ENVIRONMENTAL STUDIES MAJOR

Chair: Associate Professor Nicolas Howe
Associate Director: Lecturer Sarah Gardner


Mystic Executive Director: T. Van Winkle.

MEMBERS OF THE CENTER FOR ENVIRONMENTAL STUDIES (2020-21)

Alex Apotsos, Visiting Lecturer in Geosciences
Henry W. Art, Professor of Biology and Environmental Studies
Sonya Auer, Visiting Assistant Professor of Biology
Lois M. Banta, Professor of Biology
Ron D. Bassar, Assistant Professor of Biology
Ben Benedict, Lecturer in Art
Julie C. Blackwood, Assistant Professor of Mathematics
Roger E. Bolton, Professor of Economics, Emeritus
Ralph Bradburd, David A. Wells Professor of Political Economy
Alice C. Bradley, Assistant Professor of Geosciences
Nicole G. Brown, Assistant Professor of Classics
Cory E. Campbell, instructional Technology Specialist
Anthony Carrasquillo, Assistant Professor of Chemistry
Gregory Casey, Assistant Professor of Economics
David Cassuto, Class of 1946 Visiting Distinguished Professor of Environmental Studies
Phoebe A. Cohen, Associate Professor of Geosciences
Jose E.A. Constantine, Assistant Professor of Geosciences
Mea S. Cook, Associate Professor of Geosciences
David P. Dethier, Professor of Geosciences, Emeritus
Joan Edwards, Samuel Fessenden Professor of Biology
Laura Ephraim, Associate Professor of Political Science
Michael Evans, Assistant Director of The Zilkha Center
Jessica M. Fisher, Assistant Professor of English
Antonia Foias, Professor of Anthropology and Sociology
Jennifer L. French, Professor of Spanish
Sarah S. Gardner, Lecturer in Environmental Studies
Environmental studies call upon citizens, organizations, and governments to grasp complex scientific concepts, address conflicting human values, and make difficult economic, political and ethical choices. A proper understanding of environmental issues is therefore an interdisciplinary exercise.

The concentration in Environmental Studies is designed to help students to:

- Effectively address complex environmental issues by integrating perspectives from the natural sciences, the social sciences, and the arts and humanities;

- Understand ecological principles and the nature of living systems;
• Apply scientific methods to collect environmental data and evaluate environmental quality;

• Understand the political and economic factors that inform, enable, and constrain environmental policy;

• Understand the social, cultural, and historical factors that shape environmental thought, history, and behavior;

• Develop significant understanding of one or more of the essential methodological approaches required in addressing environmental challenges;

• Have an appreciation for the ambiguity and uncertainty inherent in many environmental issues;

• Apply their learning in a practical setting.

The program is administered by the Center for Environmental Studies (CES), located in the Class of 1966 Environmental Center. Founded in 1967, the CES is considered to be the first environmental studies center at a liberal arts college. In addition to the academic program described below, the CES offers extensive resources including databases, funding for student-organizations and student-initiated activities, and generous support for summer research and internships. The Class of 1966 Environmental Center, a Living Building and the Program’s home, includes a classroom, living room, study rooms, kitchen, as well as student gardens. The CES manages the Hopkins Memorial Forest, a 2600-acre natural area only 1.5 miles from campus, in which there are field-study sites and a laboratory, and where passive-recreation opportunities may be found in all seasons. The CES also operates the Environmental Analysis Laboratory in Morley Science Center.

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 members of CES for advice. All incoming majors will be assigned a faculty advisor in the spring of their sophomore year.

Advisors for 2019-20: Henry Art, R. Bradburd, Sarah Gardner, N. Howe, Pia Kohler, Laura Martin, and Mea Cook.

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 advance approval in writing from the Chair of Environmental Studies.

CONCENTRATION IN ENVIRONMENTAL STUDIES

The Environmental Studies concentration provides students with an opportunity to explore how humans interact with the environment, including physical, biological, philosophical, and social elements. The concentration is designed so that students will understand the complexity of issues and perspectives that inhere in environmental problems and will appreciate that most environmental issues lack distinct disciplinary boundaries. The goal of the concentration is to educate students to be well-informed, environmentally literate citizens who have the capacity to become active participants in the local and global community. To this end, the concentration is designed to develop the capability to think in interdisciplinary ways and to use synthetic approaches to solve problems while incorporating the knowledge and experiences gained from majoring in other departments at the College.

The Environmental Studies concentration is a seven-course concentration in which students gain broad exposure to environmental studies while pursuing another major. In addition to the core of ENVI 101, ENVI 102, ENVI 302, and ENVI 412, students pursuing the concentration will take one elective from each group that represents a broad category of inquiry: Environmental Policy; Humanities, Arts and Social Sciences; and the Natural World.

THE MAJOR IN ENVIRONMENTAL STUDIES

The Environmental Studies major is an eleven-course major. The major has a core of seven courses, with varying amounts of choice for the various core course requirements. All majors are required to take four of the seven courses: ENVI 101, ENVI 102, ENVI 302, and the ENVI 412 the Senior Seminar. ENVI 101 – Nature and Society: An Introduction to Environmental Studies, is a broad introduction to the field, emphasizing the humanities 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. All majors are also required to take, in the junior year (or senior year under special circumstances), ENVI 302 – Environmental Planning Workshop: Community-Based Experience (offered every fall), and ENVI 412 – Environmental Studies Senior Seminar (offered every spring). The remaining core requirements are comprised of three foundational 200-level courses, one from each of three lists of courses (see below.). These lists represent the three main branches of the environmental curriculum: Environmental humanities, environmental social science/policy, and environmental science. Students choose, in consultation with their major advisor,
the course they will take from each of the three lists.

Building on this seven-course foundation, Environmental Studies majors devise an individualized four-course cluster of electives that together comprise a disciplinary or thematic specialization sequence—for example, climate change policy, environmental justice, the built environment, environmental chemistry, sustainable food and agriculture, environmental ethics, etc. Students are responsible for designing their own major cluster in consultation with a faculty advisor in the spring semester of their sophomore year. One of these four electives in the cluster must be among those listed by the Program as a research methods course, although students may petition to count another course toward this requirement under special circumstances.

The study of living systems is an integral component of environmental studies, and therefore all students majoring in environmental studies will need to complete at least one course designated by the Program as a “living systems” course (this may be within their specialization cluster or as one of their 200-level foundational courses).

**Submitting your Proposed Course Cluster and Plan of Study to the Major**

Students intending to major in environmental studies must meet with a prospective advisor chosen in consultation with the Environmental Studies Chair to develop their proposed four-course cluster and plan of study through the major. We encourage all students interested in the major to meet with a faculty member in Environmental Studies at least one week prior to spring pre-registration to discuss their proposed cluster and plan of study. The proposals must be submitted to the program Chair on or before the final day of pre-registration in the spring of the sophomore year. Application materials and instructions are available from Environmental Studies faculty and on the CES website (ces.williams.edu). The individual proposals will be reviewed by the CES Advisory Committee.

**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. For example, should you want to design a cluster that emphasizes environmental economics, ENVI/ECON 387 (Economics of Climate Change) has a prerequisite of ECON 251 (Price and Allocation Theory), which in turn has a prerequisite of ECON 110. Similarly, should you design a cluster that emphasizes resource conservation, you should be aware that ENVI 312 (Communities and Ecosystems) has a prerequisite of ENVI/Biol 203 (Ecology) or ENVI/Biol 220 (Field Botany and Plant Natural History). Students interested in the program are encouraged to consult with members of the Environmental Studies Program and to contact the Chair or Associate Director.

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

Students are not allowed to place out of ENVI 101 or 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 217 / AMST 216 Landscape, Place and Power
  - Taught by: Nicolas Howe
  - Catalog details
- ENVI 229 / HIST 264 Environmental History
  - Taught by: Laura Martin
  - Catalog details
- ENVI 244 T / PHIL 244 Environmental Ethics
  - Taught by: Julie Pedroni
  - Catalog details
- ENVI 246 / AMST 245 / HIST 265 Race, Power, & Food History
  - Taught by: April Merleaux
  - Catalog details
- ENVI 250 / STS 250 Environmental Justice
  - Taught by: Laura Martin
  - Catalog details
- ENVI 259 / AMST 259 / HIST 259 New England Environmental History
  - Taught by: Laura Martin
  - Catalog details
- RLSP 216 / ENVI 233 Latin American Environmental Literature and Cultural Production
Environmental Science Foundational (with lab, 1 course)

BIOL 203 / ENVI 203(F) Ecology
- Taught by: Jennifer French

GEOS 215 / ENVI 215(F) Climate Changes
- Taught by: Allison Gill

GEOS 305 / ENVI 205 Geomorphology
- Taught by: Mea Cook

GEOS 309 / ENVI 209(F) Modern Climate
- Taught by: José Constantine

Social Science/Policy Foundational (1 course)

ECON 213 / ENVI 213(F) Introduction to Environmental and Natural Resource Economics
- Taught by: Sarah Jacobson

ENVI 206(S) Global Environmental Politics
- Taught by: April Merleaux

ENVI 270 Environmental Problems: Social Causes, Consequences, and Policy Solutions
- Taught by: Pia Kohler

ENVI 283 / PSCI 283 Dirty Politics: Regulating Hazardous Chemicals and Wastes
- Taught by: David Cassuto

Specialization Cluster (4 courses, including a Living Systems course and a Methods course)

In the spring of the sophomore year, at the same time that the major declaration is due, each student planning to major in Environmental Studies is required to submit a detailed proposal for a specialization cluster comprised of four elective courses built around a disciplinary or thematic focus. The proposed specialization must include one course identified as a “methods” course, that is, a course providing substantial training in a relevant method of inquiry (see list below for indicative list of courses that might fulfill that designation).

To help students get a better idea of what the “cluster” entails, we have provided examples of specialization clusters on the CES website, including on the following themes (not intended to be an exhaustive list): climate change policy, environmental justice, environmental planning and design, environmental literature, environmental chemistry, environmental biology, environmental geosciences, sustainable design, water and energy, sustainable food and agriculture, urban studies, and environmental economics.

The student’s specialization sequence will be developed under guidance of an adviser from the CES faculty, and formally approved by the CES Advisory Committee, and will be examined in the broader context of the student’s proposed route through the major (including their choice of 200-level foundational courses). One of the courses in the student’s proposed route through the major must be from a designated list of “living systems” courses (below).

Courses taken abroad may be included in the specialization with the approval of the Chair or Associate Director. Additional courses from the 200-level group requirements (culture/humanities; social science/policy; and environmental science) or from among the research practicum courses may also be included in the specialization.

Living Systems (1 course)

The Environmental Studies program will consider requests from students to substitute another course that focuses on living systems for one of the courses listed above. These requests should be submitted to the Chair or to Sarah Gardner, Associate Director.

BIOL 154 / ENVI 154(F) The Tropics: Biology and Social Issues
- Taught by: Joan Edwards

BIOL 203 / ENVI 203(F) Ecology
Methods (1 course)

This is not intended to be an exhaustive list. Students are expected to make the case for how their designated methods course complements their proposed specialization.

**ANSO 205(S)Ways of Knowing**
- Taught by: Ben Snyder

**CHEM 364 / ENVI 364(F)Instrumental Methods of Analysis**
- Taught by: Christopher Goh, Amnon G Ortoll-Bloch

**ECON 255(F,S)Econometrics**
- Taught by: David Zimmerman, Matthew Gibson, Owen Ozier

**GEOS 214 / ENVI 214(S)Mastering GIS**
- Taught by: José Constantine

**GEOS 255 / ENVI 255Environmental Observation**
- Taught by: Alice Bradley

**GEOS 309 / ENVI 209(F)Modern Climate**
- Taught by: Alice Bradley

**POEC 253(F)Empirical Methods in Political Economy**
- Taught by: Anand Swamy

**STAT 201(F,S)Statistics and Data Analysis**
- Taught by: Elizabeth Upton, Richard De Veaux, Anna Plantinga

**STAT 202(F,S)Introduction to Statistical Modeling**
- Taught by: Laurie Tupper

**STAT 346(F,S)Regression Theory and Applications**
- Taught by: Richard De Veaux

**Experiential Required Course (1 course)**

In the junior year, or under special circumstances in the senior year, students will take ENVI 302 Environmental Planning Workshop: Community-Based Experience. Offered every fall semester, the practicum Environmental Planning Workshop engages students in team-based work on community projects in the Berkshire region involving urban or rural land use planning and environmental design.

**Senior Seminar Required Course (1 course)**

In the senior year students will take ENVI 412, Senior Seminar, a capstone course. Offered in the spring semester, the Senior Seminar engages students in research on a policy-related environmental problem.

**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

Candidates for honors in Environmental Studies will complete a thesis in their senior year. A student earns honors by successfully completing a rigorous independent project under the supervision of a member of the CES faculty. The thesis may either be a one-semester plus Winter Study project, or a full-year project (two semesters plus Winter Study). Students who are majoring in environmental studies, and who opt to complete a year-long thesis project, have the option of substituting the second semester of their thesis work for the spring semester senior seminar. Honors will be awarded on the basis of the academic merit and originality demonstrated by the student in the completed thesis. Because many theses will require sustained field, laboratory or archival work that is difficult to combine with conventional coursework, students are strongly encouraged to spend the summer before senior year and/or their senior year Winter Study doing advance research.

Funds to support student research are available from endowment funds of the CES, and an open competition is held each spring to allocate summer funding resources. Other departments may also provide limited support for summer thesis research. Students and their faculty sponsors should plan the thesis with the expectation of such research in mind.

Juniors who wish to apply to pursue honors should submit a 5-page proposal to their intended advisor and the Chair of Environmental Studies by the first Friday in March. If a student wishes to pursue thesis research advised by a faculty member not affiliated with CES, the student must also identify a co-advisor from within the program. Students applying to conduct an honors thesis in Environmental Studies will be notified before spring break whether or not their proposal has been approved.

Students doing a full-year thesis give a presentation in October to their thesis advisor, second reader, and environmental studies community. Further details on the honors program are available through the Environmental Studies website: [https://ces.williams.edu/academic-program/honors/](https://ces.williams.edu/academic-program/honors/)

ENVI 100  (S)  Introduction to Weather and Climate

**Cross-listings:** GEOS 100  ENVI 100

**Secondary Cross-listing**

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 the atmosphere and how air moves and changes, understanding the wind, clouds, precipitation, and extreme events (including thunderstorms, hurricanes, and tornados) that form our weather. Building off of our understanding of the atmosphere, we’ll look at longer time scales to develop a basic understanding of earth’s climate, global heat and moisture transport, climate change, and the ways that humans can change our planet. We will look at weather and climate models to learn how to scientists and meteorologists predict future conditions. Labs will include local field trips, bench top experiments, and running a climate model on a computer. This course is in the Oceans and Climate group for the Geosciences major.

**Requirements/Evaluation:** lab assignments, a midterm, and a final exam

**Prerequisites:** none

**Enrollment Limit:** 40

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

**Expected Class Size:** 40

**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 100 (D3) ENVI 100 (D3)

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

Not offered current academic year

ENVI 101  (F)  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, and more -- as well as their possible solutions. We will survey policy-making and activism in a variety of contexts and will examine art, literature, film, music, maps, advertisements, and other cultural objects. 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 how natural systems influence and are influenced by human activities.

**Class Format:** Fall 2020: The two sections of the course will be taught entirely online (Howe) or in a hybrid format accommodating both students on campus & those learning remotely (Merleaux). Both sections will be divided into small discussion groups meeting once per week. Some meetings may be scheduled outside of the allotted time block. Course includes a mix of synchronous & asynchronous online work, including video lectures, writing workshops, virtual field trips, reading annotation, and discussion forums.

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

**Prerequisites:** none

**Enrollment Limit:** 20/section

**Enrollment Preferences:** Environmental Studies majors and concentrators

**Expected Class Size:** 20/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 Electives

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**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:** Lecture/laboratory; two asynchronous pre-recorded lectures up to 75-minutes each and one 2-hour field/laboratory/discussion/data analysis session each week. Remote students will be able to view pre-recorded field/lab procedures and participate in all data analyses and discussions.

**Requirements/Evaluation:** Weekly short quizzes, three exams, 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:** no pass/fail option, no fifth course option

**Unit Notes:** Required course for Environmental Studies major and concentration

**Distributions:** (D2)

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

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**Spring 2021**

LAB Section: 02  T 1:00 pm - 3:00 pm  Alex A. Apotosos

LAB Section: 03  W 1:00 pm - 3:00 pm  Sonya K. Auer
ENVI 103 (F) Global Warming and Environmental Change

Cross-listings: GEOS 103 ENVI 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 soil erosion, the natural processes that shape Earth's surface are tied to temperature and precipitation. As those change, the landscape reacts. 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 the geography of place. 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. This course is in the Sediments and Life group for the Geosciences major.

Class Format: The course will have a hybrid format, with lectures taking place on-line and labs meeting in-person. Labs will take place every other week for two hours, and we will virtually meet each week for discussion.

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

Prerequisites: none

Enrollment Limit: 40

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

Expected Class Size: 40

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 GEOS Group B Electives - Sediments + Life

Fall 2020

ENVI 104 (S) Oceanography

Cross-listings: GEOS 104 MAST 104 ENVI 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. This course is in the Oceans and Climates group for the Geosciences major.

Class Format: Remote lectures, students attend a 2-hour lab every other week. Lab meetings will be a mixture of remote, and in-person/hybrid formats. If public health conditions allow, there may be a field trip.

Requirements/Evaluation: two midterm exams, homework, lab work, and a final exam

Prerequisites: none
Spring 2021

LAB Section: H2  M 1:00 pm - 3:00 pm  Mea S. Cook
LAB Section: H3  W 1:00 pm - 3:00 pm  Mea S. Cook
LEC Section: R1  MWF 10:40 am - 11:30 am  Mea S. Cook

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

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 consider the inter-related nature of 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, examine many of its feedbacks, and learn about the dramatic changes that have occurred throughout the history of the Earth. 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, how can we detect that in the rock record, and how did this biological event lead to profound changes in the environment? How and why did animals evolve and what role did environmental change play in the radiation of animal life? How did the rise and radiation 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 history, with special attention paid to the geological and paleontological history of the northeastern United States. This course is in the Sediments and Life group for the Geosciences major.

Class Format: one laboratory per week plus one all-day field trip
Requirements/Evaluation: lab work, short quizzes, midterms, an independent project, and a final exam
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:
GEOS 101 (D3) ENVI 105 (D3)
Attributes: ENVI Natural World Electives  EXPE Experiential Education Courses  GEOS Group B Electives - Sediments + Life
Not offered current academic year

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

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 building lighting. Students will learn to compare the efficiencies and environmental impacts of various energy sources and uses.

