. These bi-partisan, broadly supported laws also shaped environmental laws and policies in the European Union, China, the Middle East, and countries in the Global South. Yet in 2024, America is no longer a global leader in climate mitigation or environmental protection. As legal and policy solutions to environmental problems continue to evolve based on values, science, market dynamics, and increasing climate change impacts, it is important to study this complex legal landscape to understand where opportunities lie for more ambitious and just solutions to complex environmental problems. This class surveys major environmental laws and policies by looking at cases of current, complex environmental problems. This course will focus not only on the hallmark American environmental laws, regulations, and policies but also on the interplay of state and tribal law, food, water, mineral, energy, tax, and animal rights law issues, and international treaties and climate agreements. By the completion of the semester, students will understand both the successes and failures of modern environmental law. In addition to learning about the substantive legal issues covered in the course, students will develop legal research skills associated with researching statutes and regulations and interpreting judicial decisions. This course will help students interested in future work in law or policy understand how to analyze cases, regulations, and policy, and see opportunities for future solutions.

Requirements/Evaluation: 1) Class Participation (leading discussion and presenting materials) 20%; 2) Weekly 300-word Case Briefs 30%; 3) Comparative Law/Policy Analysis (5-7 page research paper) 30%; 4) Final Exam 20%

Prerequisites: ENVI 101 or permission of instructor

Enrollment Limit: 25

Enrollment Preferences: Preference to Environmental Studies majors and concentrators and sophomores and above.

Expected Class Size: 25

Grading: no pass/fail option, yes fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 269(D2) CAOS 269(D2)

Attributes: AMST Space and Place Electives ENVI Environmental Policy EVST Social Science/Policy JLST Interdepartmental Electives POEC Depth

Fall 2024

ENVI 275 (S) Environmental Science, Policy, and Justice (DPE)

Cross-listings: STS 275

Primary Cross-listing

Environmental science is much more than collecting data. Scientific experts are often called upon--and often position themselves--to guide environmental governance, which means that science has (some) power over public life. What is, and what should be, the relationship between science, on the one hand, and the creation and implementation of environmental policy, on the other? In this seminar we will study how science shapes governance and how science itself is governed. We will explore how legislatures, agencies, and courts respond to scientific information and uncertainty. And we will learn about how communities facing environmental racism and injustice collect data and use it in their advocacy. Along the way, we will challenge the idea of a unified "scientific method," and we will think about how Western scientific knowledge relates to other ways of knowing, including non-Western sciences, embodied knowledge, and traditional knowledge. Topics include: international climate negotiation, chemical exposure, the regulation of biotechnology, agricultural policy, pandemic responses, and plastics and electronics waste.

Requirements/Evaluation: several short essays, final essay

Prerequisites: none

Enrollment Limit: 18

Enrollment Preferences: juniors, seniors

Expected Class Size: 12

Grading: no pass/fail option, no fifth course option

Distributions: (D2) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

STS 275(D2) ENVI 275(D2)

Difference, Power, and Equity Notes: This course will explore how unequal power leads to environmental injustice. Specifically, we will analyze how local and global environmental problems are distributed unevenly according to race, gender, and class. Using case studies we will analyze how communities facing environmental racism interact with scientists and sciences.

Attributes: ENVI Environmental Policy EVST Social Science/Policy

Not offered current academic year

ENVI 288 (F) Environmental Security: Policy Dilemmas and Solutions

Cross-listings: GBST 288

Primary Cross-listing

Water wars. Climate refugees. Scarcity-induced conflict. These and other challenges shape collective discourses about the climate change present and future. This course explores the relationship between environmental and security issues. It surveys the emergence of environmental security as a field of study and a policy arena. Students will engage a range of materials, including policy documents from the United Nations, international non-governmental organizations, global think tanks, the United States Department of Defense, and other security agencies. Students will also explore critical scholarship on the possibilities and limitations of environmental security as a leading policy paradigm.

Requirements/Evaluation: Class discussions; Two short response papers (2-5 pages each); Semester-long group policy project, including a mid-term policy report (4-6 pages) and a final group presentation as part of a mini conference put on by the class.

Prerequisites: None

Enrollment Limit: 19

Enrollment Preferences: environmental studies majors and concentrators; global studies concentrators

Expected Class Size: 19

Grading: no pass/fail option, yes fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 288(D2) GBST 288(D2)

Attributes: ENVI Humanities, Arts + Social Science Electives ENVI Environmental Policy EVST Social Science/Policy

Fall 2024

SEM Section: 01 MW 7:00 pm - 8:15 pm Brittany Meché

ENVI 291 (F) Religion and Ecology in America (WS)

Cross-listings: REL 291 / SOC 291

Primary Cross-listing

This course examines the relationship between religious and environmental thought in American cultural history. Exploring a broad range of practices, stories, and beliefs, we will examine the spiritual roots and branches of modern environmentalism. Rather than survey the formal teachings of organized religious groups, we will explore the creation and contestation of environmental meaning in the public sphere through literature, art, philosophy, and popular culture. How have religious writers, thinkers, and artists shaped the way we think about nature? How have they shaped the way we think about politics, science, and social justice? In pursuit of these questions, we will consider a diverse array of topics and cases, including struggles to protect Native American sacred places, the role of Black churches in fighting environmental racism, Protestant outdoorsmanship, Catholic climate activism, Jewish eco-mysticism, atheist biological theory, Buddhist eco-spirituality, and more.

Requirements/Evaluation: Each week each student will either write a 5- to 7-page essay on assigned readings or offer a 2-page critique of their partner's paper.

Prerequisites: None

Enrollment Limit: 10

Enrollment Preferences: Environmental Studies majors and concentrators

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Distributions: (D2) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 291(D2) REL 291(D2) SOC 291(D2)

Writing Skills Notes: Each student will write five five-page papers and five two-page papers in this class. They will be given extensive weekly feedback on their writing in the form of one-on-one meetings and written comments, and they will be given multiple opportunities for revision. Emphasis will be placed on the mechanics of argumentation, logic and rhetoric, and the development of a distinctive voice.

Attributes: ENVI Humanities, Arts + Social Science Electives

Fall 2024

TUT Section: T1 TBA Nicolas C. Howe

ENVI 297 (F) Global Sustainable Development (DPE)

Cross-listings: GBST 287

Primary Cross-listing

In 2015, the United Nations launched the Sustainable Development Goals, an ambitious multi-pronged effort to eliminate poverty, improve health outcomes, advance clean energy, address the effects of climate change, and support more equitable forms of life on earth. This course explores the historical antecedents and contemporary manifestations of global sustainable development, a constellation of ideas and a set of policy imperatives. This course will ask: what is sustainability and how did it emerge as a key paradigm in the present? Relatedly, how have different organizations and actors worked to address entrenched global challenges? Students will engage a range of materials, including policy documents from the United Nations, World Bank, and international non-governmental organizations. Students will also explore critical scholarship on the possibilities and limitations of global development. Together we will grapple with ways to build more sustainable futures.

Requirements/Evaluation: Class discussions; 2 Policy Analysis Papers (4-6 pages each); Class presentations; Final Take-Home exam (8-10 pages)

Prerequisites: none

Enrollment Limit: 19

Enrollment Preferences: Envi majors and concentrators

Expected Class Size: 19

Grading: no pass/fail option, yes fifth course option

Distributions: (D2) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 297(D2) GBST 287(D2)

Difference, Power, and Equity Notes: This class considers topics of global inequality, including the impacts of colonialism, uneven development, extractive capitalism, gender-based discrimination/violence, and racial/ethnic environmental disparities. Students are invited to reconsider stereotypes about the "developing world" through a deep engagement with history and policy-making.

Attributes: ENVI Environmental Policy EVST Social Science/Policy

Not offered current academic year

ENVI 298 (F) Cultural Geography

Why do things happen where they do? What is the relationship between place and identity? How do history and politics shape the way people conceptualize space? What can landscapes tell us about the values, beliefs, and ideas of the people who inhabit them? Questions like these drive the vibrant field of cultural geography. Cultural geographers study how humans shape, experience, and imagine the material world. They explore the relationship between humans and their environment at scales ranging from the global to the local, and they ask how we may better understand ourselves and others by examining the places and landscapes we create. Drawing on case studies from around the world and exploring our local area, this class will survey the major theoretical, methodological, and empirical themes that have preoccupied modern geographers. Along the way, students will acquire some useful tools for making a world that is more beautiful, sustainable, and just.