Class Format: twice a week, occasional lab exercises, and a field trip to the college heating plant, all during class hours

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: 20

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)

Attributes: ENVI Natural World Electives

Not offered current academic year

ENVI 110 (S) The Anthropocene: Nature and Culture in the Human Age

In 2016, a group of scientists appointed by the International Commission on Stratigraphy, the body that keeps the official timetable of earth's history, argued that the planet has entered a new age known as the Anthropocene. Their questions were epochal: Has humanity become a geological force as powerful as those that have shaped the planet's deep past, such as ice sheets and asteroids? Have we truly entered "the human age," and if so, when did it begin and what does it all mean? This course will ask how researchers from different fields have sought to answer these questions. Just as important, it will ask how they became questions in the first place. Where did the idea of the Anthropocene come from? What are its social, political, and ethical implications? How have we arrived at this new understanding of our planet and ourselves? And what can this major intellectual shift—a shift that has already begun to send waves far beyond the academy into the worlds of art, literature, politics, and religion—tell us about the construction of environmental knowledge in the twenty-first century? Readings will come primarily from the environmental social sciences and humanities, including works by nineteenth and early twentieth-century environmental thinkers, but will be supplemented with material from the natural and environmental sciences. Topics will include climate change, mass extinction, urbanization, and deforestation. Our focus throughout will remain on ways of knowing, imagining, and representing global environmental change in an era of ever-expanding human influence.

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: first years and sophomores

Expected Class Size: 10

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

Distributions: (D2)

Attributes: AMST Space and Place Electives ENVI Humanities, Arts + Social Science Electives GBST Economic Development Studies Electives

Not offered current academic year

ENVI 154 (F) The Tropics: Biology and Social Issues (DPE)

Cross-listings: BIOL 154 ENVI 154

Secondary Cross-listing

This course counts towards the Biology major but is also accessible to non-majors. It explores the biological dimensions of social issues in tropical societies, and focuses specifically on the peoples of tropical regions in Africa, Asia, Latin America, Oceania, and the Caribbean. Tropical issues have become prominent on a global scale, and many social issues in the tropics are inextricably bound to human ecology, evolution, and physiology. The course highlights differences between the tropics and areas at higher latitudes. It begins with a survey of the tropical environment, including major
climatic and habitat features. 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 and the interaction of humans with their supporting ecological environment. This course fulfills the DPE requirement. Through lectures, debates and readings, students confront social 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: 24

Enrollment Preferences: Preference will be given to biology majors, environmental studies majors and students who were previously dropped from the course.

Expected Class Size: 24

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

Unit Notes: Counts for credit in the Biology major. Satisfies the distribution requirement for the Biology major.

Distributions: (D3) (DPE)

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

BIOL 154 (D3) ENVI 154 (D3)

Difference, Power, and Equity Notes: This course highlights differences between the tropics and areas at 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 impacts of climate change. For each section we highlight differences in power and the inequities of resource distribution. We then debate potential policies to ameliorate these inequities.

Attributes: ENVI Natural World Electives EVST Living Systems Courses GBST African Studies Electives PHLH Biomedical Determinants of Health

Fall 2020

LEC Section: R1    MWF 12:00 pm - 12:50 pm     Joan Edwards

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

Cross-listings: ENVI 201 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 and 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.

Class Format: Hybrid format. Specific organisational details will depend on the number of students enrolled, but will include both synchronous and asynchronous components, with both in-person and remote teaching. Particular care will be taken to make sure that fully remote students can participate fully and experience the same content and discussion richness. To make sure that remote students receive equal attention, some sections will be designated as fully remote and others as in-person.

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

Fall 2020

CON Section: 02  T 1:15 pm - 3:00 pm  Rónadh Cox
LEC Section: H1  TR 11:30 am - 12:45 pm  Rónadh Cox
CON Section: R3  R 1:15 pm - 3:00 pm  Rónadh Cox

Spring 2021

LAB Section: 02  T 1:15 pm - 3:15 pm  Rónadh Cox
LEC Section: H1  TR 11:30 am - 12:45 pm  Rónadh Cox
LAB Section: H3  R 1:15 pm - 3:15 pm  Rónadh Cox

ENVI 203 (F) Ecology (QFR)

Cross-listings: ENVI 203  BIOL 203

Secondary Cross-listing

This course combines lectures with field and indoor laboratory exercises to explore factors that determine the distribution and abundance of plants and animals in natural systems. The course begins with an overall view of global patterns and then builds from the population to the ecosystem level. An emphasis is given to basic ecological principles and relates them to 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). In Fall 2020, the course will use a hybrid model, with recorded lecture material available to all students. In person and remote class meetings will focus on problem sets and interactive case studies. Labs will be available in either in person or remote modalities. Remote participants will have the opportunity to collect their own data for some lab exercises, while in other cases will receive background information and media describing the data collection process. All students will be required to complete all data analyses and written lab reports.

Class Format: Six hours per week. All labs will be available in both remote and in-person modalities. All students (whether in person or remote) may choose their preferred modality for each lab module. Due to COVID-19 distancing requirements, some labs will require walking to field sites. The instructor will work with individual students to identify accommodations that support in person lab participation as needed.

Requirements/Evaluation: problem sets, lab reports, hour exams, and a final exam

Prerequisites: BIOL 101 and 102, or ENVI 101 or 102, or permission of instructor

Enrollment Limit: 20

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

Expected Class Size: 20

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

Unit Notes: satisfies the distribution requirement for the Biology major

Distributions: (D3), (QFR)

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

ENVI 203 (D3) BIOL 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. Students are introduced to t-tests, Mann-Whitney U tests, chi-square analysis, and regression.
ENVI 205  (F)  Geomorphology

Cross-listings: GEOS 201  ENVI 205  GEOS 305

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 physical environment. We will emphasize the influence of climatic, tectonic, and volcanic forces on landform 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. And 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 201 (D3)  ENVI 205 (D3)  GEOS 305 (D3)

Attributes: AMST Space and Place Electives  ENVI Natural World Electives  EVST Environmental Science  EXPE Experiential Education Courses

GEOS Group B Electives - Sediments + Life

Not offered current academic year

ENVI 206  (S)  Global Environmental Politics

This course examines the history and current status of international environmental cooperation and conflict. We will consider the interactions of nation-states, multilateral international organizations, non-governmental organizations, and social movements in the formation of transnational environmental policy and treaties. We will also examine non-state approaches to global environmental challenges. After reviewing competing explanations for the causes of global environmental problems and diverse disciplinary approaches to studying those issues, we will read case studies covering a range of topics. These include fresh water conflict, fisheries and oceans, climate change, waste and pollution, agriculture, pesticides, population and development, wildlife, forestry, and consumerism. The reading assignments are drawn from the fields of environmental and foreign policy history, political science, international relations, geography, and anthropology in order to develop an interdisciplinary approach to international policy analysis. The written assignments are a series of policy briefs. You will also be responsible for two oral presentations during the semester, related to the policy briefs.

Class Format: Depending on enrollment, some discussion may be scheduled outside of the class hours, as would be the case in a tutorial.

Requirements/Evaluation: 2-3 short writing assignments based on assigned readings (3 pages each), 2 oral presentations, discussion participation, 2 policy briefing papers based on library research (5 pages each)

Prerequisites: ENVI 101 or permission of the instructor

Enrollment Limit: 19
Enrollment Preferences: environmental studies majors and concentrators

Expected Class Size: 19

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

Distributions: (D2)

Attributes: ENVI Environmental Policy EVST Social Science/Policy GBST Economic Development Studies Electives

Spring 2021

SEM Section: R1    TF 1:30 pm - 2:45 pm     April  Merleaux

ENVI 207 (F) Economic Geology and Earth Resources

Cross-listings: GEOS 205  ENVI 207

Secondary Cross-listing

"If it can't be grown, it must be mined." We depend on the solid Earth for a huge array of resources. The metal in your soda can, the plastic in your Nalgene, the hydrocarbons being burned to keep you warm in the winter or to transport you in cars or aircraft, the cars and aircraft themselves: all are made of materials mined from the Earth. Right now there are more people building more houses, paving more roads, making more vehicles, more electronics, and more plastic packaging—all with geologic materials. As demand soars in both established and growing economies, and as we realize the environmental damage that can result from resource extraction and processing, the importance of understanding Earth's resources increases. Finding new deposits and managing those we have requires insight into the geology that underlies the location and origin of strategic Earth materials. This class introduces the geologic processes that control formation, distribution, and extent of materials reserves: dimension stone and gravel, base and precious metal ores, gemstones, petroleum, nuclear energy sources, and specialty materials for medical, technological, and military uses. This course is in the SOLID EARTH GROUP for the Geosciences major.

Class Format: 2.5 hours lecture per week and one 3 hour lab per week, including some field labs

Requirements/Evaluation: one hour exam, a final exam, lab exercises, and a group project

Prerequisites: one 100-level GEOS course or permission of instructor

Enrollment Limit: 18

Enrollment Preferences: sophomores and Geosciences majors

Expected Class Size: 18

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 205 (D3) ENVI 207 (D3)

Attributes: ENVI Natural World Electives GEOS Group C Electives - Solid Earth

Not offered current academic year

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

Cross-listings: ARAB 209  ENVI 208  COMP 234

Secondary Cross-listing

Literary representations of the Sahara challenge facile assumptions about this undertheorized place. Approached mainly through the prism of adventure and exploitation, the desert is portrayed as a dead space. However, literature and film furnish a unique opportunity to engage critically with the ways Maghrebi and Middle Eastern culture production represents deserts and raises issues of fundamental importance to these societies. This course offers students the opportunity to engage in close readings of novels and film through the theme of the Sahara and Saharan space. Reading through the politics of human mobility and life in the desert will help students to understand how myth, memory, history, coloniality/postcoloniality, and a strong sense of ethics are deeply intertwined in the Saharan sub-genre of African 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 think critically about the politics of space and place as well as mobility and spatial control as they relate to this supposedly dead nature. Deconstructing reductive Saharanisms, students will see the desert for what it is, rather than what it is portrayed to be or stand for.

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

**Prerequisites:** none

**Enrollment Limit:** 14

**Enrollment Preferences:** Students are admitted into the course on a first-come-first-serve basis. If the course is over-enrolled, preference will be given to Arabic Studies and Comparative Literature majors and certificates.

**Expected Class Size:** 14

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

**Distributions:** (D1) (DPE) (WS)

**This course is cross-listed and the prefixes carry the following divisional credit:**
ARAB 209 (D1) ENVI 208 (D1) COMP 234 (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

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**Spring 2021**

**SEM Section:** H1  MW 10:00 am - 11:15 am  Brahim El Guabli

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**ENVI 209 (F) Modern Climate (QFR)**

**Cross-listings:** GEOS 309  ENVI 209

**Secondary Cross-listing**

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.

**Class Format:** Lectures will be held synchronously online. Labs will be remote and in small groups. Lab groups will each meet online for two 1-hour sessions each week, scheduled according to the needs of the class. In-person office hours available.

**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:** 30

**Enrollment Preferences:** GEOS and ENVI 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:**
GEOS 309 (D3) ENVI 209 (D3)

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

**Attributes:** ENVI Natural World Electives  EVST Environmental Science  EVST Methods Courses  GEOS Group A Electives - Climate + Oceans
ENVI 211  (F)  Race and the Environment

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

Secondary Cross-listing

In contemporary societies, race remains an enduring impediment to the achievement of equality. Generally understood as a socially meaningful way of classifying human bodies hierarchically, race manifests itself in a number of arenas, including personal experience, economic production and distribution, and political organization. In this course, we will explore how race emerges in local and global environmental issues, like pollution and climate change. We will begin with a review of some of the landmark texts in Environmental Studies that address "environmental racism," like Robert Bullard's *Dumping in Dixie* and David Pellow's *Garbage Wars*. We will examine how and to what extent polluting facilities like landfills, oil refineries, and sewage treatment plants are disproportionately located in communities of color; we will also pay attention to how specific corporations create the underlying rationale for plotting industrial sites. After outlining some of the core issues raised in this scholarship, we will turn to cultural productions--like literature, film, and music--to understand how people of color respond to environmental injustice and imagine 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

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:

AMST 211 (D2) ENVI 211 (D2) AFR 211 (D2) SOC 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  (S)  The Economics and Ethics of CO2 Offsets  (WS)

Cross-listings:  POEC 214  ENVI 212  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: This tutorial will be taught remotely via Zoom meetings. 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. Individual "office hour meetings" will also occur via Zoom meetings.

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:

POEC 214 (D2) ENVI 212 (D2) ECON 214 (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: ENV Environmental Policy POEC Comparative POEC/Public Policy Courses

Spring 2021
TUT Section: RT1 TBA Ralph M. Bradburd

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

Cross-listings: ECON 213 ENVI 213

Secondary Cross-listing

We'll use economics to learn why we harm the environment and overuse natural resources, and what we can do about it. We'll talk about whether and how we can put a dollar value on nature and ecosystem services. We'll study cost benefit analysis, pollution in general, climate change, environmental justice, natural resources (like fisheries, forests, and fossil fuels), and energy. We will take an economic approach to global sustainability, and study the relationship between the environment and economic growth and trade. Consideration of justice and equity will be woven through the whole semester.

Class Format: We will likely use small, focused discussion groups in combination with lectures

Requirements/Evaluation: problem sets, short essays, final paper; intermediate assignments may include poster, presentation, brief writing assignment

Prerequisites: ECON 110 or equivalent

Enrollment Limit: 25

Enrollment Preferences: first-year and sophomore students

Expected Class Size: 25

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)

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

Attributes: ENV Environmental Policy EVST Social Science/Policy MAST Interdepartmental Electives POEC Comparative POEC/Public Policy Courses

Fall 2020
LEC Section: H1 MW 6:45 pm - 8:00 pm Sarah A. Jacobson

ENVI 214 (S) Mastering GIS

Cross-listings: GEOS 214 ENVI 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 tools have 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 tools 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: We will meet in person (or remote synchronous) for our weekly lectures (3 hours) and labs (2 hours)

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

Prerequisites: at least one introductory course in Geosciences or Environmental Studies

Enrollment Limit: 12

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

Expected Class Size: 12

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 214 (D3) ENVI 214 (D3)

Attributes: ENVI Natural World Electives EVST Methods Courses EXPE Experiential Education Courses

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In recent years, there has been a growing public and scientific interest in the Earth's climate and its variability. This interest reflects both concern over future climate changes resulting from anthropogenic increases in atmospheric greenhouse gases and growing recognition of the economic impact of "natural" climate variability (for example, El Niño events), especially in the developing world. Efforts to understand the Earth's climate system and predict future climate changes require both study of parameters controlling present day climate and detailed studies of climate changes in the past. In this course, we will review the processes that control the Earth's climate, like solar radiation, the greenhouse effect, ocean circulation, configuration of continents, and positive and negative feedbacks. At the same time, we will review the geological record of climate changes in the past, examining their causes. Laboratories and problem sets 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 remote lectures per week, and one remote lab meeting per week which will consist of lab exercises, problem solving and discussion

Requirements/Evaluation: lab exercises and problem sets (25%), three exams (50%), and a final project (25%) where students will collect, analyze, and interpret data

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

Enrollment Limit: 16

Enrollment Preferences: Geosciences and Environmental Studies majors

Expected Class Size: 16

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 215 (D3) ENVI 215 (D3)

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

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ENVI 216 (S) Philosophy of Animals

Cross-listings: ENVI 216 PHIL 216

Secondary Cross-listing

Animals are and always have been part of human life. To name just a few ways: We treat animals as companions, as food, as objects of wonder in the wild, as resources to be harvested, as testing grounds for science, and as religious sacrifice. The abstract philosophical question before us is, what are animals such that they can be all these things? In this course we aim to engage that abstract question through two more focused projects. Firstly, we will try to understand the mental lives of non-human animals. Secondly, we will try to make sense of the moral dimensions of our relationship to animals. Throughout we will aim to fuse a rigorous scientific perspective with more humanistic themes and philosophical inquiry. Topics include sentience, animal cognition, language in non-human animals, empathy and evolution, the history of domestication, animal rights, cross-cultural views on animals, arguments against and for vegetarianism and veganism, the morality of zoos, hunting and fishing, and pets and happiness.

Class Format: This course is wholly remote and can only be taken synchronously (i.e., students will be expected to attend seminar on zoom during the scheduled time and no recording will be made).

Requirements/Evaluation: four 3-to-4 page papers and one 8-to-10 page final paper. In addition, students are required to attend remotely at least four talks in the speaker series associated with the course. These will be during the Friday course time slot. (When there is no speaker, there will not be class during that slot, so class itself will be solely on Mondays and Wednesdays.)

Prerequisites: none, though at least one course in philosophy is recommended.

Enrollment Limit: 16

Enrollment Preferences: students with at least one previous philosophy or cognitive science course; there is no need to email the professor in advance to indicate special interest in the course.

Expected Class Size: 16

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

Unit Notes: meets Contemporary Metaphysics & Epistemology requirement only if registration is under PHIL

Distributions: (D2)

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

ENVI 216 (D2) PHIL 216 (D2)

Attributes: COGS Interdepartmental Electives ENVI Humanities, Arts + Social Science Electives PHIL Contemp Metaphysics + Epistemology Courses

Spring 2021

SEM Section: R1 MWF 11:45 am - 1:00 pm Joseph L. Cruz

ENVI 217 (F) Landscape, Place and Power

Cross-listings: AMST 216 ENVI 217

Primary Cross-listing

How does culture shape the way we imagine, use, and experience the physical environment, and how does the physical environment shape culture in turn? What can landscapes tell us about the values, beliefs, and ideas of the people who make them? What is the relationship between place and social power? This course will explore the various ways in which scholars from a broad range of disciplines have sought to answer these questions by incorporating insights from social theory and cultural criticism. Focusing on studies of place and landscape in the Americas from the time of European colonization to the present, it will examine key works from fields such as cultural geography, environmental history, ecocriticism, environmental philosophy, and anthropology, and it will survey the major methodological and theoretical commitments that unite these fields.

Requirements/Evaluation: three 5- to 7-page essays; several shorter writing assignments

Prerequisites: ENVI 101 or permission of instructor

Enrollment Limit: 19

Expected Class Size: 15
ENVI 218  (S)  "Ecologismo": Literature, Culture and the Environment in Latin America  (DPE)

Cross-listings: RLP 214  ENVI 218

Secondary Cross-listing
How have Latin American authors and artists responded to environmental concerns, from the logging and rubber booms that threatened the Amazon in the early 20th century to contemporary global warming? How do the realities of Latin American societies—including massive disparities of wealth and poverty; the cultural and political impacts of the region's indigenous populations; and the complex histories of colonialism, dependency and neoliberalism—inform Latin American responses to environmental issues? How does Latin America's environmental imaginary differ from those of the U.S. and Europe? In this course we will explore these issues and more through literature and other cultural texts from Latin America. We will consider short stories and novellas by authors including Horacio Quiroga (Uruguay), Luis Sepúlveda (Chile), Mempo Giardinelli (Argentina), and Ana Cristina Rossi (Costa Rica); poetry by Esthela Calderón (Nicaragua), Juan Carlos Galeano (Colombia), Homero Aridjis (Mexico); the paintings of Tomás Sánchez (Cuba); and feature films as well as shorter documentaries. In Spanish.

Requirements/Evaluation:  brief response papers, as well as three 5- to 7-page essays based on close-readings of literary and cultural texts

Prerequisites:  RLP 105, placement exam results, or permission of the instructor

Enrollment Limit:  19

Enrollment Preferences:  Spanish and Environmental Studies majors

Expected Class Size:  12

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

Distributions:  (D1)  (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:
RLSP 214 (D1) ENVI 218 (D1)

Difference, Power, and Equity Notes:  This course is inspired by and organized around Arturo Escobar's notion of "the political ecology of difference:" our work throughout the semester aims to understand the myriad ways in which "difference"—economic, ecological, and cultural— informs Latin American responses to environmental degradation.

Attributes:  ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

ENVI 219  (F)  Evolution of and on Volcanic Islands  (WS)

Cross-listings: GEOS 220  ENVI 219

Secondary Cross-listing
Plate tectonic theory accounts for the vast majority of volcanic islands in ocean basins. They form above mantle plume hot spots (Hawaiian and Galapagos Islands), subduction zones (Aleutian and Indonesian arcs), and mid-ocean ridges (Azores and Ascension Island). Iceland is unusual because it is located above a hot spot and the mid-Atlantic ridge. Each plate tectonic setting produces chemically distinctive magmas, and the lifespan of volcanic islands varies widely. Islands above hot spots may be geographically remote and emergent for only several million years, but be part of a long-lived sequence of islands that persists for over a hundred million years. In contrast, island arc volcanoes belong to long geographically continuous chains of volcanoes, commonly in close proximity to continents. This tutorial explores the geologic evolution and lifespan of volcanic islands from formation to submergence, and searches for correlations between these characteristics and plate tectonic setting. We will also consider how geographic isolation, areal extent, lifespan, and climate affect biological evolution on volcanic islands. There will be weekly tutorial meetings with pairs of students, and students will alternate writing papers on assigned topics. This course is in the Solid Earth group for the Geosciences major.

Class Format:  Remote, one-hour weekly meetings with tutorial partner and instructor
ENVI 220 (S) Field Botany and Plant Natural History

**Cross-listings:** ENVI 220 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, characteristics of plant families, the cultural and economic uses of plants and how plants have shaped our world. 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; the sketchbook and hand lens 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 EVST Living Systems Courses EXPE Experiential Education Courses PHLH Nutrition, Food Security + Environmental Health

Not offered current academic year

ENVI 221 (F) Introduction to Urban Studies: Shaping and Living the City

**Cross-listings:** AMST 221 ENVI 221 LATS 220

**Secondary Cross-listing**

Generally, cities have been described either as vibrant commercial and cultural centers or as violent and decaying urban slums. In an effort to begin to think more critically about cities, this course introduces important topics in the interdisciplinary field of Urban Studies. Specifically, we will discuss concepts and theories used to examine the peoples and structures that make up cities: In what ways do socio-cultural, economic, and political factors
affect urban life and development? How are cities planned and used by various stakeholders (politicians, developers, businesses, and residents)? How do people make meaning of the places they inhabit? We will pay particular attention to the roles of race, ethnicity, class, and gender in understanding and interpreting urban communities. Texts include works by anthropologists, historians, sociologists, cultural critics, cultural geographers, and literary writers.

Class Format: discussion

Requirements/Evaluation: attendance and class participation, several short writing assignments (1-2 pages), two creative group projects and presentations, a midterm essay (6-7 pages) and final essay (8-10 pages)

Prerequisites: none

Enrollment Limit: 20

Enrollment Preferences: first- and second-year students as well as American Studies majors and Latina/o Studies concentrators

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:

AMST 221 (D2) ENVI 221 (D2) LATS 220 (D2)

Attributes: AMST Comp Studies in Race, Ethnicity, Diaspora AMST Space and Place Electives ASAM Related Courses ENVI Humanities, Arts + Social Science Electives EXPE Experiential Education Courses GBST Urbanizing World Electives LATS Core Electives

Not offered current academic year

ENVI 222 (F) Examining Inconvenient Truths: Climate Science meets U.S. Senate Politics (WS)

Cross-listings: GEOS 221 ENVI 222 LEAD 221

Secondary Cross-listing

Former President Barack Obama once said: "There's one issue that will define the contours of this century more dramatically than any other, and that is the urgent threat of a changing climate." While consensus regarding the causes and impacts of climate change has been growing steadily among scientists and researchers (and to some extent, the general public) over the past two decades, the U.S. has yet to confront this issue in a manner consistent with its urgency. This lack of action in the U.S. is at least partly due to the fact that science provides necessary but insufficient information towards crafting effective climate change legislation and the unfortunate fact that climate change has become a highly partisan issue. The primary objective of this tutorial will be to help students develop a greater understanding of the difficulties associated with crafting climate change legislation, with an emphasis on the role of science and politics within the legislative process. To this end, the tutorial will address how the underlying scientific complexities embedded in most climate policies (e.g., offsets, carbon capture and sequestration, uncertainty and complexity of the climate system, leakage) must be balanced by and blended with the different operational value systems (e.g., economic, social, cultural, religious) that underlie U.S. politics. Over the course of this tutorial, students will develop a nuanced sense of how and when science can support the development of comprehensive national climate change legislation within the current partisan climate. This course will take a practical approach, where students will craft weekly policy oriented documents (e.g., policy memos, action memos, research briefs) targeted to selected members of the current U.S. Senate Environment and Public Works Committee, the committee that has historically held jurisdiction over a majority of the major climate change bills that have moved through the legislative process. This course is in the Oceans and Climate group for the Geosciences major.

Class Format: Hybrid: this class will be mostly remote, but there may be some in-person meetings outside for those on campus and interested, weather permitting.

Requirements/Evaluation: weekly papers (2 - 5 pages in length) and a final oral presentation

Prerequisites: none

Enrollment Limit: 10

Enrollment Preferences: sophomores, Geosciences and Environmental Studies juniors and seniors

Expected Class Size: 10

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

Distributions: (D3) (WS)

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

GEOS 221 (D3) ENVI 222 (D3) LEAD 221 (D3)
**Writing Skills Notes:** You will learn to write in a variety of policy-focused formats

**Attributes:** ENVI Environmental Policy  EXPE Experiential Education Courses  GEOS Group A Electives - Climate + Oceans

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**Fall 2020**

**TUT Section:** RT1  TBA  Alex A. Apotsos

**ENVI 224 (F) The Rise and Fall of Civilizations**

**Cross-listings:** ANTH 214  ENVI 224

**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 lecture with powerpoint presentation. In the Fall 2020, the course will have a hybrid format. In person and remote students will attend lectures or class discussions during the regular twice-a-week schedule, with an additional synchronous session for remote students to address questions. If remote students cannot attend additional Q&A session, open office hours will also be available.

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

**Prerequisites:** none

**Enrollment Limit:** 20

**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:**

ANTH 214 (D2)  ENVI 224 (D2)

**Attributes:** ENVI Humanities, Arts + Social Science Electives

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**Fall 2020**

**LEC Section:** H1  TF 3:15 pm - 4:30 pm  Antonia E. Foias

**ENVI 225 (F) Sustainable Food & Agriculture**

**Cross-listings:** BIOL 225  ENVI 225

**Secondary Cross-listing**

A tutorial course investigating patterns, processes, and stability in human-dominated, food production systems. The course will examine sustainable food and agriculture from an ecological perspective. Topics will include: changes in diversity, concentration, and scale, flows of energy, circulation (or not) of fertilizer nutrients, carbon balances in soils, and stability of food production, processing, and distribution ecosystems. A day-long field experience will take place on a local farm.

**Requirements/Evaluation:** writing assignments, tutorial presentation, performance in the role of paper critic, and course participation

**Prerequisites:** BIOL 102 or ENVI 102

**Enrollment Limit:** 10

**Enrollment Preferences:** open to sophomores, juniors, and seniors, with preference given to sophomores over juniors and seniors

**Expected Class Size:** 8

**Grading:** no pass/fail option, no fifth course option
ENVI 228  (F)  Water as a Scarce Resource

Cross-listings:  ECON 228  ENVI 228

Secondary Cross-listing

For a variety of reasons including environmental pollution, urbanization, changing agricultural techniques, resource mismanagement, and the consequences of climate change, water is becoming a scarce resource even in places where it was relatively plentiful in the past, and it is likely to become an increasingly scarce resource over the coming decades. In this course we will use basic economic models to consider policy issues relating to water: Is access to water a basic human right, and if so, what market and non-market mechanisms should play a role in water allocation? Does public ownership of water improve the way it is provided and used? Why do societies differ in their approaches to allocating water and are some systems better than others? What does it mean to have a property right to water? Could private property rights to water help address the water pollution problem? How can societies change their water-related property rights, regulations and social institutions when individuals have implicit or explicit rights to the institutional status quo? Who has the right to water that crosses international boundaries? How should societies allocate water across generations?

Class Format: meeting with the instructor in pairs for an hour each week

Requirements/Evaluation:  a 5- to 7-page paper every other week (5 in all), prepare and present a written critique of their partners’ papers in alternate weeks, and revise and re-write one of their five papers; evaluation will be based on the quality of the papers and on the quality of the student's oral presentations and commentary on the work of their colleagues

Prerequisites:  ECON 110 or equivalent

Enrollment Limit:  10

Enrollment Preferences:  first-year students and sophomores intending to major in Economics and/or to major or concentrate in Environmental Studies, and to students who are already major or concentrators in those subjects

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:

ECON 228 (D2)  ENVI 228 (D2)

Attributes:  AMST Space and Place Electives  POEC Comparative POEC/Public Policy Courses

Not offered current academic year

ENVI 229  (S)  Environmental History

Cross-listings:  ENVI 229  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: ENVI 101 or permission of instructor

Enrollment Limit: 18

Enrollment Preferences: Environmental Studies majors and concentrators; History majors

Expected Class Size: 15

Grading: yes 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 (F) The African Anthropocene (DPE)

Cross-listings: ENVI 231 AFR 231 STS 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, poetry, novels, and web-based content. Topics include: humanism/post-humanism; migration and displacement; representations of conflict; and sustainable development.

Class Format: non-traditional technologies, web-streams, social media (Tumblr/Twitter)

Requirements/Evaluation: assignments include: short written commentaries, current event analysis, presentations, and a final analytical essay

Prerequisites: none

Enrollment Limit: 19

Enrollment Preferences: Environmental Studies majors and concentrators; juniors and seniors

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

Difference, Power, and Equity Notes: The African 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: ENVI Humanities, Arts + Social Science Electives GBST African Studies Electives GBST Economic Development Studies Electives

Not offered current academic year

ENVI 232 (S) The Garden in the Ancient World

Cross-listings: COMP 235 REL 235 ENVI 232 CLAS 235

Secondary Cross-listing

Drawing on the literature, art, and archaeology of ancient gardens and on real gardens of the present day, this course examines the very nature and experience of the garden and the act of gardening. Using a multi-disciplinary approach, we will explore the garden as a paradise; as a locus for philosophical discussion and religious encounter; as a site of labor, conquest, and resistance; and as a place for solace, inspiration, and desire. This course will be grounded in crucial readings from antiquity, such as the Hebrew Bible, Homer, Sappho, Cicero, Lucretius, Vergil, Horace, Columella, and Augustine, and in the perspectives of more modern writers, from Jane Austen and Tom Stoppard to contemporary cultural historian George McKay. Ultimately, our goal is to analyze conceptions and expressions of beauty, power, and love-in the garden. All readings are in translation.
**ENVI 233 (S) Latin American Environmental Literature and Cultural Production (DPE)**

**Cross-listings:** RLS 216 ENVI 233

**Secondary Cross-listing**

This foundational course explores a wide array of ecocultural texts from Latin America, ranging from accounts of Europeans' first arrival to the crisis of mass extinction and anthropogenic climate change today. In between we consider an eclectic mix of styles and genres, including poetry, essays, prose fiction and speeches produced by a varied group of cultural agents. We read classic texts by canonical figures (José Martí's "Our América," the *Popol Vuh*), which take on new meaning in the current context, as well as some little-known gems of ecological consciousness. Readings and discussion trace connections between environmental thought and the region's long and multi-layered history of colonialism, and students are encouraged to develop their own positions by responding to some of the leading theoretical discourses that animate the field of Latin American ecocriticism: decolonial and creole ecologies, ecofeminism, transcultural materialism, and postdevelopment. Conducted in English.

**Class Format:** This class will be fully remote. Students are expected to be active participants at all scheduled class meetings; there may be some additional asynchronous activities.

**Requirements/Evaluation:** Students will write and revise three formal essays over the course of the semester. There will also be shorter written assignments and intermittent discussion-leading.

**Prerequisites:** None.

**Enrollment Limit:** 15

**Enrollment Preferences:** Preference given to students majoring in Spanish or Environmental Studies.

**Expected Class Size:** 15

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

**Distributions:** (D1) (DPE)

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

RLSP 216 ENVI 233 (D1)

**Difference, Power, and Equity Notes:** This course meets the goals of the DPE requirement in that it focalizes the current environmental crisis through the long history of political, economic and cultural struggles in Latin America. We examine the genealogies of environmental culture, tracing the emergence of ecofeminism, for example, through generations of writers. We also examine the phenomenon of creolization and its relationship to the environmental cultures of Latin America's originary peoples.

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

Spring 2021

**SEM Section:** R1 TR 11:30 am - 12:45 pm Jennifer L. French

**ENVI 234 (S) Economics of Developing Countries (DPE)**

**Cross-listings:** ENVI 234 ECON 204

**Secondary Cross-listing**
The leaders of developing countries almost universally proclaim "economic development" to be their eventual destination, but it is not easy to visualize the journey. Is rapid economic growth sufficient to generate development, or do governments need to invest proactively in health, education and social protection? Can agriculture support incomes and provide jobs, or is urban industrial development a prerequisite? How do households in developing countries insure themselves against adverse outcomes? Can policies enable entrepreneurship and innovation in such economies? Is it true that corruption is a significant obstacle? Has the climate crisis upended our traditional models to the point where we need to rethink the notion of development? How does the global COVID-19 pandemic threaten the progress developing countries have achieved, and what policy responses will be most effective in addressing the crisis? The class will introduce these and other issues, as analyzed by economists.

Class Format: discussion

Requirements/Evaluation: short essays/assignments; two individual take-home exams; final group project

Prerequisites: one ECON class at Williams or prior course deemed equivalent by the Economics Department

Enrollment Limit: 25

Enrollment Preferences: first-year and sophomore students

Expected Class Size: 25

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:

ENVI 234 (D2) ECON 204 (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. Through exercises and a group project, the course builds analytical and empirical skills for diagnosing and addressing constraints on economic development.

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

Spring 2021

LEC Section: R1 MW 6:45 pm - 8:00 pm Michael Samson

ENVI 235 (S) Survival and Resistance: Environmental Political Theory

Cross-listings: PSCI 235 ENVI 235

Secondary Cross-listing

Contemporary struggles to reverse environmental destruction and establish sustainable communities have prompted some political theorists to rethink longstanding assumptions about politics and its relationship to nature. Does the environment have "rights"? What, if anything, is the difference between an ecosystem and a political community? Is democracy dangerous to the planet's health? Are environmental protections compatible with political freedom? How is the domination or conquest of nature connected with domination and conquest within human societies? What does justice demand in an age of climate change? In this class, we will consider the promise and limits of political theory to illuminate present day environmental crises and foster movements to overcome them. We will engage classic texts that helped to establish political theory's traditional view of nature as a resource, as well as contemporary texts that offer alternative, ecological understandings of nature and its entwinements with politics. Class will be driven primarily by discussion. Students will have significant responsibility for setting the agenda for discussions through informal writing submitted prior to class. As a writing intensive course, attention to the writing process and developing an authorial voice will be a recurrent focus of our work inside and outside the classroom.

Requirements/Evaluation: formal and informal writing assignments and class participation

Prerequisites: none

Enrollment Limit: 19

Enrollment Preferences: first-years and sophomores

Expected Class Size: 12

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

Distributions: (D2)
This course is cross-listed and the prefixes carry the following divisional credit:

PSCI 235 (D2) ENVI 235 (D2)

Attributes: AMST Critical and Cultural Theory Electives ENVI Humanities, Arts + Social Science Electives PHIL Related Courses PSCI Political Theory Courses

Not offered current academic year

ENVI 238 (F) Sustainable Economic Growth

Cross-listings: ENVI 238 ECON 238

Secondary Cross-listing

Is it possible to have infinite economic growth on a finite planet? This question has sparked a great deal of inquiry across the social sciences. Some argue that we need to slow or even end economic growth to prevent environmental catastrophe. Others argue that market forces, especially changing prices and improved technology, will ensure that growth can continue unabated without significant negative consequences. Still others argue that government intervention is necessary to limit negative consequences of economic progress, but that effective interventions are still compatible with sustained economic growth. In this class, we will explore the insights that economics has to offer on this important question. We will start by considering the importance of finite inputs used in production, including fossil fuels, minerals, and land, among others. Then, we will consider whether undesirable byproducts of economic growth will prevent sustained growth. This second part of class will place a lot of emphasis on climate change. Throughout the class, we will pay special attention to the role that government intervention can or cannot play in promoting sustainable economic growth. This class will reinforce important concepts taught in introductory microeconomics and introductory macroeconomics.

Class Format: This class will be conducted remotely. The lectures will be asynchronous (videos posted online). Scheduled class times will be used for small group discussions and as review.