Requirements/Evaluation: Three 5-7-pages essays and several shorter writing assignments.

Prerequisites: Environmental Studies 101

Enrollment Limit: 19

Enrollment Preferences: Environmental Studies majors and concentrators.

Expected Class Size: 15

Grading: no pass/fail option, no fifth course option

Distributions: (D2)

Attributes: ENVI Humanities, Arts + Social Science Electives EVST Culture/Humanities

Fall 2024

SEM Section: 01 MR 1:10 pm - 2:25 pm Nicolas C. Howe

ENVI 300 (S) "'Rebel Ecologies': Black and Indigenous Struggles for Land and Life"

Cross-listings: WGSS 362 / AFR 300 / AMST 362

Secondary Cross-listing

This course will ask, what other socioecological models exist? We will weave together a study of differing, yet often converging or synergistic traditions of Black/Womanist eco-feminism that often confronts the social constructions of race, gender, class and sexuality, dominant religion as a means of social control, imperialism, capitalism, and colonialism; Ecosocialism which often frames ecology in terms of a mode of production beyond or outside of capitalism; and Indigenous perspectives on resistance to capitalist extraction, imperialism, and colonialism. Given ongoing struggles against the extraction of land and labor, the urgent calls raised in the present-day "climate strike," the COVID-19 Pandemic, Black-led pandemic rebellions, along with long(er) histories of land-based peoples around the planet opposing racial capitalism, settler colonialism, and imperialism, this class will explore not only what those in opposition to both extractivism and expropriation resist, but also what we want. We will critique binaries, settler notions of time and explore theories of change. Additionally, this class will look to an array of literature, film, sound, and other forms of cultural production in order to not just "locate," but describe and reveal rebel ecological visions emerging "from below." Ultimately this class will consider how the above ecological praxis can work simultaneously and within a sense of plurality, examining what we can learn from the work of activists, intellectuals, and defenders on the frontline. This course is an extension of Dr. Guess' concept of a "rebel ecology."

Requirements/Evaluation: The following requirements serve as the basis for course evaluation: Attendance and Participation 30%; Serve as

Discussion Leader at least twice 20%; Weekly 500-word Literature Review 20%; One Final Project, which can take any number of forms, including the conventional research paper (8-12 double-spaced pages plus bibliography). More projects might include, an annotated bibliography of 7 texts, film analysis, syllabus, book review, a written play, an op-ed, etc. We will discuss further possibilities in class.

Prerequisites: None

Enrollment Limit: 10

Enrollment Preferences: If the course is overenrolled, preference will be given to Africana studies concentrators.

Expected Class Size: 7

Grading: no pass/fail option, no fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

WGSS 362(D2) AFR 300(D2) ENVI 300(D2) AMST 362(D2)

Not offered current academic year

ENVI 303 (S) Cultures of Climate Change

Cross-listings: SOC 303

Primary Cross-listing

This course asks why people think and talk about climate change in such very different ways. Climate change is a physical phenomenon that can be observed, quantified, and measured. But it is also an idea, and as such it is subject to the vagaries of cultural interpretation. Despite scientific agreement about its existence and its causes, many people do not see climate change as a serious problem, or as a problem at all. Many others see it as the most serious problem our species has ever faced. What are the sources of this disparity? Why can't we agree about what climate change means? How does something as complex as climate change become a "problem" in the first place? And what can its many proposed "solutions" tell us about the role of culture in environmental policy, politics, and decision-making. This course will explore a broad array of factors, from religion to race, class to colonialism. Emphasizing ethnographic and historical accounts of climate change as lived experience, it will apply a range of theories from the social sciences and humanities to case studies from around the world.

Requirements/Evaluation: a 15- to 18-page research paper and several shorter writing assignments

Prerequisites: ENVI 101 or permission of instructor

Enrollment Limit: 19

Enrollment Preferences: Environmental Studies majors and concentrators first; Anthropology and Sociology majors second

Expected Class Size: 19

Grading: no pass/fail option, yes fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

SOC 303(D2) ENVI 303(D2)

Attributes: ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

ENVI 304 (S) Sacred Custodians: Environmental Conservation in Africa (DPE)

Cross-listings: HIST 304 / GBST 304 / AFR 335

Secondary Cross-listing

In this seminar we will explore environmental conservation in Africa. In particular we will look at African ideas, ethics, and approaches to environmental conservation. Are there African ideas, ethics, and activities that are uniquely conservationist in nature? We will explore well-known African leaders to understand what spurred them to become conservationists, how they interpreted and communicated environmental crises. For example, Wangari Maathai is a world-renowned female scientist who established the Green Belt Movement in Kenya. This movement focuses on addressing the problem of de-forestation. Ken Saro-Wiwa was an activist in Nigeria who fought for and alongside local communities against multinational oil corporations. We will examine these and other African conservation practices alongside popular images of environmental crisis that place blame for environmental degradation on Africans. Students will be invited to critically study histories of environmental management on the continent and the emergence, development, and impact of the idea of conservation. We will unpack the rich histories of conservation efforts in Africa, such as resource extraction,

game parks, desertification, wildlife and hunting, traditional practices, and climate change.

Requirements/Evaluation: Requirements/Evaluation: active participation in discussion, map quiz, reading reflections, critical reflections on films, a case study (5-7 pages), and one exam.

Prerequisites: None

Enrollment Limit: 25

Enrollment Preferences: If course is over-enrolled, preference to History Majors and students with a demonstrated interest in African studies.

Expected Class Size: 15-20

Grading: no pass/fail option, no fifth course option

Distributions: (D2) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

HIST 304(D2) GBST 304(D2) ENVI 304(D2) AFR 335(D2)

Difference, Power, and Equity Notes: This course will intensively explore the question of how various global and local actors have defined environmental degradation and promoted approaches to conservation in Africa. It guides students through an examination of the different power dynamics that have shaped environmental conservation thought and practices on the continent. This course, therefore, provides a critical lens through which to examine the inequalities rooted in race, gender, and other forms of difference

Attributes: ENVI Humanities, Arts + Social Science Electives HIST Group A Electives - Africa

Spring 2025

SEM Section: 01 TF 1:10 pm - 2:25 pm Benjamin Twagira

ENVI 311 (S) Environmental Literature and Film in Latin America (DPE) (WS)

Cross-listings: RLSP 304 / COMP 311

Secondary Cross-listing

What use are aesthetics when the world is (literally) on fire? We will take up this question and others in a critical engagement with Latin American cultural production of the twentieth and twentieth centuries, especially works of literature and film that directly or indirectly engage with environmental crisis. Students can expect to explore a variety of media, forms and genres, including works that range from (more or less) mainstream to cutting edge. Our examinations of literature and film will be supported by theoretical writings produced in the Americas and other places. Writers and directors whose work may be considered include, but are not limited to: Lucrecia Martel, Ciro Guerra, Rafael Barrett, Samanta Schweblin, Ernesto Cardenal, Juan Rulfo, María Luisa Bombal, Eduardo Gudynas, Silvia Rivera Cusicanqui, Eduardo Viveiros de Castro, Isabelle Stengers.

Requirements/Evaluation: This course will be conducted seminar-style. Students will be expected to prepare thoroughly and be active, engaged participants in class discussions. In addition to day to day preparation and participation, other graded assignments will include discussion-leading, one short (5-7 page) essay and a longer (15-20 page) paper combining research and original analysis.

Prerequisites: One college literature or film course at the 200-level or above.

Enrollment Limit: 19

Enrollment Preferences: Envi majors and concentrators, Comp Lit majors, Spanish majors and those working towards the Spanish certificate.

Expected Class Size: 12

Grading: no pass/fail option, yes fifth course option

Distributions: (D1) (DPE) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 311(D1) RLSP 304(D1) COMP 311(D1)

Writing Skills Notes: All students in the course will write (and rewrite) no less than 20 pages. Major writing assignments will be scaffolded, with explicit discussion of the writing process (pre-writing, drafting, revision) and consultation.