Requirements/Evaluation: midterms exams, final exam, problem sets, short writing assignments, video-taped presentations, class participation

Prerequisites: ECON 110 and ECON 120

Enrollment Limit: 25

Enrollment Preferences: potential or declared social science majors

Expected Class Size: 20

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

Distributions: (D2)

Fall 2020

LEC Section: R1 TR 9:45 am - 11:00 am Gregory P. Casey

ENVI 240 (F) Conservation and Climate Change (WS)

What does climate change mean for the future of Earth's 8.7 million-or-so species? This tutorial introduces students to an emerging literature on how climate change alters the distributions, behaviors, and interactions of plant and animal species. In it we will pay close attention to how to read a scientific paper and how to write about science from the discipline of environmental studies. Some of the questions we will consider include: How is scientific knowledge produced? What might the biotic world look like in 10, 100, and 1000 years? How are conservation and restoration practitioners responding to climate change? To what extent can local environmental management alter global trends?

Requirements/Evaluation: one 5- to 7-page essay every other week and carefully prepared oral responses to partners' essays in alternate weeks

Prerequisites: ENVI101 or permission of the instructor

Enrollment Limit: 10

Enrollment Preferences: Environmental Studies majors and concentrators

Expected Class Size: 10

Grading: no pass/fail option, no fifth course option
Distributions: No divisional credit (WS)

Writing Skills Notes: Weekly tutorial paper or response paper for which the instructor will provide feedback on writing skills as well as content. Opportunities to revise.

Attributes: ENVI Humanities, Arts + Social Science Electives  ENVI Natural World Electives

Not offered current academic year

ENVI 241  (S)  The Politics of Waste

Cross-listings: ENVI 241  PSCI 242

Secondary Cross-listing

Waste is not just a fact of life, it is a political practice. To create and maintain political order requires devising collective means to pile up, bury, burn, or otherwise dispose of stuff deemed dirty or disorderly: waste management is regime management. In turn, our feelings of disgust for anything deemed waste shape political deliberation and action on environmental policy, immigration, food production, economic distribution, and much more. The very effort to define "waste" raises thorny political questions: What (or who) is disposable? Why do we find the visible presence of certain kinds of things or persons to be unbearably noxious? How should we respond to the fact that these unbearable beings persist in existing, despite our best efforts to eliminate them? What is our individual and collective responsibility for creating and disposing of waste? Serious inquiry into waste is rare in political theory and political science—perhaps understandably, given that the study of politics is shaped by the same taboos that shape politics. In this seminar we will openly discuss unmentionable topics and get our hands dirty (sometimes literally) examining the politics of waste. We will take notice of the erasure of waste in traditional political theory and work together to fill these gaps. To do so, we will draw on work in anthropology, critical theory, history, urban studies, and waste management science; representations of waste in popular culture; and experiences with waste in our lives. This course is part of a joint program between Williams' Center for Learning in Action and the Berkshire County Jail in Pittsfield, MA. The class will be composed equally of nine Williams students and nine inmates and will be held at the jail. An important goal of the course is to encourage students from different backgrounds to think together about issues of common human concern. Transportation will be provided by the college. *Please note the atypical class hours, Wed 4:45-8:30 pm*

Requirements/Evaluation: class attendance and participation, short essays, and a final paper

Prerequisites: not open to first-year students

Enrollment Limit: 9

Enrollment Preferences: final selection will be made on the basis of statements of interest solicited after pre-registration and interviews with the instructor

Expected Class Size: 9

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 241 (D2) PSCI 242 (D2)

Attributes: ENVI Environmental Policy  PSCI Political Theory Courses

Not offered current academic year

ENVI 242  (S)  The Country and the City in the Classical World

Cross-listings: ANTH 242  ENVI 242  CLAS 242

Secondary Cross-listing

A growing urban-rural divide is defining political discourse around the world. The interrelation and tension between "city" and "countryside" are not new, however, but date back to the time when cities first began. How do cities occupy and transform, interact with and displace rural landscapes? What are the values, stereotypes, and ideas--as well as artistic, literary, and architectural forms--associated with the city and the countryside? What role does one play in the political, social, and economic life of the other? With a focus on ancient Greece and, especially, Rome, this course will combine archaeological evidence and contemporary scholarship with primary sources ranging from Hesiod, Theocritus, Vergil, and Propertius to Cato the Elder, Varro, Vitruvius, and Pliny the Elder, to examine an array of topics including land surveying and colonization; agrarian legislation; the urban food supply; rustic religion in the city; urban parks and gardens; and the concept of the pastoral. Together, we will explore the city and the countryside - not just as places, but also as states of mind. All readings are in translation.

Requirements/Evaluation: informed participation, two short papers (2-5 pages), final paper (8-10 pages)
Prerequisites: none, although prior knowledge of the ancient world will be useful

Enrollment Limit: 19

Enrollment Preferences: declared and intending majors in Classics and Environmental Studies

Expected Class Size: 20

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

Distributions: (D1)

This course is cross-listed and the prefixes carry the following divisional credit:
ANTH 242 (D1) ENVI 242 (D1) CLAS 242 (D1)

Attributes: ENVI Humanities, Arts + Social Science Electives  GBST Urbanizing World Electives

Not offered current academic year

ENVI 243  (S)  Reimagining Rivers

Cross-listings: ENVI 243  ANTH 243

Primary Cross-listing

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 climate change, pollution, unsustainable agriculture, 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.

Class Format: This class will be taught in a modified tutorial format, with five groups of three students, each of which will meet for one 75-minute session per week. Sessions will be held in-person and remotely.

Requirements/Evaluation: Each week, each student will either write a 4-5-page essay on assigned readings or write a 2-page critique of a partner's paper.

Prerequisites: Environmental Studies 101

Enrollment Limit: 15

Enrollment Preferences: Environmental Studies majors and concentrators

Expected Class Size: 15

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

Distributions: (D2)

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

ENVI 243 (D2) ANTH 243 (D2)

Attributes: ENVI Humanities, Arts + Social Science Electives

Spring 2021

TUT Section: HT1  TBA  Nicolas C. Howe

ENVI 244  (S)  Environmental Ethics  (WS)

Cross-listings: ENVI 244  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 (e.g., Leopold, Taylor, Rolston). Subsequent 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.

**Class Format:** Remote format. Students will meet with the professor in pairs via Zoom for approximately 75 minutes per week, writing and presenting 5- to 7-page essays every other week, and commenting orally on partners' essays in alternate week

**Requirements/Evaluation:** six essays (5-7 pages each) and six carefully 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 six 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

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**ENVI 245 (F) Hydrothermal Vents** (WS)

**Cross-listings:** GEOS 245 MAST 245 ENVI 245

**Secondary Cross-listing**

Hydrothermal vents are perhaps the most alien places on Earth. Many are located on active volcanoes, especially at mid-ocean ridges, where magma super-heats water to form underwater hot springs. Others are located at deep-sea fracture zones, where the exothermic reaction of serpentinization provides the heat to drive hydrothermal circulation. Hydrothermal vents are extreme environments which host unique organisms, like giant tubeworms and giant hydrothermal clams, that are found only at these deep sea oases. This tutorial will examine how and where hydrothermal vents form, the strange and ancient life there, and why they are relevant despite feeling so far removed from our daily lives. Hydrothermal vent science draws on geology, physics, chemistry, and biology, so prior interest or coursework in one or more of those fields is suggested. This course is in the Oceans and Climate group for the Geosciences major.

**Class Format:** This class will meet remotely. Students will meet in pairs weekly with the instructor for one hour. The entire class will meet once at the beginning of the semester for organizational purposes and at the end of the semester for a synthesis.

**Requirements/Evaluation:** Five 5-page papers, critiques of tutorial partner's papers, final reflection, and participation

**Prerequisites:** none, open to all students

**Enrollment Limit:** 10

**Enrollment Preferences:** 1. sophomores, 2. first-years, 3. junior and senior GEOS majors and MAST concentrators

**Expected Class Size:** 10

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

**Distributions:** (D3) (WS)

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

GEOS 245 (D3) MAST 245 (D3) ENVI 245 (D3)

**Writing Skills Notes:** Students will write six 5-page papers. The first five papers will be written every other week, alternating with a tutorial partner.
Students will receive oral and written feedback during a discussion with the instructor and their tutorial partner. Students will write a final 5-page reflection paper to synthesize their learning.

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

**Fall 2020**

**TUT Section:** RT1  TBA  Lisa A. Gilbert

**ENVI 246 (F) Race, Power, & Food History** (DPE)

**Cross-listings:** HIST 265  ENVI 246  AMST 245

**Primary Cross-listing**

Have you ever wondered why Spam is so popular in Hawaii and why Thai food is available all across the United States? Are you curious why black-eyed peas and collards are considered "soul food"? In this course, we will answer these questions by digging into the histories of global environmental transformation through colonialism, slavery, and international migration. We will consider the production and consumption of food as a locus of power over the last 300 years. Beginning with the rise of the Atlantic slave trade and continuing through the 20th century, we trace the global movement of plants, foods, flavors, workers, businesses, and agricultural knowledge. Major units include rice production by enslaved people in the Americas; Asian American food histories during the Cold War; and fat studies critiques of obesity discourse. We will discuss food justice, food sovereignty, and contemporary movements for food sustainability in the context of these histories and our contemporary world. Readings are interdisciplinary, but our emphasis will be on historical analyses of race, labor, environment, health, and gender.

**Class Format:** Fall 2020 only: The course will be taught in a hybrid format that accommodates students on campus and those learning remotely. Depending on enrollment, some break-out discussions may need to be scheduled outside of the allotted time block (as would be the case in a tutorial). Discussion will be supplemented with a mix of synchronous and asynchronous online activities.

**Requirements/Evaluation:** two to three papers on assigned topics (4-6 pages); one longer final paper (8-10 pages); participation in discussion and online activities

**Prerequisites:** none

**Enrollment Limit:** 19

**Enrollment Preferences:** Environmental Studies majors and concentrators; American Studies majors; Public Health concentrators; history majors

**Expected Class Size:** 12

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

**Distributions:** (D2)  (DPE)

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

HIST 265 (D2)  ENVI 246 (D2)  AMST 245 (D2)

**Difference, Power, and Equity Notes:** This course considers the production and consumption of food as a locus of power over the last 300 years, and contextualizes current movements for food justice and sovereignty in light of those histories. Students will have opportunities to reflect on questions of power, privilege, and racism in contemporary food movements. Our final unit focuses on challenges to critical food studies from fat liberation and body positivity.

**Attributes:** AMST Comp Studies in Race, Ethnicity, Diaspora  ENVI Humanities, Arts + Social Science Electives  EVST Culture/Humanities  HIST Group F Electives - U.S. + Canada  PHLH Nutrition, Food Security + Environmental Health

**Fall 2020**

**SEM Section:** R1  WF 1:30 pm - 2:45 pm  April Merleaux

**ENVI 248 (F) "Our Response Will Define Our Future": Climate Change Policy Analysis** (WS)

In 2014, UN Secretary General Ban Ki-moon declared: climate change is "the defining issue of our age. It is defining our present. Our response will define our future." In this tutorial, we will examine a broad range of proposed, and currently implemented, policy responses to this grand challenge. We will employ policy analysis to evaluate these strategies' effectiveness and viability. This tutorial will consider approaches at varied scales (ranging from university campuses to coordinated global action) and addressing different sectors (including transportation, energy generation, and food production).
**ENVI 249 (S) Food, Agriculture, and Globalization**

This course examines the history and current politics of the international political economy of food with a focus on how agriculture and food provisioning have been transformed through imperialism and globalization. We examine the interactions of corporations, nation-states, multilateral international organizations, non-governmental organizations, and social movements in the formation of a globalized food system. Topics include the historical antecedents of our present system, plantation agriculture, the influences of war and settler colonialism on global food production, Cold War transformations in the international food system, the origins of sustainable development discourse, international anti-hunger programs, fair trade and other labeling schemes, labor migration, the antiglobalization and local food movements, and neoliberalism. We will pay particular attention to theories about how producers and consumers are connected to one other through the political economy of food. The reading assignments are drawn from the fields of environmental, food, and policy history, and we will also read works from political scientists, international relations scholars, geographers, anthropologists, and advocacy organizations.

**Requirements/Evaluation:** 2 short concept papers (3-4 pages); 1 research paper (10 pages); several short policy exercises

**Prerequisites:** none

**Enrollment Limit:** 19

**Enrollment Preferences:** Environmental Studies majors and concentrators

**Expected Class Size:** 10

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

**Distributions:** (D2)

**Attributes:** ENVI Environmental Policy  GBST Economic Development Studies Electives

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**ENVI 250 (S) Environmental Justice**  (DPE)

**Cross-listings:** ENVI 250  STS 250

**Primary Cross-listing**

How are local and global environmental problems distributed unevenly according to race, gender, and class? What are the historical, social and economic structures that create unequal exposures to environmental risks and benefits? And how does inequity shape the construction and distribution of environmental knowledge? These are some of the questions we will take up in this course, which will be reading and discussion intensive. Through readings, discussions, and case studies, we will explore EJ in both senses. Potential topics include: toxics exposure, food justice, urban planning, e-waste, unnatural hazards, nuclearism in the U.S. West, natural resources and war, and climate refugees. Occasionally, community leaders, organizers, academics, and government officials will join the class to discuss current issues.

**Requirements/Evaluation:** several short essays, final essay

**Prerequisites:** ENVI 101 or permission of the instructor

**Enrollment Limit:** 12
**Enrollment Preferences:** Environmental Studies concentrators

**Expected Class Size:** 10

**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:

ENVI 250 (D2) STS 250 (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. This is a service-based learning course, and students will hone skills to address environmental injustices.

**Attributes:** ENVI Humanities, Arts + Social Science Electives EVST Culture/Humanities EXPE Experiential Education Courses GBST Economic Development Studies Electives

Not offered current academic year

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**ENVI 251  Science and Militarism in the Modern World**

In 1961, United States President Dwight D. Eisenhower warned of 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 the colonial wars of the late 19th century 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.

**Requirements/Evaluation:** Course requirements include weekly short response papers (4-6 pages) and tutorial discussions.

**Prerequisites:** None

**Enrollment Limit:** 10

**Enrollment Preferences:** ENVI and STS majors and concentrators

**Expected Class Size:** 10

**Grading:**

**Distributions:** (D2)

**Attributes:** ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

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**ENVI 255 (F) Environmental Observation**

**Cross-listings:** ENVI 255 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, radar, 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:** labs, quizzes, and a final project

**Prerequisites:** at least one prior course in GEOS or ENVI

**Enrollment Limit:** 20

**Enrollment Preferences:** sophomores

**Expected Class Size:** 10
ENVI 259  (S)  New England Environmental History  (WS)

Cross-listings:  AMST 259  HIST 259  ENVI 259

Primary Cross-listing

Have you ever wondered why there are few old-growth forests in New England? What Williamstown looked like before Williams was founded? How ideas about environmental preservation have changed over time? These are some of the questions we will explore in this course, which introduces students to the discipline of Environmental History through New England examples. During the semester we will: (1) read and discuss scholarship on the environmental history of New England and the world; (2) use case studies and field trips to examine how past environments are represented in museum exhibits, digital projects, and physical landscapes; (3) Develop a research paper based on original archival research

Requirements/Evaluation:  several short essays, final project

Prerequisites:  ENVI 101 or permission of the instructor

Enrollment Limit:  19

Enrollment Preferences:  Environmental Studies concentrators

Expected Class Size:  15

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

Distributions:  (D2)  (WS)

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

AMST 259 (D2) HIST 259 (D2) ENVI 259 (D2)

Writing Skills Notes:  Six response papers for which the instructor will provide consistent feedback on writing skills as well as content. Sequenced writing workshops that lead toward a final research paper.

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 261  (S)  Science and Militarism in the Modern World

Cross-listings:  STS 261  ENVI 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 4-6 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 (4-6 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)

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

STS 261 (D2) ENVI 261 (D2)

Attributes: ENVI Humanities, Arts + Social Science Electives

Spring 2021

TUT Section: RT1  TBA  Brittany Meché

ENVI 263  (F)(S)  The Global Ocean: An Interdisciplinary Introduction

Cross-listings: MAST 263  ENVI 263

Secondary Cross-listing

Though it covers most of the planet, the ocean’s importance to everyday life is easy to overlook. Its roles as a cultural symbol, resource, highway, and climate regulator make it essential to life around the world. This interdisciplinary course, team-taught by the faculty of the Williams-Mystic Program, will examine key issues in each of the world’s oceans while introducing students to the ways these issues connect multiple disciplines and transcend physical, political, and imaginary ocean boundaries. By drawing on the expertise of the five professors -- from humanities, social sciences, and sciences -- this course facilitates the critical study of the ocean from an interdisciplinary perspective and helps them consider their own role in the shifting relationship between humanity and the ocean. This seminar-style course will meet twice a week online, with students assessed by their participation, response papers, and final project, while helping them apply interdisciplinary skills to pressing sustainability issues connecting the environment and society.

Class Format: Remote, including Zoom seminar meetings twice a week

Requirements/Evaluation: Five 2-page papers, participation, and a 6-8 page final paper

Prerequisites: none, open to all students

Enrollment Limit: 20

Enrollment Preferences: 1. first years, 2. sophomores, 3. MAST concentrators

Expected Class Size: 15

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

Distributions: (D2)

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

MAST 263 (D3) ENVI 263 (D2)

Attributes: ENVI Humanities, Arts + Social Science Electives

Fall 2020

SEM Section: R1  MR 1:30 pm - 2:45 pm  Lisa A. Gilbert, Catherine Robinson Hall, Tim J. Pusack, Sofia E. Zepeda, Ned G. Schaumberg, ngs3

Spring 2021

SEM Section: R1  MR 1:30 pm - 2:45 pm  Catherine Robinson Hall, Tim J. Pusack, Lisa A. Gilbert, Sofia E. Zepeda, Ned G. Schaumberg, ngs3

ENVI 265  (F) Coral Reefs: Ecology, Threats, & Conservation

Cross-listings: BIOL 165  MAST 265  ENVI 265

Secondary Cross-listing

Coral reefs are a fascinating ecosystem found throughout the world's tropical oceans. Corals can thrive in nutrient-poor oceans because of the mutualistic relationship with algal symbionts. And as a foundational species, corals provide a habitat for numerous species, possibly the highest
diversity found on the planet. However, these complex and beautiful ecosystems are declining worldwide from a variety of local and global threats. In this course, we will explore coral reef ecology through an in-depth examination of the biotic and abiotic factors contributing to the ecosystem’s functioning. We will also investigate the causes and consequences of threats to coral reefs, such as ocean warming, ocean acidification, and resource extraction. Finally, we will identify the many efforts worldwide to conserve coral reefs and promote their resilience. In this seminar course, offered remotely, you will demonstrate your proficiency through knowledge assessments, short writing reflections, a virtual coral fragmentation experiment, and a creative advocacy project. This course aims to deepen your awareness of the complex species interactions on coral reefs and the physical factors affecting coral survival while fostering hope through current conservation efforts.