Difference, Power, and Equity Notes: The works of literature and film that we will be examining challenge North American conceptions of climate change (and environmental crisis more broadly) by making visible (often uncomfortably so) the colonial and neocolonial history of extractivism.

Attributes: ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

ENVI 316 (F) Governing Cities by Design: the Built Environment as a Technology of Space (DPE)

Cross-listings: ARTS 316

Primary Cross-listing

Like in the classic era, cities of the 19th century were metaphors for government: good government could not exist without good governance of the city. This creative seminar charts the transformation of the built environment (architecture and urbanism) as a technology of space to govern cities and citizens from the mid-19th century until the present. Through debates and case studies across geographies and historical timeframes, we will analyze how regimes of government shape and are shaped by the built environment. The seminar has a studio component that consists of an urban project where students will apply theories and approaches to a real case study using digital art (2D and 3D modeling).

Class Format: Because this seminar is cross-listed with ARTS, there is a studio component (short assignments and final project)

Requirements/Evaluation: Active presence in class discussions and presentations, willingness to experiment, contributions to a collaborative seminar/studio environment, quality of work, depth and quality of the investigative process.

Prerequisites: ENVI 101 or instructor permission

Enrollment Limit: 15

Enrollment Preferences: ENVI majors and concentrators, Studio Art majors

Expected Class Size: 12

Grading: no pass/fail option, no fifth course option

Materials/Lab Fee: \$250-\$350 lab fee charged to term bill. Lab and materials fees for all studio art classes are covered by the Book Grant for all Williams financial aid recipients.

Distributions: (D2) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

ARTS 316(D1) ENVI 316(D2)

Difference, Power, and Equity Notes: Using theoretical perspectives from urban studies, this seminar/workshop explores how the built environment, as a technology of space, contributes to the production of difference, the establishment of certain regimes of power, and the erasure of specific urban histories--mainly those of underrepresented groups. Students will engage in multimedia place-based projects to imagine and create more equitable built environments.

Attributes: ENVI Humanities, Arts + Social Science Electives

Fall 2024

SEM Section: 01 TR 8:30 am - 9:45 am Giuseppina Forte

ENVI 319 (S) The Law and Policy of Climate Change

This course explores the legal frameworks that guide climate change mitigation efforts and adaptation strategies. This course builds on knowledge gained in the fall semester Environmental Law and Policy course, but will also refresh the basic tenets of environmental law. After a brief introduction to climate change and its projected impacts, we review the legal framework of international climate change law, including the evolution of climate change-related laws in the United States and related litigation. This analysis focuses on the federal level but also considers the separate authority of states and municipalities to take action. Massachusetts and Boston are the primary case studies for the course, but other state examples will inform our classes on non-federal policy-making. In addition to learning about the substantive legal issues covered in the course, students develop or practice legal research skills associated with researching statutes and regulations and interpreting judicial decisions. Students gain experience with activities relevant to designing and implementing climate change policy by writing comments on regulations, drafting statutory or regulatory language, and writing corporate climate change statements.

Requirements/Evaluation: Class Participation (leading discussion and presenting materials) 20%; Weekly 300-500-word Responses 30%; Policy Proposal (5-7 page research paper) 25%; Final Exam 25%

Prerequisites: ENVI 269 or permission of instructor.

Enrollment Limit: 25

Enrollment Preferences: Environmental studies concentrators and majors and sophomores and above.

Expected Class Size: 25

Grading: no pass/fail option, no fifth course option

Distributions: (D2)

Attributes: ENVI Environmental Policy EVST Social Science/Policy JLST Interdepartmental Electives

Spring 2025

LEC Section: 01 TF 2:35 pm - 3:50 pm Lindi von Mutius

ENVI 320 (S) Ecosystem ecology in the Anthropocene

Cross-listings: BIOL 320 / GEOS 320

Secondary Cross-listing

Ecosystem ecology provides a framework for understanding the multidirectional interactions between biological organisms and their physical environments, and provides critical insight into our approaches for managing resource use in an era of anthropogenic change. In this class, we will explore the biological and biogeochemical underpinnings of ecosystem carbon and nutrient cycling. Topics will include interactions between species composition and ecosystem function, nutrient use efficiency, resource transformations, ecosystem management and restoration, and feedbacks to global change. Lecture content will be supported by regular discussions of the primary literature. Labs will introduce students to field and laboratory techniques to study resource and energy flow in local ecosystems, as well as approaches to project design, hypothesis development, data collection, and analysis. The laboratory program will culminate with a multi-week independent project.

Class Format: lectures, discussions, and a weekly lab

Requirements/Evaluation: Evaluation will be based on lab assignments, discussion participation, three exams, and an independent project

Prerequisites: BIOL/ENVI 203 or GEOS 208 or BIOL 211 or GEOS 212

Enrollment Limit: 20

Enrollment Preferences: Biology majors, then Environmental studies majors/concentrators or Geosciences majors

Expected Class Size: 20

Grading: no pass/fail option, no fifth course option

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

BIOL 320(D3) ENVI 320(D3) GEOS 320(D3)

Attributes: ENVI Natural World Electives

Spring 2025

LEC Section: 01 MWF 11:00 am - 11:50 am Allison L. Gill

LAB Section: 02 T 1:00 pm - 3:50 pm Allison L. Gill

LAB Section: 03 W 1:00 pm - 3:50 pm Allison L. Gill

ENVI 322 (F) Waste and Value

Cross-listings: GBST 322 / ANTH 322

Secondary Cross-listing

What is trash and what is treasure? In what ways does value depend upon and necessitate waste, and how is the dialectic between the two inflected by culture? When we 'throw away' things at Williams College, where exactly do they go, and who handles them 'down the line'? What are the local and global economies of waste in which we are all embedded and how are they structured by class, race, caste, gender and nation? In this seminar we critically examine the production of waste - both as material and as category - and its role in the production of value, meaning, hierarchy and the environment. Readings include ethnographic accounts of sanitation labor and social hierarchy; studies of the political and environmental consequences of systems of waste management in the colonial period and the present; and theoretical inquiries into the relation between filth and culture, including work by Mary Douglas, Dipesh Chakrabarty and Karl Marx. Geographically the foci are South Asia and North America. There is also a fieldwork component to the course. In fieldtrips we follow the waste streams flowing out of Williams - to an incinerator, a sewage treatment plant, recycling and composting facilities and other sites - and students explore in individual, participant-observation-based research projects the everyday social life of waste in our communities.

Requirements/Evaluation: regular posting of critical response papers, field notes on waste streams, research-based final paper

Prerequisites: none

Enrollment Limit: 12

Enrollment Preferences: All students are welcome to the course. If overenrolled, preference will be given to majors in Anthropology and Sociology and concentrators in Environmental Studies and Asian Studies.

Expected Class Size: 12

Grading: yes pass/fail option, no fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

GBST 322(D2) ENVI 322(D2) ANTH 322(D2)

Attributes: ENVI Humanities, Arts + Social Science Electives

Fall 2024

SEM Section: 01 W 1:10 pm - 3:50 pm Joel Lee

ENVI 327 (F) Coastal Processes and Geomorphology (QFR)

Cross-listings: GEOS 327 / CAOS 327

Secondary Cross-listing

Can people live safely along the coast? Recent events like SuperStorm Sandy and the Tohoku Tsunami have shown us how the ocean can rise up suddenly and wreak havoc on our lives and coastal infrastructure. Only educated geoscientists can evaluate the risks and define informed strategies to prevent future coastal catastrophes. Currently almost half the global population lives within 100 km of the coast, with a large percent of those living in densely populated cities (e.g., New York, New Orleans, Los Angeles, Shanghai, Hong Kong, Cape Town, Sydney, Mumbai). Despite the growing risks and challenges associated with climate change and rising sea levels, the coastal population continues to grow rapidly. To help ensure these growing populations can live safely along the coast requires a detailed understanding of the processes that shape the coastal zone. These processes act across a variety of scales, from deep-time geologic processes that dictate coastal shape and structure, to decadal-scale processes that determine shoreline position and evolution, to weekly and daily processes such as storms and tides. This course will provide an in-depth look at the forces--wind, waves, storms, and people--that shape the coastal zone, as well as the geologic formations--sandy beaches, rocky cliffs, barrier islands, deltas, and coral reefs--that are acted upon and resist these forces. Coastal dynamics are strongly affected by human interventions, such as seawalls, dredged channels, and sand dune removal, as well as by sea level rise and changes in storm frequency and magnitude associated with climate change. Finally, the course will provide students with a perspective on how the U.S. seeks to manage its coastal zone, focusing on sea level rise and coastal development. This class will include a quantitative lab that will use MATLAB software to model and evaluate various coastal processes. Students will gain a basic understanding of MATLAB functionality, and will be asked to independently apply what they have learned to various data sets provided by the instructor.

Class Format: lecture two times a week with a lab one time per week

Requirements/Evaluation: lab reports, quizzes, and an independent research project

Prerequisites: Either GEOS 104 or GEOS 210; or permission of instructor. No prior knowledge is necessary, but this course does build on principles used to explore complex scientific challenges.

Enrollment Limit: 15

Enrollment Preferences: Geosciences majors

Expected Class Size: 15

Grading: yes pass/fail option, yes fifth course option

Unit Notes: This course counts toward the GEOS Group B Electives - Sediments + Life.

Distributions: (D3) (QFR)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 327(D3) GEOS 327(D3) CAOS 327(D3)

Quantitative/Formal Reasoning Notes: This course will involve the use of MATLAB software to quantitatively analyze coastal process and

geomorphological data.

Attributes: ENVI Natural World Electives GEOS Group B Electives - Sediments + Life

Fall 2024

LEC Section: 01 MWF 8:30 am - 9:45 am Alex A. Apotsos

ENVI 331 (S) Geomorphology

Cross-listings: GEOS 301

Secondary Cross-listing

Geomorphology is the study of landforms, the processes that shape them, and the rates at which these processes change the landscape in which we live. The course is designed for Geosciences majors and for environmental studies students interested in the evolution of Earth's surface and the ways our activities are changing the planet. We will examine the ways in which climatic, tectonic, and volcanic forces drive landscape evolution over relatively short periods of geologic time, generally thousands to a few millions of years. More recently, the impacts of human activity in reshaping landscapes, determining the movement of water, and changing climate could not be clearer. We will also examine how these impacts are affecting communities, including causes and possible solutions to environmental injustice. We will explore local case studies of geomorphology, such as the impact of ice-age glaciation on landscapes in the northeastern United States and the legacy of deforestation and river damming during the colonial era. We will learn a range of practical skills for describing physical environments and for predicting how they change, including field surveys, GIS analysis, and numerical modelling. This course is in the Sediments and Life group for the Geosciences major.

Class Format: lecture, three hours per week and laboratory, three hours per week

Requirements/Evaluation: weekly lab exercises, a research project, and a midterm and final exam

Prerequisites: At least one 100-level and one 200-level GEOS or ENVI course or permission of instructor

Enrollment Limit: 18

Enrollment Preferences: GEOS and ENVI majors

Expected Class Size: 18

Grading: yes pass/fail option, yes fifth course option

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

GEOS 301(D3) ENVI 331(D3)

Attributes: AMST Space and Place Electives ENVI Natural World Electives EVST Environmental Science EXPE Experiential Education Courses
GEOS Group B Electives - Sediments + Life

Spring 2025

LEC Section: 01 MW 11:00 am - 12:15 pm Chris Halsted

LAB Section: 02 M 1:00 pm - 4:00 pm Chris Halsted

LAB Section: 03 W 1:00 pm - 4:00 pm Chris Halsted

ENVI 335 (F) The Nile (DPE)

Cross-listings: ARAB 308 / GBST 320 / AFR 350 / HIST 308

Secondary Cross-listing

For millennia, the Nile River has sustained civilizations in eastern and northern Africa. It was on the banks of this river that the great Egyptian empires were founded that led to the building of some of humanity's most astounding structures and artworks. While the Nile seems eternal and almost beyond time and place, now in the 21st century, the Nile River is at a historical turning point. The water level and quality is dwindling while at the same time the number of people who rely on the river is ever increasing. This alarming nexus of demography, climate change, and economic development has led to increasingly urgent questions of the Nile's future. Is the Nile dying? How has the river, and people's relationship with it, changed over the last century? This course will consider the history of the Nile and its built and natural environment. After a brief overview of the role of the river in ancient Egypt, we will explore the modern political and cultural history of the Nile. By following an imaginary droplet flowing from tributaries until it makes its way into the Mediterranean Sea, we will learn about the diverse peoples and cultures along the way. We will evaluate the numerous

attempts to manage and control the Nile, including the building of big dams, and the continuous efforts to utilize the river for economic development such as agriculture and the tourism industry. At the end of the semester we will consider the relationship of the major urban centers with the Nile and whether the tensions among Nile riparian states will lead to "water wars" in East Africa and the Middle East.

Requirements/Evaluation: short papers and final project/paper

Prerequisites: none, though background in Middle East history is preferable

Enrollment Limit: 19

Enrollment Preferences: History and Arabic Studies majors

Expected Class Size: 15

Grading: no pass/fail option, no fifth course option

Distributions: (D2) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:

ARAB 308(D2) GBST 320(D2) AFR 350(D2) ENVI 335(D2) HIST 308(D2)

Difference, Power, and Equity Notes: The course fulfills the DPE requirement because it evaluates the differing experiences of the Nile among different cultural groups. It will evaluate how the central government is constantly trying to change how people use their water and therefore over-determine how people interact with their natural environment.

Attributes: HIST Group E Electives - Middle East HIST Group P Electives - Premodern

Not offered current academic year

ENVI 339 (F) Conservation Biology

Cross-listings: BIOL 329

Secondary Cross-listing

Conservation Biology focuses on protection of the Earth's biodiversity. This course starts with an overview of biodiversity including patterns of species richness, causes of species loss (extinction), and the critical contributions of biodiversity to ecosystem function and human welfare. Then we analyze ways to conserve biodiversity at the genetic, population, species and community/ecosystem levels. Labs are field oriented, and focus on local New England communities and ecosystems. Labs emphasize knowing the dominant species in each system; they also stress how to collect and analyze the field data on ecological community structure and function that are critical to test hypotheses that relate to different conservation goals.

Class Format: lectures, discussions, and a weekly lab.

Requirements/Evaluation: Evaluation will be based on lab assignments and reports, discussion participation, two exams and an independent project.

Prerequisites: BIOL 203/ENVI 203 or BIOL 220 or BIOL 305 or permission of instructor.

Enrollment Limit: 24

Enrollment Preferences: Biology majors, Environmental Studies majors, seniors, and juniors

Expected Class Size: 15

Grading: no pass/fail option, no fifth course option

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

BIOL 329(D3) ENVI 339(D3)

Attributes: ENVI Natural World Electives

Not offered current academic year

ENVI 346 (F) Environmental Psychology

Cross-listings: PSYC 346

Secondary Cross-listing

This is a course on contemporary social psychology as it pertains to the natural environment. Our two primary questions in this course are: (1) how can research and theory in social psychology help us understand the ways in which people engage with threats to the natural environment?, and (2) how can social psychology help us encourage environmentally responsible behavior and sustainable practices? Because human choice and behavior

play such an important role in environmental problems, a consideration of human psychology may therefore be an important part of environmental solutions.

Requirements/Evaluation: a series of papers, two essay exams, written and oral reports of research

Prerequisites: PSYC 242 recommended, PSYC 201, or a comparable course in statistics and research methodology, is also recommended.

Enrollment Limit: 19

Enrollment Preferences: Psychology majors, Environmental Studies majors, and Environmental Studies concentrators

Expected Class Size: 19

Grading: yes pass/fail option, yes fifth course option

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 346(D3) PSYC 346(D3)

Attributes: AMST Space and Place Electives ENVI Humanities, Arts + Social Science Electives PSYC Area 4 - Social Psychology

Not offered current academic year

ENVI 351 (F)(S) Marine Policy (DPE) (WS)

Cross-listings: PSCI 319 / CAOS 351

Secondary Cross-listing

Coastal communities are home to nearly 40% of the U.S. population, but occupy only a small percentage of our country's total land area. Intense population density, critical transportation infrastructure, significant economic productivity, and rich cultural and historic value mark our coastal regions as nationally significant. But, coastal and ocean-based climate-induced impacts such as sea level rise, ocean warming and acidification pose extraordinary challenges to our coastal communities, and are not borne equally by all communities. This seminar considers our relationship with our ocean and coastal environments and the foundational role our oceans and coasts play in our Nation's environmental and economic sustainability as well as ocean and coastal climate resiliency. Through the lens of coastal and ocean governance and policy-making, we critically examine conflict of use issues relative to climate change, climate justice, coastal zone management, fisheries, ocean and coastal pollution and marine biodiversity.