**Class Format:** Remote, including Zoom seminar meetings twice a week

**Requirements/Evaluation:** Four 1-paragraph discussion board post, One 20-question knowledge assessment (quiz), Three 2-page writing reflections, One lab results and discussion write-up 2-3 pages figures included, and a creative (medium is student choice) advocacy project.

**Prerequisites:** none, open to all students

**Enrollment Limit:** 20

**Enrollment Preferences:** 1. First-Year, 2. Sophomores

**Expected Class Size:** 16

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

**Unit Notes:** Does not count for Biology major credit.

**Distributions:** (D2)

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

BIOL 165 (D3) MAST 265 (D2) ENVI 265 (D2)

**Attributes:** ENVI Natural World Electives

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**ENVI 266 (S) Reading Water (WS)**

**Cross-listings:** ENVI 266 MAST 266

**Secondary Cross-listing**

Water has such profound and far-reaching influence on individuals, societies, and the planet that it simultaneously risks going overlooked and appearing clichéd. Human beings are made of it and need it to live, yet will die if immersed in it. It is venerated by cultures around the world, yet most people either cannot access clean water, or don’t know where their clean water is piped from. It covers the earth’s surface, and has shaped it over eons, yet scientists are still not sure how it came to be here in the first place. This wide-ranging influence also presents challenges for traditional academic structures; thinking about water demands crossing times, spaces, and disciplines. This course will explore the wide-ranging and diverse ways water impacts individuals, cultures, and the environments they call home by drawing on a range of content: hydrology, literature, political theory, storytelling, geography, and more. To do this, we will also develop and examine methods of critically reading as “non-experts”--reading scientific articles as rhetorical objects and reading for scientific principles in literature, for instance--to explore what interdisciplinary thinking opens up (and inhibits), and thus how to effectively engage with and create interdisciplinary work. The goal here is not to define water’s cultural or scientific importance, or to determine which disciplines “best” combine to explain water, or to come up with humanities-based solutions to “the water crisis.” Rather, these texts, and the water that flows through them will help us explore the opportunities and limits of human perceptions of the other-than-human world. It will help us consider the extent to which those perceptions both shape, and are shaped by, a seemingly simple molecule. And it will help us imagine epistemologies and ontologies that account for the ways water simultaneously flows through us, around us, and through the deep geological history of the planet. Course Texts: Tristan Gooley -- *How to Read Water* (selections) Vandana Shiva -- *Water Wars* (selections) Luna Leopold -- *Water, Rivers, and Creeks* (selections) Richard White -- *The Organic Machine* Linda Hogan -- *Solar Storms* Marc Reisner -- *Cadillac Desert* Jesmyn Ward -- *Salvage the Bones* John McPhee -- “Atchafalaya” Emmi Itäranta -- *Memory of Water* Brenda Hillman -- “The Hydrology of California”

**Class Format:** This class will be remote, meeting synchronously. The class will be primarily discussion-based, and will ask students to lead and structure discussions. Students will have questions, reflections, and insights prepared before class, and use those to drive our in-class activities.

**Requirements/Evaluation:** 100pg of reading a week, give or take. Approx 20-25 pages of written work throughout the semester.

**Prerequisites:** None
Enrollment Limit: 20
Expected Class Size: 20
Grading: yes pass/fail option, no fifth course option
Distributions: (D1) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:
ENVI 266 (D1) MAST 266 (D1)

Writing Skills Notes: Students will write four papers of increasing complexity that will require workshopping and drafts. Each of these papers will receive forward-looking writing feedback from me. The first paper centers on paragraph-level stylistic choices, the second on argument/evidence connections, the third on genre, and the final paper synthesizes these writing skills. In addition, students' final grades will allow for revision of earlier papers to encourage and assess growth of writing skills.

Spring 2021
SEM Section: R1    MR 3:15 pm - 4:30 pm    Ned G. Schaumberg

ENVI 267  (F)  Coastal Communities and Climate Justice  (DPE)
Cross-listings:  PSCI 256  GEOS 257  MAST 267  ENVI 267

Secondary Cross-listing
Climate change poses extraordinary challenges to our country's coastal communities; the impacts of which will not be borne equally. Access to innovative technological, scientific, financial and legal resources is controlled by policy makers. Equal access is critical for the sustainability of our coastal communities. But fair decisions require vulnerable communities to have a voice in local climate change adaptation decisions. This seminar course will introduce you to basic concepts of climate justice in the context of our Nation's coastal communities, guided by the UN Framework Convention on Climate Change. The course will introduce you to fundamental coastal and ocean-based climate-induced impacts with a focus on sea level rise, ocean warming, ocean acidification and coastal infrastructure. We will examine these impacts, as well as local, state, regional and federal policy responses to them through the lens of climate justice. We will identify what's working and what more needs to be done to advance climate equity and justice in the wake of formidable global and local change. Proficiency will be demonstrated through class participation, work conducted in small group strategy exercises, discussion board posts, short research assessment papers and a final written project. There are three goals in this course: first to broaden your understanding of the disproportionate effects of climate change to underrepresented, disempowered, poor, urban and indigenous populations living in American coastal communities; second to provide you with tools to identify inequity; third, to increase your own voice to promote avenues to seek climate justice.

Class Format: remote
Requirements/Evaluation: Weekly Readings; Class Participation; Small group strategy exercises; Four on-line discussion board posts; Two 2-3-page data & research assessment papers; Final written project--multiple formats available
Prerequisites: none
Enrollment Limit: 20
Enrollment Preferences: first-years and sophomores
Expected Class Size: 15
Grading: yes pass/fail option, no fifth course option
Unit Notes: social science; This course does not count toward the Geosciences Major.
Distributions: (D2) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:
PSCI 256 (D2) GEOS 257 (D2) MAST 267 (D2) ENVI 267 (D2)

Difference, Power, and Equity Notes: This course examines the persistent disproportionate climate changes impacts on underrepresented, poor, urban and indigenous populations living in U.S. coastal communities. Students will analyze multi-disciplinary data and conduct research to reveal unequal distributions of power and resources and to strengthen their integrative, analytical, writing, and advocacy skills. They will structure discussions on the pervasiveness of climate injustice and craft potential avenues for corrective actions.

Attributes: ENVI Humanities, Arts + Social Science Electives  ENVI Environmental Policy  MAST Interdepartmental Electives
ENVI 268  (S)  Debating Ocean Biodiversity at the Intersection of Science and Policy

Cross-listings:  ENVI 268  MAST 268

Secondary Cross-listing
Biodiversity in the ocean is facing an onslaught of challenges, both directly and indirectly. It is likely that we are undergoing a sixth mass extinction event, where diversity of life on earth is stunningly at risk. Fortunately, however, we are also finding innovative ways to solve issues and attempt to stave off these dramatic changes to our ecosystems. These solutions potentially have both positive and negative effects. Difficult tradeoffs must be weighed and decisions must be made as people wrestle with known knowns, known unknowns, and unknown unknowns. In this class, we will explore five issues that relate to biodiversity in the ocean. You will have the opportunity to investigate one side of an issue, to collect supporting information, and to advocate for your position all while learning about current biodiversity issues in the ocean. You will be challenged to weigh conflicting evidence to find a positive outcome. Throughout the class you will practice critical thinking, evaluation, and synthesizing skills as you work with multiple viewpoints. Class time will include lecture, in-class group work, and student-led debates of timely, controversial issues. You will be assessed on summaries of information, reflections on topics, and a final project on an issue of your choice relating to ocean biodiversity.

Class Format: Remote, including Zoom seminar meetings twice a week
Requirements/Evaluation:  Five 2-page papers, participation, and a 6-8 page final paper
Prerequisites:  none, open to all students
Enrollment Limit:  20
Enrollment Preferences:  1. first years, 2. sophomores, 3. MAST concentrators
Expected Class Size:  15
Grading:  yes pass/fail option, yes fifth course option
Distributions:  (D2)
This course is cross-listed and the prefixes carry the following divisional credit:
ENVI 268 (D2) MAST 268 (D2)
Attributes:  ENVI Humanities, Arts + Social Science Electives  MAST Interdepartmental Electives

Spring 2021
SEM Section: R1  MW 10:00 am - 11:15 am  Catherine Robinson Hall,  Tim J. Pusack

ENVI 270  (S)  Environmental Problems: Social Causes, Consequences, and Policy Solutions

This course will provide an overview of the social causes and consequences of environmental problems, especially within the US context. Special attention will be paid to the variety of actors that shape environmental outcomes, including legislators, administrators, the science community, civil society and the private sector. We will examine different proposed solutions to environmental problems and models of environmental policy-making, including at the local, state and federal level. This course will focus on several case studies, including air and water pollution, agricultural runoff, climate change and endangered species protection.

Requirements/Evaluation:  participation, midterm, several smaller assignments, and a final project analyzing an environmental policy
Prerequisites:  ENVI 101 or permission of instructor
Enrollment Limit:  19
Enrollment Preferences:  Environmental Studies majors and concentrators, and Political Science majors
Expected Class Size:  15
Grading:  no pass/fail option, yes fifth course option
Distributions:  (D2)
Attributes:  ENVI Environmental Policy  EVST Social Science/Policy
Not offered current academic year
ENVI 272 (S)  Earth Hazards and Risks  (WS)

Cross-listings: ENVI 272 GEOS 272

Secondary Cross-listing

As individuals, communities, and societies we live with risk from a variety of natural hazards. Depending on where we live, we may be more at risk from hurricanes, volcanoes, earthquakes, flooding, landslides, drought, wildfire, asteroids, or other hazards. Which hazards can be predicted? How far in advance and with what uncertainty? How we evaluate our risks from hazards is important for how we make decisions for ourselves and how we engage with others in decision-making. In this tutorial, we will examine the innovative ways earth scientists currently forecast these hazards. Students will use geospatial and time series data to assess the comparative risks of several hazards at a location that is significant to them (e.g., hometown, site of personal/historical importance). We will combine forecasting effectiveness with vulnerability assessments to strategize ways of proactively mitigating risk. This course is in the Sediments and Life group for the Geosciences major.

Class Format: This class will meet remotely. Students will meet in pairs or small groups weekly with the instructor for one hour. The entire class will meet once at the beginning of the semester for organizational purposes and at the end of the semester for a synthesis.

Requirements/Evaluation: Assessment will be based on participation, tutorial papers, peer reviews, presentations, and a final paper.

Prerequisites: none

Enrollment Limit: 10

Enrollment Preferences: sophomores, Geosciences and Environmental Studies juniors and seniors

Expected Class Size: 10

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

Distributions: (D3) (WS)

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

ENVI 272 (D3) GEOS 272 (D3)

Writing Skills Notes: Students will write four (5 page) tutorial papers evaluating the predictability/uncertainty of Earth-related hazards and make short (5 minute) presentations assessing risk of the hazard in their hometown or other location. A final (10 page) paper will synthesize two of the hazards and ability of forecasts to mitigate associated risks. Students will give/receive feedback in the form of peer reviews and receive frequent feedback from the instructor.

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

Spring 2021

TUT Section: RT1  TBA  Lisa A. Gilbert

ENVI 273 (F)  Politics without Humans?

Cross-listings: ENVI 273 PSCI 273 STS 273

Secondary Cross-listing

Are human beings the only beings who belong in politics? And is political involvement a unique or defining aspect of what it means to be human? Such questions are increasingly complex as the boundaries of "the human" become blurred by the rise of artificial intelligence, robotics, and brain implants: shifting attitudes towards both animal and human bodies; and the automation of economic and military decisions (buy! sell! attack! retreat!) that used to be the prerogative of human actors. How do visions of politics without humans and humans without politics impact our thinking about longstanding questions of freedom, power, and right? Can and should the link between humans and politics survive in an age in which "posthuman" or "transhuman" entities become central characters in the drama of politics? This class will consider these questions through readings, films and artifacts that bring political theory into conversation with science fiction, popular literature on the so-called "singularity" (the merger of humans with computers), science and technology studies, evolutionary anthropology, "new materialist" philosophy, and feminist theory.

Requirements/Evaluation: three 5- to 7-page papers, regular Glow posts, class participation

Prerequisites: please note that this is an introductory-level course with no prerequisites; first-year students and those with no background in political theory are welcome, as are more experienced students

Enrollment Limit: 25

Expected Class Size: 20

Grading: yes pass/fail option, yes fifth course option
ENVI 283  (F) Dirty Politics: Regulating Hazardous Chemicals and Wastes

Cross-listings: ENVI 283 PSCI 283

Primary Cross-listing

Since consumers were first introduced to the promise of “better living through chemistry,” society has had to wrestle with the impacts, often far removed in place and time, resulting from a rapid proliferation of hazardous chemicals and wastes. Policy responses, be they at the local, national or global scale, are often limited to reactionary efforts to counter releases into the environment, are constrained by the prevalent use of the technologies in question, and further bring to the fore key challenges of environmental justice and risk management. How then are we to regulate DDT without adversely affecting our fight against mosquito-borne malaria? How might we preserve the ozone layer while still maintaining the benefits of food preservation through refrigeration? How can we reap the benefits of the electronic age without cononding the steady flow of electronic waste affecting workers’ health and environments in developing countries? Emphasis will be placed on understanding the politics that bring about, and allow us to address, these problems. We will be examining in particular novel policy responses, including the US’ revised legislation on chemicals passed in 2016 and citizen science initiatives such as those that brought attention to the crisis of lead-contaminated water in Flint, MI.

Requirements/Evaluation: participation, several smaller assignments, and a final research project

Prerequisites: ENVI 101 or permission of instructor

Enrollment Limit: 19

Enrollment Preferences: Environmental Studies majors and concentrators, and Political Science majors

Expected Class Size: 15

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

Distributions: (D2)

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

ENVI 283 (D2) PSCI 283 (D2)

Attributes: AMST Space and Place Electives ENVI Environmental Policy EVST Social Science/Policy PHLH Nutrition, Food Security + Environmental Health POEC Comparative POEC/Public Policy Courses PSCI Research Courses

Not offered current academic year

ENVI 291  (S) Religion and the American Environmental Imagination

Cross-listings: SOC 291 ENVI 291 REL 291

Primary Cross-listing

This course examines the relationship between religious and environmental thought in modern America. Exploring a broad range of practices and beliefs, we will examine the religious (and anti-religious) roots of contemporary environmental discourse. Rather than survey the environmental teachings of organized religious groups, our focus throughout will be on ambiguous, eclectic, and fascinating traditions of "eco-spirituality" and popular "nature religion." Where do these traditions come from? What is their relationship to science, to secularism, to politics, and to the search for environmental justice? Starting with the Transcendentalist movement of the 19th century, we will trace a roughly chronological line to the present, taking long detours into several modern religious trends and movements, including the revitalization and contestation of Native American religions, Wicca and neo-pagan ecofeminism, and evangelical Creation Care. Focusing on the writings of activists and radicals from a variety of religious backgrounds, our overarching question throughout the semester is one of the most critical we face in modern environmental thought: what is the relationship between spirituality and the just, sustainable society?

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
In her 2007 book, *In Catastrophic Times: Resisting the Coming Barbarism*, philosopher Isabelle Stengers offers a chilling observation: "we are more badly equipped than ever for putting to work the solutions defined as necessary" to avoid the most devastating effects of global warming--the extinction of 25 to 75% of existing species; an increase in sea levels that will drown island nations and coastal cities; the breakdown of agricultural systems, leading to widespread famine; and the recurrence of powerful hurricanes and other so-called "natural" disasters. All of this, as Stengers and others point out, will create human upheaval, conflict and suffering on an unprecedented scale. This senior seminar examines works of literature, art and film that Latin Americans have produced in response to the catastrophic times in which we live. We will discuss the political, economic, and cultural histories that have led to our present moment, including neoliberalism, dictatorship, and the rise and fall of the leftwing Pink Tide. Through works of new and experimental fiction, poetry, film, performance and visual art, we will consider the lives and work of environmental activists, including Berta Cáceres and others who were murdered because of their outspoken opposition to extractive capitalism, examine the struggle for the decolonization of environmental knowledge, an epistemological battle increasingly waged on behalf of all living things, and experience the politics of mourning for the hundreds of thousands of life-forms disappearing from the planet. Cultural texts to be explored throughout the semester may include: *La vorágine* (José Eustasio Rivera, Colombia, 1924); *Distancia de rescate* (Samanta Schweblin, Argentina, 2014); *Lo que soño Sebastián* (Rodrigo Rey Rosa, Guatemala, 1995); *Serras da desordem* (Andrea Tonacci, Brazil, 2006); *Boi Neón* (Gabriel Mascaro, Brazil, 2015); *American Fork* (George Handley, USA, 2018).

**Requirements/Evaluation:** rigorous preparation and participation in class discussions, oral presentations and discussion-leading, response papers, one 5- to 7-page paper and one 15- to 20-page paper

**Prerequisites:** one 300-level course in the department, evidence of a successful direct-enroll experience at a local university in Latin America or Spain, or permission of instructor

**Enrollment Limit:** 19

**Enrollment Preferences:** senior Spanish majors; after that, priority will be given to ENVI majors with a strong command of Spanish

**Expected Class Size:** 12

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

**Unit Notes:** this is the senior seminar required for all Spanish majors
approaches, poverty and affordable housing, climate resilience planning, alternative transportation and transit, and agriculture and food systems. The class is organized into two parts. Part 1 involves reading and discussion of the planning literature: history, theory, policy, ethics, legal framework, and case studies. Labs include GIS mapping, hands-on planning exercises and project development. Part 2 involves project work: tackling a current planning problem in your home community. The includes primary research, conducting interviews with policymakers, stakeholders and residents, site visits, attending meetings, and other activities as demanded by the particular project. The project work draws on students’ academic training and extracurricular activities, and applies creative solutions to thorny problems. Labs will be small group work and project work. The course includes several class presentations; students will gain skills in interacting with public officials, interviewing, preparing presentations, public speaking, report-writing, and teamwork. The class culminates in a public presentation.

Class Format: Classes will be remote; some lab sessions will be in-person (held outside) for those on campus and others will be remote; there will be some in-person small group meetings held outside for those on campus. Scheduled class time and lab times will include small group discussion and collaborative group work and individual project work.

Requirements/Evaluation: Response papers (about four 1-page papers), planning exercises, class discussion, reports submitted in segments (total about 30 pp), collaborative small group work, class presentations frequently during semester, final class presentations over zoom.