Class Format: This class is taught only at Williams-Mystic in Mystic, Connecticut and includes coastal and near-shore interdisciplinary field seminars, and 10 days offshore.

Requirements/Evaluation: Weekly Readings; Class Participation; Small and large group strategy exercises (written and oral); Written Research Project: issues paper and draft research paper; Final Research Project: multiple formats available

Prerequisites: none

Enrollment Limit: 23

Enrollment Preferences: must be enrolled at Williams-Mystic in Mystic, Connecticut

Expected Class Size: 22

Grading: no pass/fail option, no fifth course option

Unit Notes: must be enrolled at Williams-Mystic in Mystic, Connecticut

Distributions: (D2) (DPE) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:

PSCI 319(D2) ENVI 351(D2) CAOS 351(D2)

Writing Skills Notes: Each student will write one 3-5 page research issues paper and one 8-10 page draft research paper as well as a final project with written components equaling 5-8 pages. Each submission receives written feedback from the professor, including research guidance, input on grammar, structure, language, analysis. Students also receive verbal feedback in individual conferences to discuss research paper organization, analysis, structure and grammar as well as final project input.

Difference, Power, and Equity Notes: Coastal and ocean policy issues relating to climate change, coastal zone management, fisheries, ocean pollution and marine biodiversity impact environmental and climate justice. Students examine coastal governance while considering the disproportionate burdens on underrepresented populations in U.S. coastal communities caused by climate change and coastal policies. Students analyze multi-disciplinary evidence and work to strengthen their integrative, analytical, writing, and advocacy skills.

Attributes: ENVI Environmental Policy EXPE Experiential Education Courses POEC Depth

Fall 2024

SEM Section: 01 F 9:00 am - 12:00 pm Catherine Robinson Hall

Spring 2025

SEM Section: 01 F 9:00 am - 12:00 pm Catherine Robinson Hall

ENVI 363 (F) Environmental Fate of Organic Chemicals

Cross-listings: CHEM 363

Secondary Cross-listing

This course introduces students to the methods used to assess the risks posed by organic chemicals to human, animal, and ecosystem health. Our goal is to develop a quantitative understanding for how specific features of organic molecular structure directly dictate a given molecule's environmental fate. We will begin by using thermodynamic principles to estimate the salient physicochemical properties of molecules (e.g., vapor pressure, solubility, charging behavior, etc.) that impact the distribution, or partitioning, of organic chemicals between air, water, soils, and biota. Then, using quantitative structure activity relationships, we will predict the degradation kinetics resulting from natural nucleophilic, photochemical, and biological processes that determine chemical lifetime in the environment.

Class Format: lecture, three hours per week and laboratory, four hours per week

Requirements/Evaluation: weekly problem sets, laboratory exercises, two midterm exams, a final exam, participation in lecture and lab

Prerequisites: CHEM 155 or CHEM 256 and CHEM 156; or CHEM 200 and CHEM 201

Enrollment Limit: 12

Enrollment Preferences: junior and senior Chemistry and Environmental Studies majors with a demonstrated interest in environmental chemistry

Expected Class Size: 12

Grading: no pass/fail option, no fifth course option

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 363(D3) CHEM 363(D3)

Attributes: ENVI Natural World Electives EVST Environmental Science

Fall 2024

LEC Section: 01 TR 9:55 am - 11:10 am Anthony J. Carrasquillo

LAB Section: 02 T 1:00 pm - 5:00 pm Anthony J. Carrasquillo

LAB Section: 03 R 1:00 pm - 5:00 pm Anthony J. Carrasquillo

ENVI 364 (S) Instrumental Methods of Analysis

Cross-listings:

Secondary Cross-listing

Instrumental methods of analysis provide scientists with different lenses to observe and elucidate fundamental chemical phenomena and to measure parameters and properties at the atomic, molecular, and bulk scales. This course introduces a framework for learning about a variety of instrumental techniques that typically include chromatography, mass spectrometry, thermal methods, atomic and molecular absorption and emission spectroscopy, X-ray diffraction, and optical and electron microscopies. Students complete laboratory projects and gain hands-on experience and project planning skills to study molecules and materials of interest. This practical experience is complemented by lectures that cover the theory and broader applications of these techniques. Students also explore the primary literature and highlight recent advances in instrumental methods that address today's analytical questions. The skills learned are useful in a wide variety of scientific areas and will prepare you well for research endeavors.

Class Format: lecture, two times per week and laboratory, four hours per week

Requirements/Evaluation: Weekly data analysis, laboratory assignments and reports, readings for class, problem sets, one oral presentation of an application of instrumental methods, a final independent literature project and presentation; demonstrated progress in research skills, and project engagement.

Prerequisites: CHEM 251 and CHEM 256 (or permission of instructor); or CHEM 200 and CHEM 201 (can be taken concurrently with CHEM 201)

Enrollment Limit: 16/lab

Enrollment Preferences: Chemistry and Environmental Studies majors

Expected Class Size: 16

Grading: no pass/fail option, no fifth course option

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 364(D3)

Attributes: BIMO Interdepartmental Electives ENVI Natural World Electives EVST Methods Courses MTSC Courses

Not offered current academic year

ENVI 376 (F) Economics of Environmental Behavior (QFR)

Cross-listings: CAOS 477 / ECON 477

Secondary Cross-listing

A community maintains a fishery; a firm decides whether to get a green certification; you choose to fly home or stay here for spring break: behaviors of people and firms determine our impact on the environment. We'll use economics to model environmental behavior and to assess how policies can help or hurt the environment. Topics we may study include: common pool resources, voluntary conservation, social norms and nudges, discrimination and justice, rationality, firm responses to mandatory and voluntary regulation, voting and public opinion, and international environmental agreements. We'll also build familiarity with the main methodologies of modern economic research: theoretical modeling, empirical analysis of observational data, and experiments.

Class Format: Class sessions will largely consist of presentations and discussions of academic research papers, as well as lab sessions to work on empirical exercises and other interactive activities

Requirements/Evaluation: class participation, regular reading markup, empirical exercises, oral presentation(s), and an original research paper using an experiment, observational data, or theory

Prerequisites: ECON 251 and (ECON 255 or STAT 346)

Enrollment Limit: 19

Enrollment Preferences: senior Economics majors and junior Economics majors considering a thesis

Expected Class Size: 19

Grading: yes pass/fail option, yes fifth course option

Distributions: (D2) (QFR)

This course is cross-listed and the prefixes carry the following divisional credit:

CAOS 477(D2) ENVI 376(D2) ECON 477(D2)

Quantitative/Formal Reasoning Notes: The research students will consume and produce in the class will be based on math-based theory and/or econometric-based empirical analysis.

Attributes: CAOS Senior Seminars ENVI Humanities, Arts + Social Science Electives POEC Depth POEC Skills

Fall 2024

SEM Section: 01 TR 8:30 am - 9:45 am Sarah A. Jacobson

ENVI 380 (F) Animals and Society

Cross-listings: STS 379

Primary Cross-listing

How do humans and animals shape each other's lives? People encounter animals in farms, laboratories, zoos, wildernesses, and backyards, on purpose and by chance. They treat animals as family members, entertainment, food, vectors of disease, and objects of scientific wonder. Drawing on the works of biologists, philosophers, and feminist science and technology studies scholars, this seminar will examine our relationships with animals and help clarify our responsibilities to them. We will ask: What are the social and environmental consequences of consuming animals? Should humans swim with dolphins, feed manatees, use gene-editing to create species that can survive climate change? Should moral standing depend upon the

ability to communicate or the ability to experience emotions like grief and joy? What can animal models tell us about human health and society, and when is animal otherness too large a gap to bridge? What might human violence toward animals tell us about sexism, racism, or capitalism, and what will human-animal relationships look like in the future?

Requirements/Evaluation: short essays, final portfolio

Prerequisites: none

Enrollment Limit: 18

Enrollment Preferences: juniors and seniors

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 380(D2) STS 379(D2)

Attributes: ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

ENVI 387 Economics of Climate Change (QFR)

This course introduces the economic view of climate change, including both theory and empirical evidence. Given the substantial changes implied by the current stock of greenhouse gases (GHGs) in the atmosphere, we will begin by looking at impacts on agriculture, health, income, and migration. We will consider the distribution of climate damages across poor and wealthy people, both within and across countries. Next we will study adaptation, including capital investments and behavioral changes. We will examine the sources of climate change, especially electricity generation and transportation, and think about optimal policies. Throughout the course we will discuss the limits of the economic approach, pointing out normative questions on which economic theory provides little guidance.

Requirements/Evaluation: problem sets, midterm, group presentation, final exam

Prerequisites: ECON 251, familiarity with statistics

Enrollment Limit: 25

Enrollment Preferences: Junior/Senior Economics majors and CDE fellows

Expected Class Size: 25

Grading:

Distributions: (D2) (QFR)

Quantitative/Formal Reasoning Notes: The course involves simple calculus-based theory and applied statistics.

Attributes: ENVI Environmental Policy POEC Depth

Not offered current academic year

ENVI 390 (F) The Nature of Nature

Cross-listings: ENGL 394

Secondary Cross-listing

"Nature" is one of the commonest words in English. And yet what does it mean? Is it primarily descriptive (all living things), or normative ("natural" foods, "human nature")? This course will consider the richly incoherent ways we think about the living world, paying particular attention to the difficulty of narrating processes that are too big, too small, too quick, or too slow for direct human apprehension. We'll explore the way popular nature writing mingles scientific reporting with implicit and explicit judgments about human identity, and take up the insoluble problem of our proper relation to animals. Considerable attention will be paid to the ethical dimensions of contemporary environmental consciousness and unconsciousness. Writers studied will include Elizabeth Kolbert, Descartes, William Cronon, and Charles Darwin.

Requirements/Evaluation: Several short exercises, two six-page comparative essays, and a final self-designed project, subject to my approval.

Active participation in class. The final project should explore something serious -- about nature, about yourself -- in ways that are not merely verbal or academic, but instead involve a sense of risk.

Prerequisites: a 100-level ENGL course, or a score of 5 on the AP English Literature exam, or a score of 6 or 7 on the Higher Level IB English exam

Enrollment Limit: 25

Enrollment Preferences: English majors; Environmental Studies majors and concentrators; Philosophy majors.

Expected Class Size: 25

Grading: no pass/fail option, no fifth course option

Distributions: (D1)

This course is cross-listed and the prefixes carry the following divisional credit:

ENGL 394(D1) ENVI 390(D1)

Attributes: ENGL Criticism Courses ENVI Humanities, Arts + Social Science Electives

Fall 2024

SEM Section: 01 TF 2:35 pm - 3:50 pm Shawn J. Rosenheim

ENVI 397 (F) Independent Study of Environmental Problems

Individuals or groups of students may undertake a study of a particular environmental problem. The project may involve either pure or applied research, policy analysis, laboratory or field studies, or may be a creative writing or photography project dealing with the environment. A variety of nearby sites are available for the study of natural systems. Ongoing projects in the College-owned Hopkins Forest include ecological studies, animal behavior, and acid rain effects on soils, plants, and animals. Students may also choose to work on local, national, or international policy or planning issues, and opportunities to work with town and regional planning officials are available. Projects are unrestricted as to disciplinary focus. Students should consult with faculty well before the start of the semester in which they plan to carry out their project.

Prerequisites: approval by the Chair of Environmental Studies

Grading: yes pass/fail option, yes fifth course option

Distributions: No divisional credit

Fall 2024

IND Section: 01 TBA José A. Constantine

ENVI 398 (S) Independent Study of Environmental Problems

Individuals or groups of students may undertake a study of a particular environmental problem. The project may involve either pure or applied research, policy analysis, laboratory or field studies, or may be a creative writing or photography project dealing with the environment. A variety of nearby sites are available for the study of natural systems. Ongoing projects in the College-owned Hopkins Forest include ecological studies, animal behavior, and acid rain effects on soils, plants, and animals. Students may also choose to work on local, national, or international policy or planning issues, and opportunities to work with town and regional planning officials are available. Projects are unrestricted as to disciplinary focus. Students should consult with faculty well before the start of the semester in which they plan to carry out their project.

Prerequisites: approval by the Chair of Environmental Studies

Grading: yes pass/fail option, yes fifth course option

Distributions: No divisional credit

Spring 2025

IND Section: 01 TBA José A. Constantine

ENVI 402 (F) Environmental Planning Workshop: Community Project Experience

Cross-listings: AMST 406

Primary Cross-listing

In this class you apply your education to effect social and environmental change in the Berkshires. Students work in small collaborative groups to address pressing issues facing the region. Class teams partner with community organizations and local & county governments to conduct applied research and to develop solutions. Students will learn experientially and contribute to the community. The field of environmental planning

encompasses the *built environment* (eg: housing, zoning, transportation, renewable energy, waste, neighborhood design), the *natural environment* (eg: farmland, ecosystems, habitat, natural resources, air and water pollution and climate change), and the *social environment* (eg: spatial geography, racial zoning, recreation, placemaking, ecojustice, food security, and public health). Skills taught include land use planning, community-based research, basic GIS mapping, developing/conducting surveys, interview technique, project management, public presentations and professional report-writing. The class culminates in presentations to the client organizations. Class hours include time for team project work, client meetings and team meetings with the professor. Recent project topics: <https://ces.williams.edu/environmental-planning-papers/>

Class Format: The weekly conference session (1 hour) is dedicated to site visit field trips, team project work, client meetings and team meetings with professor.

Requirements/Evaluation: Response papers (three 1-page papers), in-class exercises, class discussion, small group work, public meeting attendance, project work, final report (due in segments during semester) and final presentation.

Prerequisites: ENVI 101 recommended; open to juniors and seniors.

Enrollment Limit: 16

Enrollment Preferences: Environmental Studies majors and concentrators, American Studies majors, Maritime Studies concentrators.

Expected Class Size: 16

Grading: no pass/fail option, no fifth course option

Unit Notes: Course fulfills senior seminar requirement for Environmental Studies Majors & Environmental Studies Concentrators. American Studies Space & Place elective. Course is an Environmental Studies Concentration elective (ENVI Policy and ENVI Humanities, Arts + Social Science) and Environmental Studies Major elective.

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 402(D2) AMST 406(D2)

Attributes: AMST Space and Place Electives ENVI Core Courses ENVI Humanities, Arts + Social Science Electives ENVI Environmental Policy ENVI Senior Seminar EVST Core Courses EVST Senior Seminar EXPE Experiential Education Courses

Fall 2024

SEM Section: 01 W 1:10 pm - 3:50 pm Sarah Gardner

CON Section: 02 T 1:10 pm - 2:10 pm Sarah Gardner

CON Section: 03 R 1:10 pm - 2:10 pm Sarah Gardner

ENVI 410 (S) The Cryosphere

Cross-listings: CAOS 410 / GEOS 410

Secondary Cross-listing

The Earth's climate system is often described in terms of its spheres, including the atmosphere, biosphere, lithosphere, oceans, and the cryosphere. The cryosphere is the naturally occurring ice on Earth in all its many forms: snow, glaciers, ice sheets, sea ice, frozen lakes and rivers, and permafrost (frozen soil). These parts of the climate system may seem remote, but have implications for climate and weather around the world. Melting glaciers and ice sheets have already contributed to sea level rise, and are projected to do so even more in the future. This course will explore the cryosphere, including snow, sea ice, permafrost, and glaciers through lectures, hands-on and data analysis labs, reading journal articles, and a final project. As a 400-level seminar, this capstone course is intended to build on and extend knowledge and skills students have developed during previous courses in the major.