Prerequisites: ENVI 101; open to seniors only

Enrollment Limit: 16

Enrollment Preferences: Environmental Studies majors and concentrators

Expected Class Size: 16

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

Unit Notes: Required course for Environmental Studies major and concentration

Distributions: (D2)

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

AMST 302 (D2) ENVI 302 (D2)

Attributes: AMST Space and Place Electives ENVI Core Courses EVST Core Courses EXPE Experiential Education Courses

Fall 2020

LAB Section: H2 T 2:00 pm - 4:00 pm Sarah Gardner
LAB Section: H3 R 2:00 pm - 4:00 pm Sarah Gardner
SEM Section: R1 TR 11:30 am - 12:45 pm Sarah Gardner

ENVI 303 (S) Cultures of Climate Change

Cross-listings: SOC 303 ENVI 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 climate change? How does something as complex and confusing as climate change become a “problem” in the first place? This course will explore a broad array of factors, from religion to race, class to colonialism. It will focus especially closely on the communication of scientific knowledge, risk perception, and environmental ethics, and it will apply a range of theories from the social sciences and humanities to a set of concrete case studies.

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: yes pass/fail option, yes fifth course option

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:
ENVI 304  (F) Sacred Custodians: Environmental Conservation in Africa  (DPE)

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

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.

Class Format: If there's sufficient enrollment, this course will be taught in 2 sections, 1 in-person section and 1 remote section;

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

Prerequisites: None

Enrollment Limit: 15

Enrollment Preferences: If course is over-enrolled, preference to History Majors and students with a demonstrated interest in African studies. If there's sufficient enrollment, this course will be taught in 2 sections, 1 in-person section and 1 remote section.

Expected Class Size: 10-12

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:

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

Fall 2020

SEM Section: H1    MW 10:00 am - 11:15 am    Benjamin Twagira
SEM Section: R2    TR 11:30 am - 12:45 pm    Benjamin Twagira

ENVI 307  (F) Environmental Law

Cross-listings: PSCI 317  ENVI 307

Primary Cross-listing

We rely on environmental laws to make human communities healthier and protect the natural world, while allowing for sustainable economic growth. Yet, despite 40 years of increasingly varied and complex legislation, balancing human needs and environmental quality has never been harder than it is today. Environmental Studies 307 analyzes the transformation of environmental law from fringe enterprise to fundamental feature of modern political, economic and social life. ENVI 307 also addresses the role of community activism in environmental law, from local battles over proposed industrial facilities to national campaigns for improved corporate citizenship. By the completion of the semester, students will understand both the
successes and failures of modern environmental law and how these laws are being reinvented, through innovations like pollution credit trading and "green product" certification, to confront globalization, climate change and other emerging threats.

Requirements/Evaluation: several short writing assignments, a term research project, and active participation in class

Prerequisites: ENVI 101 or permission of instructor

Enrollment Limit: 14

Expected Class Size: 14

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

Distributions: (D2)

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

PSCI 317 (D2) ENVI 307 (D2)

Attributes: AMST Space and Place Electives ENVI Environmental Policy EVST Social Science/Policy MAST Interdepartmental Electives POEC U.S. Political Economy + Public Policy Course

Fall 2020

LEC Section: H1    TR 6:45 pm - 8:00 pm    David N. Cassuto

ENVI 308  (S)  Science and Politics in Environmental Decision Making

This course explores the relationship between science and politics in environmental decision-making. How do legislators know when a species is endangered and warrants protection? What precautions should be applied in allowing genetically modified foods onto our plates? Can we, and should we, weigh the risks of malaria against the impacts of pesticides used to control those mosquitoes that transmit the disease? How has the global community come together to understand the risks from global climate change, and how has this understanding shaped our policy responses? What are some of the limits of science in shaping policy outcomes? In addressing these and other questions, we will pay particular attention to how power relations and existing institutions shape what knowledge, and whose knowledge, is taken on board in decision-making, be it at the local, national or global level. We will delve into how these dynamics shape policy outcomes and we will also examine novel approaches for incorporating the knowledge of traditionally disempowered groups, including indigenous and local communities.

Requirements/Evaluation: participation, several smaller assignments, and a final project

Prerequisites: ENVI 101 or permission of instructor

Enrollment Limit: 19

Enrollment Preferences: Environmental Studies majors and concentrators, Public Health concentrators, and Political Science majors

Expected Class Size: 15

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

Distributions: No divisional credit

Attributes: ENVI Environmental Policy PHLH Nutrition,Food Security+Environmental Health

Not offered current academic year

ENVI 311  (S)  Tropical Ecologies: Francophone Caribbean Literature and the Environment  (DPE)

Cross-listings: AFR 313  RLFR 313  ENVI 311

Secondary Cross-listing

The lushness of the mangroves, the flora and fauna of tropical landscapes, the intricacy of the rhizome, the flow of great rivers, the crashing waves of the Atlantic, the heights of mountainous lands, and expanse of the plateau--the natural world is an important site of Caribbean art in general and, more specifically, the francophone Caribbean novel of the 20th and 21st centuries. Applying eco-criticism to the field of francophone Caribbean literature, the goal of this class is to examine the ways that fiction explores the relationship between human activity and the environment. How does the novel inhabit Caribbean ecologies and topographies? How does it represent nature? In what ways do Caribbean texts meditate on nature and culture together or against one another? As the earthquake in Haiti demonstrated in 2010 with calamitous force, and the cycles of Caribbean hurricanes have shown over the years, natural disaster is also a political crisis. In view of this, we will also consider the legacies of slavery and colonialism in terms of class, gender and race politics. This investigation of the dynamics of natural and cultural phenomena will also have a theoretical frame rooted in critical texts of Caribbean of literary and political movements such as Indigenisme, Négritude, and Créolité. Conducted in French.
Class Format: This will be a remote course available to all students, whether they are on campus or completing coursework 100% remotely. We will convene synchronously via Zoom multiple times per week, with an emphasis on discussion and small group work. Students are also required to attend a monthly colloquium featuring renowned Caribbean scholars and participate in online activities both during and in-between our synchronous sessions.

Requirements/Evaluation: Students will be required to submit four 2-page position papers that incorporate critical readings with analysis of the books being read in their entirety; each student will also be responsible for making a twenty-five minute oral presentation on a critical/theoretical area related to class readings and discussion; the semester will conclude with a 6-8 page research paper to include footnotes and a bibliography. Attendance is mandatory and active, and informed class participation is required of all students. In addition, students are asked to come up with discussion questions three times throughout the semester.

Prerequisites: Successful performance in RLFR 105 or 106; or a previous RLFR 200-level or 300-level course; or by placement test; or permission of the instructor.

Enrollment Limit: 12

Enrollment Preferences: All are welcome, but if over-enrolled, preference will be given to French majors and certificate students; and those with compelling justification for admission.

Expected Class Size: 12

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

Distributions: (D1) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:
AFR 313 (D2) RLFR 313 (D1) ENVI 311 (D1)

Difference, Power, and Equity Notes: As the course description show, this course critically examines difference, power, and equity in the Francophone Caribbean. The content focuses on race and ethnicity, slavery and colonialism, ecology and environmental disaster, and their effects on Caribbean histories, peoples, and cultures. The course teaches students how to critically investigate racial, cultural, and environmental in/justice(s), through texts, films, discussion, debate, and writing.

Spring 2021
SEM Section: R1 TF 1:30 pm - 2:45 pm Regine M Jean-Charles

ENVI 312 (F) Communities and Ecosystems (QFR)

Cross-listings: BIOL 302 ENV 312

Secondary Cross-listing
An advanced ecology course that examines how species interact with each other and their environment and how communities are assembled. This course emphasizes phenomena that emerge in complex ecological systems, building on the fundamental concepts of population biology, community ecology, and ecosystem science. This foundation will be used to understand specific topics relevant to conservation including invasibility and the functional significance of diversity for ecosystem stability and processes. Lectures and labs will explore how to characterize the emergent properties of communities and ecosystems, and how theoretical, comparative, and experimental approaches are used to understand their structure and function. The lab component of this course will emphasize hypothesis-oriented field experiments as well as "big-data" analyses using existing data sets. The laboratory component of the course will culminate with a self-designed independent or group project.

Class Format: six hours per week

Requirements/Evaluation: lab reports, a midterm exam, a term project presentation, and a final project paper

Prerequisites: BIOL/ENV 203 or 220

Enrollment Limit: 28

Enrollment Preferences: Biology majors and Environmental Studies majors and concentrators

Expected Class Size: 24

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

Unit Notes: satisfies the distribution requirement for the Biology major

Distributions: (D3) (QFR)

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

BIOL 302 (D3) ENV 312 (D3)
ENVI 313  (S)  Chicago

Cross-listings: LATS 312  ENVI 313  AMST 312

Secondary Cross-listing

"The city of big shoulders has plenty of room for diversity," reads the official visitor's website for the City of Chicago. Focusing on this claim, this course asks students to think critically about what kind room has been made for diversity--social, spatial, and ideological. Additionally we examine the ways in which diverse social actors have shouldered their way into the imagined and physical landscape of the city. Working with ethnography, history, literature, critical essays, and popular culture, we will explore the material and discursive constructions of Chi-Town and urban life among its residents. Appreciating these constructions we also consider how Chicago has served as a key site for understandings of urbannity within a broader national and global context.

Class Format: discussion

Requirements/Evaluation: attendance and class participation, group presentations and discussions, 5 critical briefs (2-pages) and a book review essay (15 pages)

Prerequisites: none

Enrollment Limit: 20

Enrollment Preferences: American Studies majors, Latina/o Studies concentrators and students who have taken LATS 220/AMST 221/ENVI 221

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:

LATS 312 (D2)  ENVI 313 (D2)  AMST 312 (D2)

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

GBST Urbanizing World Electives  LATS Core Electives

Not offered current academic year

ENVI 314  (F)  Nature in Crisis: The Classification Craze and The Rise of Museums

Cross-listings: RLFR 315  ENVI 314

Secondary Cross-listing

This course examines how understandings of nature evolved dramatically (and at times unsettlingly) from the 17th through the early 20th centuries and how this instability prompted a desire to classify and control natural phenomena. To analyze these issues, we will likewise consider the rise of modern museums, as well as the accompanying acts of classification and curation. We will consider how literary and philosophical texts from the aforementioned time periods depict nature, how real-world interactions with nature led to the creation of (illustrated) taxonomies, how colonization inflected notions of the natural world and also museum exhibits, and finally, how the cabinet of curiosities and later, the museum, provided a space in which to display and analyze nature’s more unusual treasures. As part of our explorations, we will build a virtual exhibit of our own to reflect our understanding of nature today and our engagement with concepts of nature from previous eras. Conducted in French. Counts as an Envi Humanities Elective for the Envi Concentration.

Class Format: Remote. This will be a remote course available to all students, whether they are on campus or completing coursework 100% remotely. We will convene synchronously via web-conferencing multiple times per week, with an emphasis on discussion in small groups. There will be many opportunities for all course members to interact via a series of varied online activities both during and in-between our synchronous sessions.

Requirements/Evaluation: participation, online homework, essays, mid-semester presentation, final class project (virtual exhibit)

Prerequisites: exceptional performance in RLFR 106, or an RLFR 200-level course; or by placement test; or permission of the instructor

Enrollment Limit: 12

Enrollment Preferences: All are welcome, but if over-enrolled, preference will be given to French majors and certificate students; and those with compelling justification for admission.

Expected Class Size: 12
ENVI 315 (S) Ecocriticism

Cross-listings: ENVI 315 ENGL 312

Secondary Cross-listing

How does the human imagination encounter its environment? This overarching question is of particular importance now, as the humanities struggle to address the ecological crises of our time. We'll read selections from the long tradition of environmentally-minded literary works in order to historicize concepts of nature and wilderness, as well as from more recent theoretical and creative writing that reflects an increasing awareness of climate change, toxic waste and pollution, habitat loss and species extinction, population expansion, and other forms of environmental catastrophe. Finally, we will explore via our own writing the ethical and aesthetic imperative to find ways of imagining this ever-changing relation between the imagination and the environment.

Requirements/Evaluation: engaged participation; one 5- to 7-page paper and one final 12- to 15-page paper; frequent GLOW posts; and a creative journal

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, or consent of the instructor

Enrollment Limit: 25

Enrollment Preferences: majors in English or Environmental Studies

Expected Class Size: 25

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

Distributions: (D1)

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

ENVI 315 (D1) ENGL 312 (D1)

Attributes: AMST Space and Place Electives ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

ENVI 321 (F) Born to be Wild: Rethinking Animals in Pre-modern and Modern Texts (DPE)

Cross-listings: COMP 323 ARAB 323 ENVI 321

Secondary Cross-listing

In the past few months, images of dolphins appearing in the Venetian canals, and wild animals roaming eerie looking post-apocalyptic deserted streets have gone viral. The majority of these images have proven to be fake, however their popularity was witness to people's hope that we can "reset" the environment and a yearning to reframe animals' positionality vis-à-vis their habitats and humans. Using critical lenses from ecocriticism and animal studies, we will be exploring texts from non-Western traditions in which animals figure strongly from pre-modern times to the age of the Anthropocene.

The focus will be on Arabic, Persian and Turkish texts all in translation. The course will be traversing several genres and texts from Pre-Islamic poetry, the Quran, the 10th century Ikhwan as-Safa's epistle The Case of Animals versus Man Before the King of the Jinn, the fables of Kalila and Dimna, Farid ed-Din 'Attar's Conference of Birds, travelogues, paintings, contemporary film till we reach recent fiction with cyborgs and drones. Throughout the course, we will be examining themes such as diverse conceptualizations of what it means to be an "animal", what constitutes' animal agency and animal subjectivity irrespective of humans and their often utilitarian lens. We will do this by investigating how animals through these texts have been represented, imagined and reconfigured whether allegorically or otherwise as communities and in relation to humans and the environment and the implications of that. Finally, we will explore what a poetics of animal studies in these cultural and literary traditions could look like. The course will consist of multiple forms of evaluation like participation, Glow posts, essays, experiential reflections and creative tasks.
Class Format: This class will be offered remotely synchronously twice a week (75 minutes each session), in addition to prerecorded asynchronous material at times.

Requirements/Evaluation: The course will consist of multiple forms of evaluation like participation, Glow posts, essays, experiential reflections and creative tasks.

Prerequisites: None

Enrollment Limit: 12

Enrollment Preferences: Arabic majors, Comparative Literature Majors, Environmental Studies Majors and Arabic certificate holders.

Expected Class Size: 10

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

Distributions: (D1) (DPE)

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

COMP 323 (D1) ARAB 323 (D1) ENVI 321 (D1)

Difference, Power, and Equity Notes: This course deals with different literary traditions and their aesthetics. The approach is both synchronic and diachronic by looking at texts and their texts from different time periods and at different genres. The course will be examining what it means to be an "animal" vis-a-vis human beings and their environment and animal agency in these literary traditions as opposed to the often utilitarian lens that animals have often been viewed through.

Attributes: ENVI Humanities, Arts + Social Science Electives

Fall 2020

SEM Section: R1 MW 11:45 am - 1:00 pm Radwa M. El Barouni

ENVI 322  (F) Waste and Value

Cross-listings: ENVI 322 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, Japan, and the United States. There is also a fieldwork component to the course. In (safe, socially distant) 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 individually explore the everyday social life of waste in our communities.

Class Format: Hybridity is a beautiful and productive thing. Each week we will meet once for in-person seminar-style classes, virtual learners projected into the room with us. The other meeting each week will be either a fieldtrip (carefully designed with precautions, and with an individually-tailored alternative for virtual learners) or a synchronous virtual meeting with a guest speaker.

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

Prerequisites: none

Enrollment Limit: 12

Enrollment Preferences: majors in ANSO, ENVI, ASST

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:

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

Attributes: ENVI Humanities, Arts + Social Science Electives
ENVI 323  (F) World’s End: Literary Ecologies of the Limit

Cross-listings: ENVI 323 ENGL 324

Secondary Cross-listing

Consciousness of the world’s finiteness in a time of environmental degradation and headlong global capitalism prompts restraint, a harboring of resources. But beyond the economic logic of conservation and expenditure, might imagining the world from the vantage point of its limit provoke a more profound rethinking of ourselves and the things of the world? Does it change what it means to possess, or even what an experience of the world is? Does it change human relationship? This course explores these questions in part by reaching back to the early modern period, when the boundedness of nations and worlds first comes to view in a meaningful way. But the course will have a long arc, from Shakespeare to Sinha’s Animal’s People. Primary works will include: Shakespeare, As You Like It and King Lear; Marvell; Ovid, Metamorphosis; Browne, Urn Burial; Wordsworth; McCarthy, The Road; Atwood; Alice Oswald; photography (Struth, Hutte); painting (Titian), and video installations (Pipilotti Rist). Theoretical texts include: Smith, Against Ecological Sovereignty; Wood, Reoccupy Earth; Agamben, The Time that Remains; Heidegger, “Question Concerning Technology”; Latour, “An Inquiry into Modes of Existence”; Nancy, After Fukushima; Derrida, The animal that therefore I am and Beast and the Sovereign.

Class Format: This course will be taught virtually, but we will make absolutely every effort to ensure that it takes the form of a genuine discussion class, including breaking periodically into smaller online groups. Requirements: two papers totaling 20 pages.

Requirements/Evaluation: two papers over the course of the semester totaling approximately 20 pages.

Prerequisites: none

Enrollment Limit: 16

Enrollment Preferences: English majors using the course to fulfill a requirement; Environmental Studies majors

Expected Class Size: 16

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

Distributions: (D1)

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

ENVI 323 (D1) ENGL 324 (D1)

Attributes: ENGL Criticism Courses ENGL Literary Histories A ENVI Humanities, Arts + Social Science Electives PHIL Related Courses

ENVI 324  (S) Corals and Sea Level

Cross-listings: GEOS 324 MAST 324 ENVI 324

Secondary Cross-listing

In coastal communities, increasing flood damage from storm surges and chronic inundation by seawater are already happening as a result of sea level rise. How do we know what contributes to the observed change in sea level in the last century? What does the geological record teach us about what controls the natural variation in sea level on short and long timescales? How can we use this information to separate anthropogenic effects from natural change in modern systems? And how does this inform us on what to expect through the 21st century and beyond? In this course, we will examine how sea level is reconstructed using geological archives and how coral-based sea level data led to breakthroughs in our understanding of the long-term evolution of the ocean and climate, the controls in the timing of ice age cycles, the singularity of modern climate change, and how high the future seas will rise. During Spring Break, the class will travel to Barbados, a renowned locality for Quaternary sea level reconstruction, to observe modern and ancient reefs, and collect samples that will be the basis of individual or group projects in the second half of the semester. Participation in the Spring Break trip is not required for successful completion of the course, but course enrollment is necessary to attend the trip. This course is in the Oceans and Climate group for the Geosciences major.