Class Format: Class periods and lab periods will be used interchangeably based on the weather.

Requirements/Evaluation: Evaluation will be based on short papers, labs responses, and a research project

Prerequisites: GEOS 215 or GEOS 255 or GEOS 309 or MAST 311 or permission of instructor

Enrollment Limit: 10

Enrollment Preferences: Senior GEOS majors, then other GEOS majors and senior ENVI majors

Expected Class Size: 10

Grading: yes pass/fail option, yes fifth course option

Unit Notes: As a 400-level seminar, this capstone course is intended to build on and extend knowledge and skills students have developed during

previous courses in the major

Materials/Lab Fee: Labs will be outside during the winter: students should be prepared to dress appropriately for the weather.

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:

CAOS 410(D3) ENVI 410(D3) GEOS 410(D3)

Attributes: ENVI Natural World Electives GEOS Group A Electives - Climate + Oceans

Spring 2025

SEM Section: 01 WF 8:30 am - 9:45 am Alice C. Bradley

LAB Section: 02 M 8:30 am - 9:45 am Alice C. Bradley

ENVI 413 (F) The Big Ideas: Intended and Unintended Consequence of Human Ambition (DPE) (WS)

Cross-listings: HIST 413 / GBST 413 / ARAB 413

Secondary Cross-listing

What have been the most consequential ideas of the last 100 years? This course will explore some of the more audacious and ambitious plans to alter natural and urban environments in the late 19th century to the early part of the 21st, specifically those that sought to improve the human condition through science, engineering, and technology. By building big bold things, politicians around the globe sought to bring prosperity to their nation and embark on a path of modernity and independence. Through an intellectual, political and environmental history of major construction projects such as the building of the Suez Canal and the Aswan Dam, extensive river valley developments in Iran, Turkey and Iraq, and utopian and futuristic city planning in western Asia, students will consider how, with the benefit of hindsight, to best evaluate the feasibility of such bold schemes. Who has benefitted and who has not, what have been some of the unanticipated consequences, what was sacrificed or neglected, and what do these projects tell us about the larger processes of global capitalism, decolonization, and climate change?

Requirements/Evaluation: A presentation, shorter writing assignments and a longer research paper (20-25 pages) in the end. Students will submit shorter drafts of final paper in order to receive constructive feedback prior to final submission.

Prerequisites: None

Enrollment Limit: 15

Enrollment Preferences: Seniors, especially History, Arabic and Environmental Studies majors.

Expected Class Size: 15

Grading: no pass/fail option, no fifth course option

Distributions: (D2) (DPE) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:

HIST 413(D2) GBST 413(D2) ARAB 413(D2) ENVI 413(D2)

Writing Skills Notes: A 20-25 page research paper will be required at the end of the semester. Prior to getting to that point, students will submit an annotated bibliography, a two page proposal, a five and eventually a 10 page draft. Each draft will receive extensive comments and suggestions from peers and instructor. In this way, the student will think about the process of writing and the best way to set themselves up for success.

Difference, Power, and Equity Notes: This course examines how a number of different nations in Africa and Asia sought to improve the living conditions of the masses through major construction project. Though ostensibly these schemes were supposed to improve the livelihood of all, often they primarily benefitted the few - the urban elite - and not the general population. This course will therefore explore how certain class, gender and racial lines were solidified and maintained through economic development plans.

Attributes: HIST Group E Electives - Middle East

Not offered current academic year

ENVI 450 (F) Senior Seminar: Environmental Ethnography (WS)

A key question orients this course: What can the embodied, place-based, and detailed approach of ethnographic study bring to our understandings of the environment? This upper-level seminar will explore this question through classroom discussions and a semester-length research project. Students will engage different styles of environmental ethnography while undertaking their own ethnographic projects involving the Williams College community and surrounding areas. Students will learn to work across different kinds of evidence as they draft fieldnotes, code fieldwork data, extrapolate key

ideas from their fieldwork materials, and discover new ways of building environmental knowledge. Students will use these materials to collectively assemble an edited volume of ethnographic snapshots to be presented to the wider Environmental Studies community at Williams.

Requirements/Evaluation: Participation in seminar discussions; Weekly fieldnotes (2-3 pages per week); Mid-term coded fieldwork notes and summary statements (9-20 pages); Final ethnographic paper (10-12 pages) and short film

Prerequisites: none

Enrollment Limit: 19

Enrollment Preferences: Environmental Studies majors and concentrators; Juniors and Seniors

Expected Class Size: 12

Grading: no pass/fail option, no fifth course option

Distributions: (D2) (WS)

Writing Skills Notes: This is a writing intensive capstone seminar. Students will produce and receive peer and professor feedback on weekly written assignments. The course includes a 9-20 page midterm and a 10-12 page final ethnographic paper.

Attributes: ENVI Environmental Policy EVST Senior Seminar

Fall 2024

SEM Section: 01 W 1:10 pm - 3:50 pm Brittany Meché

ENVI 460 (S) Communicating Climate Change

Long-term, probabilistic thinking about scary scenarios is hard. When the relevant time frames extend to centuries and millennia, it is really hard. And when the degree of scariness is determined by sciences that few people understand, it is really, really hard. Such is the challenge of climate change communication. No matter what your interests or career paths might be, you will need to be able to communicate effectively about environmental problems, often with people who see them very differently from you. It is difficult to communicate about any problem across social, political, and cultural divides. But environmental problems present special challenges. For one thing, they typically involve complicated, contested science. For another, their effects are often difficult to perceive yet potentially devastating in their consequences, especially for future generations and marginalized people. For yet another, their solutions often seem hopelessly difficult to implement. And for yet another, they are thoroughly entangled with almost every other problem we face, from pandemics to racism to wealth inequality. How do we communicate clearly, persuasively, and responsibly about something so complex? What does climate change really *mean*? This seminar brings together students with interests in the humanities, arts, social sciences and sciences to seek answers to this fundamental question. Drawing on insights from the qualitative social sciences and environmental humanities, we will develop a theoretical and methodological tool kit that can be applied to concrete, practical problems. Over the course of the semester, each student will pursue a major independent project that allows them to put these tools to use while exploring a topic of personal significance.

Requirements/Evaluation: Several sequenced short writing assignments leading to a 15-20 page final paper.

Prerequisites: Environmental Studies 101 and 102.

Enrollment Limit: 19

Enrollment Preferences: Environmental/Maritime Studies majors and concentrators.

Expected Class Size: 15

Grading: no pass/fail option, yes fifth course option

Distributions: (D2)

Attributes: CAOS Senior Seminars ENVI Core Courses EVST Core Courses

Spring 2025

SEM Section: 01 W 1:10 pm - 3:50 pm Nicolas C. Howe

ENVI 465 (S) Solutions to the Biodiversity Crisis

The biodiversity crisis is one of the greatest challenges of our century. Faced with climate change, persistent pollution, and habitat fragmentation, species are declining locally and globally. In this upper-level seminar we will integrate knowledge from the natural sciences, social sciences, policy, arts, and the humanities to design and implement biodiversity interventions. Through readings, discussions with experts, and applied projects, we will

learn how biodiversity conservation and restoration can be socially just; how spaces can be designed to promote the flourishing of life; and how much local environmental management can alter global trends. We will also envision what the biotic world might look like in 10, 100, and 1000 years and consider who gets to decide which species live and which die, and who *should* decide.

Requirements/Evaluation: One 5-7-page paper; final collaborative project

Prerequisites: Environmental Studies 101 and 102

Enrollment Limit: 19

Enrollment Preferences: Environmental/Maritime Studies majors and concentrators; seniors

Expected Class Size: 12

Grading: no pass/fail option, no fifth course option

Distributions: (D2)

Attributes: ENVI Senior Seminar EVST Senior Seminar MAST Senior Seminar

Not offered current academic year

ENVI 478 (S) Cold War Landscapes

Cross-listings: AMST 478 / HIST 478

Secondary Cross-listing

The Cold War between the United States and the Soviet Union set in motion dramatic changes to the natural and built environments of many nations between 1945 and 1991. Nuclear test and missile launch sites, naval installations, military production operations, and border securitizations are just a few of the most obvious ways in which the stand-off between the two countries altered rural and urban landscapes around the world. But one can also see the Cold War as setting in motion less immediately direct but nonetheless profound changes to the way that many people saw and planned for the environments around them, as evidenced, for instance, by the rise of the American suburb, the reconstruction of postwar Europe, and agricultural and industrial initiatives in nations across the globe. We will begin this seminar by exploring several distinct "Cold War landscapes" in the United States and North America. We will then move on to examining others in Europe and the Soviet Union. Our approach to our topics will be interdisciplinary throughout the semester, with the additional goal of helping students frame their final projects. Students are encouraged to write their research papers on any geographical area of the world that interests them.

Requirements/Evaluation: Class participation and semi-weekly critical writing on the reading; students will also be expected to keep up through the stages of the research paper process, which will involve submitting a short research plan, annotated bibliography, outline, and a rough draft, as well as the final 20- to 25-page paper.

Prerequisites: none

Enrollment Limit: 12

Enrollment Preferences: History, ENVI, and AMST majors if over-enrolled

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:

AMST 478(D2) ENVI 478(D2) HIST 478(D2)

Attributes: AMST Space and Place Electives ENVI Humanities, Arts + Social Science Electives HIST Group C Electives - Europe and Russia HIST Group F Electives - U.S. + Canada

Spring 2025

SEM Section: 01 TF 2:35 pm - 3:50 pm Karen R. Merrill

ENVI 491 (S) The Suburbs (WS)

Cross-listings: AMST 490 / HIST 491

Secondary Cross-listing

The suburbs transformed the United States. At the broadest level, they profoundly altered spatial residential geography (especially in terms of race),

consumer expectations and behavior, governmental policies, cultural norms and assumptions, societal connections, and Americans' relationship to nature. More specifically, the different waves of post-World War II suburban development have both reflected large-scale shifts in how power and money have operated in the American political economy; and set in motion deep-seated changes in electoral politics, in Americans' understandings of how their income should be used, and in how the built landscape should be re-imagined. This tutorial will explore the rich historical literature that has emerged over the last twenty years to provide students with a history of the suburbs, to see the suburbs as more than simply collections of houses that drew individual homeowners who wanted to leave urban areas. We will focus most of our attention on the period from 1945 through the 1980s. Some of the questions we will consider will include: how did the first wave of suburban development bring together postwar racial and Cold War ideologies? Is it possible, as one historian has argued, that suburbs actually created the environmental movement of the 1960s? And how have historians understood the role that suburbs played in America's conservative political turn, leading to the election of Ronald Reagan?

Class Format: Students will meet with the professor either in assigned pairs or "trios" at a regularly scheduled time each week. Students in pairs will meet for one hour; students in trios will meet for 75 minutes.

Requirements/Evaluation: This class follows a typical tutorial format; every other week, students will write and present orally a 5- to 7-page essay on the assigned readings; on alternate weeks, students will write a 2-page critique. During two of the weeks of the semester (around the middle of the semester and at the end), all students will write papers that explore a common question or theme.

Prerequisites: none

Enrollment Limit: 10

Enrollment Preferences: History majors and students with course work related to the topic.

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option

Distributions: (D2) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:

ENVI 491(D2) AMST 490(D2) HIST 491(D2)

Writing Skills Notes: Students will reflect on what their writing goals are for the semester, and they will receive feedback on their writing from the professor and from their tutorial partner. The final writing assignment will afford students the chance also to reflect back on their previous papers and the semester's course content.

Attributes: AMST Space and Place Electives ENVI Humanities, Arts + Social Science Electives HIST Group F Electives - U.S. + Canada

Spring 2025

TUT Section: T1 TBA Karen R. Merrill

ENVI 493 (F) Senior Research and Thesis: Environmental Studies

Environmental Studies senior research and thesis; this is part of a full-year thesis (493-494).

Prerequisites: approval by the Chair of Environmental Studies

Grading: yes pass/fail option, yes fifth course option

Distributions: No divisional credit

Fall 2024

HON Section: 01 TBA José A. Constantine

ENVI 494 (S) Senior Research and Thesis: Environmental Studies

Environmental Studies senior research and thesis; this is part of a full-year thesis (493-494).

Prerequisites: approval by the Chair of Environmental Studies

Grading: yes pass/fail option, yes fifth course option

Distributions: No divisional credit

Spring 2025

Winter Study -----

ENVI 14 Environmental Law and Policy

This course covers the major environmental protection areas, and current issues, such as air and water pollution, climate change, regulation of toxic wastes, cleanup of contaminated sites, environmental justice, and ecosystem and endangered species protections. It also introduces students to the American legal system by covering a range of environmental legal actions, including both common law lawsuits by private persons, and governmental regulation and enforcement under the major environmental statutes. Students will be exposed to careers in environmental law and policy and will also develop legal reasoning, argumentation, and writing skills.

Requirements/Evaluation: Paper(s) or report(s); Presentation(s)

Prerequisites: None

Enrollment Limit: 25

Enrollment Preferences: ENVI studies majors will be given preference.

Expected Class Size: NA

Grading:

Unit Notes: Korinna Garfield is a current student at Boston College Law School studying environmental law. She is a graduate of Williams College with a major in Environmental Studies and a concentration in Justice and Law.

Attributes: EXPE Experiential Education Courses STUX Winter Study Student Exploration

Not offered current academic year

ENVI 24 (W) Farming New England: A Deep Dive Into the Regional Food System

Farmers feed us all. In this intensive experiential course, students will learn how. New England produces about 10 percent of its own food: 90 percent of the food is imported from outside the region. Farming in the region has been in decline for decades and farms face a range of challenges, from climate change induced flood & drought, to financial woes and debt, social isolation, and physical maladies. With more support, regenerative farming techniques and a new generation of trained farmers, New England's farms can succeed and continue to contribute to the regional food system. This can only happen with supportive policies that promote family farms and local agriculture, and of course, a new generation of farmers. This class examines the complexities of the regional food system from multiple perspectives: farmers, farming, agronomy, climate change, food insecurity, food systems planning, agricultural policy, agricultural economics and markets, culture, race and class, and land use planning. Five overarching questions shape the class: What are the challenges and opportunities to farming in New England? How can New England's agriculture succeed and expand? How is regenerative farming part of the solution? What will it take for the region to produce more of its own food and address regional food insecurity? How can farming be more socially just and racially equitable? Students will learn through immersion in the agricultural world for the month. Class meets three days a week: two days a week of farmwork on a variety of farms (livestock farms, dairy farms (cow and goat), cheesemaking operations, diversified farms, vegetable & greenhouse, and the Food Bank), and one day a week meeting with experts: agronomists, ag extension workers, farmland planners, and agricultural/food system policymakers. Students will learn through hands-on work (yes, you will get dirty!), conversation with farmers and others in the agricultural field, class reading, group discussion, reflection, and writing. The class will spend a Saturday at the NOFA Conference (Northeast Organic Farmers Association), Students are encouraged to reflect on their daily class experiences and will keep a journal after each class meeting. The class will include two overnight trips (1 and 2 nights) in the New England region.

Class Format: Experiential, primarily field-based class.

Requirements/Evaluation: Class participation: farmwork, class discussion, conversations with farmers and others involved in the class; journal.

Prerequisites: None

Enrollment Limit: 6

Enrollment Preferences: Environmental Studies majors and concentrators; students with a demonstrated interest in agriculture and/or outdoor work & experience.

Expected Class Size: 6

Grading: pass/fail only

Materials/Lab Fee: \$600

Attributes: EXPE Experiential Education Courses

Not offered current academic year

ENVI 31 (W) Senior Research and Thesis: Environmental Studies

To be taken by students registered for Environmental Studies 493-494.

Class Format: thesis

Grading: pass/fail only

Not offered current academic year

ENVI 99 (W) Independent Study: Environmental Studies

Open to upperclass students. Students interested in doing an independent project (99) during Winter Study must make prior arrangements with a faculty sponsor. The student and professor then complete the independent study proposal form available online. The deadline is typically in late September. Proposals are reviewed by the pertinent department and the Winter Study Committee. Students will be notified if their proposal is approved prior to the Winter Study registration period.

Class Format: independent study

Grading: pass/fail only

Not offered current academic year