Requirements/Evaluation: short papers, labs, participation in discussion, and a research project
ENVI 329  (S)  Our Planet's Plastic Plight

#stopsucking, #gotopless, #foodinthenude: these rallying calls to #rethinkplastic and ban plastic straws, coffee cups, and excessive food packaging are just the latest consumer-driven campaigns to combat the scourge of plastic proliferation. Indeed, over the past century, plastic has become ubiquitous in our societies. Durability, affordability and versatility, the very characteristics that explain this success, have heightened the pollution challenge we face today. Yet, we also rely on plastic for a variety of life-saving devices and implements. In this course, we will examine the chemistry and history of plastic and understand how its uses have impacted diverse systems including our oceans. As we undertake this semester-long lifecycle analysis of plastic in our daily lives, we will explore how additives, often toxic, complicate efforts to recycle plastic goods. We will also study international flows of this material, notably following China's decision in 2017 to constrain its imports of plastics for recycling. Finally, we will evaluate novel efforts to regulate plastic from the local to the global scale.

Requirements/Evaluation: participation, several small assignments, multi-part project setting out action plan to address a particular aspect of plastic pollution

Prerequisites: ENVI 101 or permission of instructor

Enrollment Limit: 15

Enrollment Preferences: Environmental Studies majors, Public Health concentrators

Expected Class Size: 15

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

Distributions: No divisional credit

Attributes: ENVI Environmental Policy GBST Economic Development Studies Electives

Not offered current academic year
ENVI 339 (D3) BIOL 329 (D3)

Quantitative/Formal Reasoning Notes: This course uses quantitative and statistical analyses in both the laboratory and lecture portion of the course. In lectures, mathematical models will be covered to understand conservation dynamics. In lab, students will collect and analyze data and present results in graphical and statistical forms.

Attributes: ENVI Natural World Electives

ENVI 341  (S)  Toxicology and Cancer

Cross-listings:  ENVI 341  CHEM 341

Secondary Cross-listing
What is a poison and what makes it poisonous? Paracelcus commented in 1537: “What is not a poison? All things are poisons (and nothing is without poison). The dose alone keeps a thing from being a poison.” Is the picture really this bleak; is modern technology-based society truly swimming in a sea of toxic materials? How are the nature and severity of toxicity established, measured and expressed? Do all toxic materials exert their effect in the same manner, or can materials be poisonous in a variety of different ways? Are the safety levels set by regulatory agencies low enough for a range of common toxic materials, such as mercury, lead, and certain pesticides? How are poisons metabolized and how do they lead to the development of cancer? What is cancer and what does it take to cause it? What biochemical defense mechanisms exist to counteract the effects of poisons?

This course attempts to answer these questions by surveying the fundamentals of modern chemical toxicology and the induction and progression of cancer. Topics will range from description and quantitation of the toxic response, including risk assessment, to the basic mechanisms underlying toxicity, mutagenesis, carcinogenesis, and DNA repair.

Class Format: three times per week

Requirements/Evaluation: two hour tests, a class presentation and paper, participation in discussion sessions, a self-exploration of the current toxicological literature, and a final exam

Prerequisites: CHEM 156; may be taken concurrently with CHEM 251/255; a basic understanding of organic chemistry

Enrollment Limit: 30

Expected Class Size: 24

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

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:
ENVI 341 (D3) CHEM 341 (D3)

Attributes: BIMO Interdepartmental Electives   ENVI Natural World Electives   PHLH Biomedical Determinants of Health

Not offered current academic year

ENVI 342  (F)  The Nature of Gardens: From Eden to the High Line

The garden, since time immemorial, has been the touchstone for humans’ interactions with the environment. The relationships between humans and their environments have been so intimate that the creation and origins mythologies of many cultures are set in the context of a garden or paradise. The garden is the environment in which humans have been created, and reciprocally gardens, by definition are the product of human design and environmental manipulation. This seminar examines the interactions between humans and gardens from the perspectives of creation mythologies, the origins of domestication of plants, the cultural expression and design of gardens, the historical exchange of cultivated plants, and evolution of garden design, and the interface of gardens and human biology. Each student will present a seminar based either on their own major interest, an historical, or garden design perspective. One all-day field trip will be scheduled for sometime during the semester.

Class Format: discussion classes, student-led seminars, and one all-day field trip
ENVI 346  (S)  Environmental Psychology

Cross-listings:  ENVI 346  PSYC 346

Secondary Cross-listing

This is a course in social psychology as it pertains to the natural environment. We will consider how the environment influences aspects of human psychology (e.g., the psychological implications of humans' disconnect with nature), as well as how human psychology influences the environment (e.g., why some people engage in environmentally destructive behaviors despite holding proenvironmental attitudes). At the core of this course is an attempt to examine various ways in which research and theory in social psychology can contribute insights to understanding (and encouraging) environmentally responsible behavior and sustainable practices, both here at Williams and globally. 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 the solution.

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:  16

Enrollment Preferences:  Psychology majors and Environmental Studies concentrators

Expected Class Size:  16

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

Distributions:  (D2)

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

ENVI 346 (D2)  PSYC 346 (D2)

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

Not offered current academic year
Expected Class Size: 25
Grading: no pass/fail option, yes fifth course option
Distributions: (D1) (DPE)

This course is cross-listed and the prefixes carry the following divisional credit:
ENGL 347 (D1) COMP 387 (D1) ENVI 347 (D1)

Difference, Power, and Equity Notes: This course will consider the relationship between the practice of the natural sciences (including the human sciences) and imperial power. We will read texts both from and against the aesthetics of empire. The DPE contribution will carry the course from philosophy and nature writing to literature and visual art.

Attributes: ENGL Literary Histories B ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

ENVI 348 (S) Beyond Cli-Fi: Climate Change Histories & the Arts of Resilience (DPE)

Cross-listings: AMST 347 ENVI 348

Primary Cross-listing
This interdisciplinary environmental humanities seminar begins with the premise that our present climate crisis is a political project of globalization propelled by capitalism and its cultural logic. Causes and consequences of climate change can only be understood by examining the historical trajectories of carbon-based economic, political, and cultural systems since the 19th century. We trace the intellectual genealogy of modern climate science, consider the politics of indigenous knowledge as related to extractivism, and examine literary and artistic engagements with the natural world. We pay particular attention to the narrative strategies that scientists and policymakers use to talk about climate, and we develop creative critiques of the dominant discourses. We use historical and cultural analysis to study social movement strategy and tactics among advocates for climate mitigation, adaptation, and resilience. We begin and end with creative responses to climate crisis, always asking: How can we move beyond dystopia and defeatism? How might history inform social movements for climate resilience? How can the arts, theater, and literary production articulate a new politics of survival? What narrative forms enable and inspire climate action?

Requirements/Evaluation: one short creative writing assignment; several short critical papers (3-4 pages); final essay (10-15 pages)
Prerequisites: ENVI 101 or instructor permission
Enrollment Limit: none
Enrollment Preferences: ENVI or AMST majors or concentrators; people with demonstrated interest in the course topics

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:
AMST 347 (D2) ENVI 348 (D2)

Difference, Power, and Equity Notes: This course considers the historical differences in economic, political, and cultural power which have shaped our present climate crisis. We consider both who drives environmental change and who experiences it first hand. We consider in particular how differences of class, race, and gender shape capacities for resilience and resistance and we examine social movement strategy, with particular attention to Indigenous and POC social movement thinkers and leaders.

Attributes: AMST Critical and Cultural Theory Electives ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

ENVI 351 (S) Marine Policy (WS)

Cross-listings: ENVI 351 MAST 351 PSCI 319

Secondary Cross-listing
This seminar considers contemporary issues in our relationship with our ocean and marine environment and the critical roles our oceans and coasts play in our Nation's environmental sustainability, and ocean and coastal climate resiliency and stability. By analyzing case and statutory law and policies that relate to our rich and diverse coastal and marine environment, we critically examine the many conflict of use issues present in the coastal and marine environment. The course examines coastal zone management, climate change, fisheries, environmental justice, ocean and coastal pollution, marine biodiversity and admiralty, through the lens of coastal and ocean governance and policy-making. Semester-long independent
research engages students with ocean and coastal stakeholders to develop policy strategies and solutions to contemporary issues impacting America's coastlines and oceans.

**Class Format:** seminar, discussions, guest lectures by active professionals, and includes coastal and near-shore interdisciplinary field seminars, and 10 days offshore

**Requirements/Evaluation:** an independent research project, and two presentations.

**Prerequisites:** none

**Enrollment Limit:** 23

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

**Expected Class Size:** 22

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

**Unit Notes:** offered only at Williams-Mystic at Mystic Seaport Museum in CT

**Distributions:** (D2) (WS)

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

ENVI 351 (D2) MAST 351 (D2) PSCI 319 (D2)

**Writing Skills Notes:** Each student writes a short paper identifying research goals, a draft outline of the research paper, a draft of the research paper (10-15 pp.), as well as a final 8-10 pp. research paper. Each submission receives written feedback from professor, including additional research resources, input on grammar, structure, language, analysis as well as an assessment of and assistance with credibility and feasibility of proposed final policy recommendation; several individual conferences held as well.

**Attributes:** ENVI Environmental Policy EXPE Experiential Education Courses POEC Comparative POEC/Public Policy Courses

Not offered current academic year

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**ENVI 352 (S) After Nature: Writing About Science and The Environment**

**Cross-listings:** ENGL 351 ENVI 352

**Primary Cross-listing**

Over the last few decades, the nature of nature has changed and so, by necessity, has nature writing. In this course we will read some of the classic works of nature writing as well as essays and articles by contemporary authors. The emphasis will be on producing our own work. The class will include workshop sessions and group discussions. There will be frequent short exercises and a long final project.

**Prerequisites:** ENVI 101 or 102 suggested

**Enrollment Limit:** 15

**Enrollment Preferences:** Environmental Studies majors

**Expected Class Size:** 15

**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 351 (D1) ENVI 352 (D1)

**Attributes:** ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

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**ENVI 364 (F) Instrumental Methods of Analysis**

**Cross-listings:** ENVI 364 CHEM 364

**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. Lectures will cover the theory and uses of these techniques. By exploring the primary literature and review articles we will discuss recent advances in instrumental methods that address today's analytical questions. The theoretical knowledge will
be complemented by hands-on use of our research instruments to study molecules and materials of interest. The skills learned are useful in a wide variety of scientific areas and will prepare you well for research endeavors.

**Class Format:** hybrid: classroom/online activities (2 x 75 min); 4 h per week of laboratory (M or W; segmented into discussion and experimental periods with 30-min break)

**Requirements/Evaluation:** class participation, two mid-term exams, problem sets, oral presentations and discussions of selected topics, an independent project and performance in the laboratories including lab reports

**Prerequisites:** CHEM 155 or 256 and 251/255; may be taken concurrently with CHEM 256 with permission of instructor

**Enrollment Limit:** 6/lab

**Enrollment Preferences:** Chemistry and Environmental Studies majors

**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 364 (D3) CHEM 364 (D3)

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

Fall 2020

LEC Section: H1    TR 9:45 am - 11:00 am     Christopher Goh, Amnon G Ortoll-Bloch
LAB Section: H2    M 1:00 pm - 5:30 pm     Christopher Goh, Amnon G Ortoll-Bloch
LAB Section: H3    W 1:00 pm - 5:30 pm     Christopher Goh, Amnon G Ortoll-Bloch

**ENVI 368 (F) Technology and Modern Society**

**Cross-listings:** ENVI 368  SOC 368

**Secondary Cross-listing**

With widespread use of new social media, controversial developments in such bio-technical practices as the cloning of mammals, rapid advances in various forms of telecommunication, and the increasing sophistication of technological weaponry in the military, the triumph of technology remains a defining feature of modern life. For the most part, modern humans remain unflinchingly confident in the possibilities technology holds for continuing to improve the human condition. Indisputably, technology has benefited human life in innumerable ways. However, as with other features of modernity, technology has also had significant, albeit largely unanticipated, social consequences. Working within a sociological paradigm, this course will focus on the less often examined latent functions of technology in modern society. It will consider, for example, the social effects of technology on community life, on privacy, and on how people learn, think, understand the world, communicate, and organize themselves. The course will also examine the effects of technology on medicine, education, criminal law, and agriculture and will consider such counter-cultural reactions to technology as the Luddite movement in early nineteenth century England, Amish agrarian practices, and the CSA (community supported agriculture) movement.

**Requirements/Evaluation:** two short papers, a midterm exam, and a final exam

**Prerequisites:** none

**Enrollment Limit:** 20

**Enrollment Preferences:** Anthropology and Sociology majors

**Expected Class Size:** 20

**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 368 (D2) SOC 368 (D2)

**Attributes:** ENVI Humanities, Arts + Social Science Electives FMST Related Courses HSCI Interdepartmental Electives

Not offered current academic year

**ENVI 373 (F) Environmental Organic Chemistry**
Cross-listings: ENVI 373 CHEM 373

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 physiochemical 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/discussion; lecture, three hours per week and discussion, 75 minutes per week.

Requirements/Evaluation: weekly problem sets, two midterm exams, a final exam, participation in discussion, an independent research proposal

Prerequisites: CHEM 251 and either CHEM 155 or CHEM 256. ENVI 102 is strongly recommended.

Enrollment Limit: 15

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

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:

ENVI 373 (D3) CHEM 373 (D3)

Attributes: ENVI Natural World Electives

Fall 2020
LEC Section: R1 MWF 11:45 am - 1:00 pm Anthony J. Carrasquillo

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

Cross-listings: ECON 477 ENVI 376

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 consider how policies can help or hurt the environment. Topics we'll study include: voluntary conservation, social norms and nudges, firm responses to mandatory and voluntary rules, and boycotts and divestment.

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; we may break the class into groups for some discussions

Requirements/Evaluation: regular reading responses, empirical exercises, class participation, 2 oral presentations, and a final original research paper using an experiment, existing data, or theory

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

Enrollment Limit: 15

Enrollment Preferences: senior Economics majors

Expected Class Size: 15

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:

ECON 477 (D2) ENVI 376 (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: ENVI Humanities, Arts + Social Science Electives MAST Interdepartmental Electives POEC Comparative POEC/Public Policy Courses
ENVI 378 (F) Nature/Writing

Cross-listings: ENGL 378 ENVI 378

Secondary Cross-listing

What do we mean by "nature"? How do we understand the relationships between "nature" and "culture"? In this course we will examine how various American writers have attempted to render conceptions of "nature" in literary form. We will compare treatments of various kinds of natural environments and trace the philosophical and stylistic traditions within the nature writing genre. The authors to be considered include Ralph Waldo Emerson, Henry David Thoreau, William Faulkner, Annie Dillard, Barry Lopez, Ursula LeGuin, and Wendell Berry.

Class Format: discussion

Requirements/Evaluation: two 10-page papers, regular class attendance, and participation in discussions

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 and Environmental Studies concentrators

Expected Class Size: 20

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

Distributions: (D1)

This course is cross-listed and the prefixes carry the following divisional credit:
ENGL 378 (D1) ENVI 378 (D1)

Attributes: AMST Space and Place Electives ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

ENVI 387 (F) Economics of Climate Change (QFR)

Cross-listings: ECON 522 ENVI 387 ECON 387

Secondary Cross-listing

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. What is the socially optimal amount of climate change? Why have countries had such a hard time agreeing on GHG emissions reductions, and how might we overcome such difficulties? We will consider the growing body of evidence from attempts to regulate GHGs, including China's cap-and-trade programs, the EU ETS, and US state policies. Throughout the course we will discuss the limits of the economic approach, pointing out normative questions on which economic theory provides little guidance.

Class Format: Lectures, office hours and TA sessions will take place on Zoom.

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

Prerequisites: ECON 251, familiarity with statistics

Enrollment Limit: 20

Enrollment Preferences: Junior/Senior Economics majors and CDE fellows

Expected Class Size: 20

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

Distributions: (D2) (QFR)

This course is cross-listed and the prefixes carry the following divisional credit:
ECON 522 (D2) ENVI 387 (D2) ECON 387 (D2)

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

Attributes: ENVI Environmental Policy MAST Interdepartmental Electives POEC Comparative POEC/Public Policy Courses
ENVI 390  (S)  The Nature of Nature

Cross-listings: ENVI 390  ENGL 394

Secondary Cross-listing

"Nature" is one of the commonest words in English. And yet what does it signify? 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 attention to the difficulty of narrating processes that are often too big, too small, too quick or too slow for direct human apprehension. We'll also explore the ways popular nature writing mingles scientific reporting with implicit judgments about human identity, morality, and social organization. Writers studied will include Elizabeth Kolbert, N. Scott Momaday and Charles Darwin. We'll also consider the technological mediations of nature in documentaries by David Attenborough and Lynette Wallworth, among others.

Requirements/Evaluation: Several short written exercises, an eight page comparative midterm essay, and a final twelve to fifteen page online essay incorporating audiovisual materials. Active participation in class. Note that this course will be offered exclusively online.

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: 16

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

Expected Class Size: 16

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

Distributions: (D1)

This course is cross-listed and the prefixes carry the following divisional credit:
ENVI 390 (D1) ENGL 394 (D1)

Attributes: ENGL Literary Histories C  ENVI Humanities, Arts + Social Science Electives

Spring 2021

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 2020

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 2021
IND Section: H1  TBA  Nicolas C. Howe

**ENVI 404 (S) Coastal Processes and Geomorphology** (QFR)

**Cross-listings:** ENVI 404  MAST 404  GEOS 404

**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, tests, and an independent research project

**Prerequisites:** Either GEOS 104 or GEOS 210; or permission of instructor

**Enrollment Limit:** none

**Enrollment Preferences:** senior Geosciences majors, then juniors

**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.

**Distributions:** (D3) (QFR)

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

ENVI 404 (D3) MAST 404 (D3) GEOS 404 (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

Not offered current academic year

**ENVI 405 (F) Geochemistry: Understanding Earth's Environment**

**Cross-listings:** ENVI 405  GEOS 405
Secondary Cross-listing
Rocks, water, air, life: what comprises these interconnected components of the Earth system? How do they interact today, and how did these interactions differ in the past? In this course we will study how chemical elements are distributed in the Earth, cycle through the Earth system, and act together to produce a planet that is habitable. As Earth's landscapes and oceans, and the life they harbor, have evolved through time, they have left an imprint in the geological record that we can read using geochemical tools such as molecular fossils, elemental ratios, and stable and radioactive isotopes. Topics include the synthesis of elements in stars, the formation and differentiation of planet Earth; radiometric dating; the major constituents of the atmosphere, rain, rocks, rivers and the ocean; how they're linked by chemical weathering and biological activity; and reconstruction of past environments. Students will explore these topics through lecture; reading and discussing articles from the scientific literature; and collecting, analyzing and interpreting data from environmental samples.

Requirements/Evaluation: seminar discussions, two 10-page lab reports, lab activities, and final project
Prerequisites: two 200-level GEOS courses and at least one of GEOS 302 or 303
Enrollment Limit: 10
Enrollment Preferences: senior Geosciences majors, then juniors
Expected Class Size: 10
Grading: no pass/fail option, no 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
Distributions: (D3)
This course is cross-listed and the prefixes carry the following divisional credit:
ENVI 405 (D3) GEOS 405 (D3)
Attributes: ENVI Natural World Electives
Not offered current academic year

ENVI 410  (S)  The Cryosphere
Cross-listings: ENVI 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; changes in Arctic sea ice cover accelerate climate change in the north, resulting in the increased frequency of Polar Vortex events that send frigid temperatures down as far as the southern US. 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: Hybrid: classes will meet synchronously online for lectures/discussions, labs will meet in person when possible. 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
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:
ENVI 410 (D3) GEOS 410 (D3)

Attributes: ENVI Natural World Electives

Spring 2021

SEM Section: H1  WF 8:15 am - 9:30 am  Alice C. Bradley
LAB Section: H2  M 8:15 am - 9:30 am  Alice C. Bradley

ENVI 412  (S)  Senior Seminar: Perspectives on Environmental Studies  (WS)

Cross-listings: MAST 402  ENVI 412

Primary Cross-listing

The Environmental Studies and Maritime Studies programs provide students with an opportunity to explore the myriad ways that humans interact with diverse environments at scales ranging from local to global. The capstone course for Environmental Studies and Maritime Studies, this seminar brings together students who have specialized in the humanities, social studies and the sciences to exchange ideas across these disciplines. Over the course of the seminar, students will develop a sustained independent research project on a topic of their choice, and they will have opportunities throughout the semester to meet with guest speakers to discuss environmental work outside the academy.

Requirements/Evaluation: active participation, discussion leading, several smaller assignments and multi-step capstone project

Prerequisites: declared major/concentration in Environmental Studies or Maritime Studies, ideally to be taken in final semester at Williams

Enrollment Limit:  14

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

Expected Class Size:  10

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

Unit Notes: required course for students wishing to complete the Maritime Studies concentration

Distributions:  No divisional credit  (WS)

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

MAST 402 No divisional credit  ENVI 412 No divisional credit

Writing Skills Notes: This course is focused on building up cross-disciplinary writing and communication skills. There will be a multi-step capstone project that emphasizes writing, and there will be opportunities to revise and resubmit work.

Attributes:  ENVI Core Courses  EVST Core Courses  EVST Senior Practicum

Spring 2021

SEM Section: H1  Cancelled

SEM Section: H2  TR 11:30 am - 12:45 pm  W 2:50 pm - 3:40 pm  Nicolas C. Howe

ENVI 420  (F)  Architecture and Sustainability in a Global World  (WS)

Cross-listings: ARTH 420  GBST 420  ENVI 420

Secondary Cross-listing

What does it mean to create a sustainable built environment? What do such environments look like? Do they look the same for different people across different times and spaces? This course takes these questions as starting points in exploring the concept of architectural sustainability, defined as "minimizing the negative impact of built form on the surrounding landscape," and how this concept can be interpreted not only from an environmental point of view, but from cultural, political, and social perspectives as well. Over the course of the class, students will explore different conceptualizations of sustainability and how these conceptualizations take form in built environments in response to the cultural identities, political agendas, social norms, gender roles, and religious values circulating in society at any given moment. In recognizing the relationship between the way things are constructed (technique of assembly, technology, materials, process) and the deeper meanings behind the structural languages deployed, students will come to understand sustainability as a fundamentally context-specific ideal, and its manifestation within the architectural environment as a mode of producing dialogues about the anticipated futures of both cultural and architectural worlds.

Class Format: This course will be taught in a hybrid mode, with both online (lecture) and in-person (discussion) elements.
Requirements/Evaluation: weekly reading discussion question posts on GLOW, leading class discussions, and a final project/paper (15-20 pages) with presentation

Prerequisites: none, although a course in art/architectural history or environmental studies would be advantageous

Enrollment Limit: 12

Enrollment Preferences: Art History majors, Environmental Studies majors, History and Studio majors

Expected Class Size: 12

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

Distributions: (D1) (WS)

This course is cross-listed and the prefixes carry the following divisional credit:
ARTH 420 (D1) GBST 420 (D2) ENVI 420 (D1)

Writing Skills Notes: This course develops writing proficiency using a series of sequenced assignments that culminate with the formation of a well-articulated, compelling final project. Students will receive extensive feedback on these assignments via a progression-oriented evaluative system that involves both instructor and peer feedback, and will take part in a writing seminar towards gaining the necessary tools for drafting work, formulating ideas, organizing sections, and crafting an abstract.

Attributes: ENVI Humanities, Arts + Social Science Electives

Fall 2020

SEM Section: R1 TR 9:45 am - 11:00 am Michelle M. Apotsos

ENV 421 (S) Latinx Ecologies

Cross-listings: LATS 420 ENVI 421

Secondary Cross-listing

An August 2015 Latino Decisions poll found that Latinxs, more than other ethnic groups in the U.S.A., are deeply concerned about climate change and the “environment”. How and why might some Latinxs be disproportionately impacted by climate change? How have a few distinct Latinx theorists and activists imagined and constructed ecology? How are struggles for environmental justice related to broader Latinx concerns with and constructions of place? This seminar will examine a few moments in distinct Latinx histories and geographies such as California migrant farmworkers and the struggle over pesticides, urban movements over waste management such as the Young Lords’ garbage offensive, food justice movements and urban gardening, as well as literary and theological representations of affective and sacred ecologies such as Helena Maria Viramontes’ Their Dogs Came With Them and Ecuadoran-U.S. ecofeminist Jeanette Rodríguez’s theological texts. Evaluation will be based on class participation, presentations, annotated bibliography, short writing assignments, writing workshop participation, and a final 20-page research paper.

Requirements/Evaluation: class participation, presentations, annotated bibliography, short writing assignments, writing workshop participation, and a final 20-page research paper

Prerequisites: none

Enrollment Limit: 19

Enrollment Preferences: Latinx Studies concentrators; Environmental Studies majors and concentrators

Expected Class Size: 10

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

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:
LATS 420 (D2) ENVI 421 (D2)

Attributes: LATS 400-level Seminars

Not offered current academic year

ENV 422 (F) Ecology of Sustainable Agriculture

A seminar/field course investigating patterns, processes, and concepts of stability in human-dominated, food production ecosystems. As a capstone course, the course will draw upon the experiences that students have had in biology and environmental studies courses. Topics will include: the
relationships among diversity, ecosystem function, sustainability, resilience, and stability of food production, distribution systems, nutrient pools and processing in human dominated ecosystems. Two extensive field trips will be taken to agricultural operations in the region. Each student will present a seminar on a topic requiring extensive reading of primary resources and is responsible for leading the discussion that ensues. Reading question paper assignments will be due prior to the seminar. Criticism paper assignments will be made at approximately bi-weekly intervals and due two days after the seminar to which they relate.

Class Format: two 75 minute sessions per week
Requirements/Evaluation: writing assignments, seminar presentation, and course participation
Prerequisites: BIOL/ENVI 203 or BIOL 302 or permission of instructor
Enrollment Limit: 16
Enrollment Preferences: senior Biology and Environmental Studies Majors and Environmental Studies Concentrators; then Junior majors/concentrators, then seniors, then juniors
Expected Class Size: 12
Grading: no pass/fail option, no fifth course option
Unit Notes: satisfies the distribution requirement for the Biology major
Distributions: (D3)
Attributes: ENVI Natural World Electives  PHLH Nutrition,Food Security+Environmental Health

ENVI 423  (F)  Global Change Ecology
Cross-listings:  ENVI 423  BIOL 413
Secondary Cross-listing

Plants and animals are increasingly faced with rapid environmental change driven by human activities across the globe. How do they cope with challenges imposed by climate change, altered nutrient cycling, biological invasions, and increased urbanization? What are the impacts of organismal responses at the population and community level? This course uses an integrative approach to understand the impacts of global change at multiple levels of biological organization in both aquatic and terrestrial environments. We examine how global-scale environmental changes affect the distribution and abundance of species and alter community organization. We also consider the physiological and behavioural mechanisms underlying species responses and the role of acclimation versus adaptation in coping with rapid environmental change. Finally, we learn the analytical tools used to predict future responses to global change. Class discussions will focus on readings drawn from the primary literature.

Class Format: two 75-minute discussion sessions each week
Requirements/Evaluation: class participation and several short papers
Prerequisites: BIOL 203 or BIOL 305, or permission of instructor
Enrollment Limit: 12
Enrollment Preferences: senior Biology majors who have not yet taken a 400-level course
Expected Class Size: 12
Grading: no pass/fail option, no fifth course option
Unit Notes: satisfies the distribution requirement for the Biology major
Distributions: (D3)
This course is cross-listed and the prefixes carry the following divisional credit:
ENVI 423 (D3) BIOL 413 (D3)
Attributes: ENVI Natural World Electives
Not offered current academic year

ENVI 430  (F)(S)  Race, Identity, Nature  (DPE)  (WS)
Cross-listings:  ENVI 430  AFR 390  AMST 430
Secondary Cross-listing

From 18th-century claims that climate determined character to the 21st-century proliferation of DNA tests underwriting claims to Indigenous ancestry,
race, colonialism, identity, and "nature" operate as interconnected terrains of power. Anchored in the contexts of U.S. colonialisms, racialization, and accumulation, this course aims to expose students to the cultural politics of "nature" as a way of "doing" American Studies. Specifically, this course investigates formations of and struggles against U.S. colonialisms, racialization, and accumulation via the many symbolic and material iterations, negotiations, and contestations of the contingent relations between and among human and non-human natures. Organized around a significant research paper and weekly written responses, this course ultimately aims to foster students' critical writing, reading, analytical thinking, and comparative inquiry skills across such contexts and sites of contestation, and across texts of different genres and media. We will work with a wide range of primary sources, including published fiction and poetry, legal documents, newspaper articles, speeches, recorded songs, and films, photos, paintings and other visual culture. By the end of this course, students should be able to describe the historical foundations of dominant ideas, attitudes, and practices toward non-human natures, as well as analyze how ideas of "nature" mediate the ways in which colonial, racial, gender, and sexual categories and structures inform and are (re)produced by U.S. institutions and in public areas such as the law, public policy, and property. Finally, students should be able to interpret how racialized and colonized peoples' visions, representations, and practices of liberation with regard to relations with non-human natures and the materiality of land precede, contend with, and exceed normative political, economic, and social categories of governance and systems of dispossession and exploitation.

Class Format: This course is designated as remote. However, international students who want to take this course but need it to be designated as a hybrid course in order to do so may instead register for an independent study with Prof. Ayazi. As a hybrid course, this independent study will have the same requirements as the listed course, with the exception of a limited number of face-to-face meetings in Williamstown or Boston. Please contact Prof. Ayazi at ha5@williams.edu to discuss such an arrangement.

Requirements/Evaluation: Evaluation will be based upon the following: Class Participation: 25%; Weekly Responses (350-500 words): 25%; Final Research Essay: 50%, broken down by Research Proposal (2-3 pgs, 10%), Peer Review and Feedback (2 pgs, 10%), Presentation (10%); Essay (15 pgs): 20%. Class will meet twice per week. Tu. meetings will be synchronous and Th. meetings will be asynchronous. Asynchronous components of the course include pre-recorded lectures, discussion boards, and other exercises that promote as much connection as possible within the constraints of remote education. Toward this end, synchronous meetings will center engaged discussion.

Prerequisites: none

Enrollment Limit: 12

Enrollment Preferences: American Studies majors will be given preference; secondary preference given to students specializing in Native American and Indigenous Studies, as well as Africana and Environmental Studies majors.

Expected Class Size: 12

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

Distributions: (D2) (DPE) (WS)

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

ENVI 430 (D2) AFR 390 (D2) AMST 430 (D2)

Writing Skills Notes: Emphasis on revision and writing process includes: One thesis paper at 15 pages (receiving critical feedback from professor and peers); one thesis paper revision with critical feedback from professor and peers, including one letter of revision explaining the student's revision process; one research proposal (including thesis outline and annotated bibliography of primary texts) with critical feedback from professor; student presentations and roundtable discussion based on the final paper.

Difference, Power, and Equity Notes: By the end of this course, students should be able to interpret how racialized and colonized peoples' visions, representations, and practices of liberation with regard to relations with non-human natures and the materiality of land precede, contend with, and exceed normative political, economic, and social categories of governance and systems of dispossession and exploitation. In order to addresses such issues of difference, power, and equity, this course provides students with the necessary th

Attributes: AMST 400-level Senior Seminars  ENVI Humanities, Arts + Social Science Electives

Fall 2020

SEM Section: R1 TR 11:30 am - 12:45 pm Hossein Ayazi

Spring 2021

SEM Section: R1 Cancelled

ENVI 436 (S) Demigods: Nature, social theory, and visual imagination in art and literature, ancient to modern

Cross-listings: ENVI 436 ARTH 436 CLAS 436
Horse-men, cat-women, goat-men, tree-women, man-bulls, fish-girls, snake-people--cross-species compound creatures are everywhere in ancient Greek and Roman art, poetry, and culture. The conceptual or cognitive value of those "demigods" has changed over time. In art, demigods have frequently been reduced to the status of decoration, and in literature, they have become generic markers of fantasy. But they are hardly without meaning. Embodied in satyrs, centaurs, nymphs, and other demigods is a vision of an alternative evolutionary and cultural history. In it, humans and animals live together. The distinction between nature and culture is not meaningful. Male and female are equal. The industrial revolution never happens. This course traces the history of demigods from its origins in ancient Greek art and poetry until today. We pay special attention to three points: the relationship between mythology of demigods and ancient political theory about primitive life; evolving conceptions of nature, the origin of species, and the environment; and the capacity of the visual arts to create mythology that has a limited literary counterpart. The first half of the course examines the origins and character of the demigods, in works of ancient art, e.g. the François vase and the Parthenon, as well as ancient texts, including Hesiod's Theogony and Ovid's Metamorphoses. We examine relevant cultural practices, intellectual history, and conceptions of nature, in texts such as Euripides' Bacchai, Plato's Phaidros, and Lucretius' De rerum natura. We will consider in detail ancient theories of the origins of species as well as the relationship between nature and human culture. The second half of the course investigates the post-classical survival of demigods. We consider the "rediscovery" of demigods in the work of Renaissance artists such as Botticelli, Michelangelo, Dürer, and Titian, and the rediscovery of ancient materialist theories of nature and culture. We consider in detail the important role played by demigods in the formation of Modernism in art and literature. Key texts include Schiller, "Naive and sentimental poetry," Nietzsche, Birth of Tragedy, Mallarmé, "L'Apres midi d'une faun," Aby Warburg's cultural-historical texts, and Stoppard's Arcadia. Problems include the relationship between nymphs and prostitutes in Manet, and the meaning of fauns and the Minotaur in Picasso. We conclude with demigods in popular culture such as the Narnia chronicles or Hunger Games.

Class Format: Lecture and discussion. When possible, we will meet outdoors in person; when that is not possible, we will meet online.

Requirements/Evaluation: The requirements of the course include: attendance and participation in discussion; preparing summaries/analyses of reading assignments for discussions; one presentation on a research project, and one 20-page paper on the research project.

Prerequisites: none

Enrollment Limit: 15

Enrollment Preferences: art history majors, graduate students in art history, classics majors, then any interested student

Expected Class Size: 10

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

Unit Notes: This course will satisfy the seminar requirement in art history.

Distributions: (D1)

This course is cross-listed and the prefixes carry the following divisional credit:
ENVI 436 (D1) ARTH 436 (D1) CLAS 436 (D1)

Attributes: ARTH pre-1800 Courses ENVI Humanities, Arts + Social Science Electives

Spring 2021

SEM Section: H1 MR 1:30 pm - 2:45 pm Guy M. Hedreen

ENVI 454 (F) Climate Change Physiology

Cross-listings: BIOL 454 ENVI 454

Secondary Cross-listing

Animals are increasingly faced with rapid climate change driven by human activities across the globe. How do they cope with challenges imposed by increasing temperature? And, how might physiological mechanisms at the organismal level scale up to influence population processes? This course uses an integrative approach to understand the impacts of climate change at multiple levels of biological organization in both terrestrial and aquatic environments. We examine physiological mechanisms underlying animal responses and the role of acclimation versus adaptation in coping with rapidly shifting thermal environments. We then consider the impacts of these mechanisms on whole organism performance and their consequences for population persistence. Finally, we learn the analytical tools used to incorporate physiological mechanisms into ecological models to predict future responses to global climate change. Class discussions will focus on readings drawn from the primary literature.

Class Format: Synchronous discussions with in-person and remote option. Satisfies the distribution requirement for the Biology major.

Requirements/Evaluation: Evaluation will be based on class participation and several short papers.

Prerequisites: BIOL 203 or BIOL 205, or permission of instructor
**Enrollment Limit:** 10

**Enrollment Preferences:** Biology seniors who have not yet taken a 400 level course

**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:**

BIOL 454 (D3) ENVI 454 (D3)

**Attributes:** ENVI Natural World Electives

Fall 2020

SEM Section: H1  TR 11:30 am - 12:45 pm  Sonya K. Auer

**ENVI 478 (S) Cold War Landscapes**

**Cross-listings:** AMST 478  HIST 478  ENVI 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 many developing nations. We will begin this seminar by exploring several distinct "Cold War landscapes" in the United States, then move on to examining others in Europe and the Soviet Union. We will spend the final weeks of the semester discussing examples from other parts of the world. Our approach to our topics will be interdisciplinary throughout the semester, and students are welcome to write their research papers on any geographical area of the world.

**Requirements/Evaluation:** class participation, weekly critical writing, and a final 20- to 25-page research paper

**Prerequisites:** none

**Enrollment Limit:** 15

**Enrollment Preferences:** History, Environmental Studies majors if over-enrolled

**Expected Class Size:** 10

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

**Distributions:** (D2)

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

AMST 478 (D2) HIST 478 (D2) ENVI 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

Not offered current academic year

**ENVI 491 (F) The Suburbs**

**Cross-listings:** AMST 490  ENVI 491  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: Remote for fall 2020. As in a regular semester, I'll work with enrolled students to set up a schedule for our tutorial meetings, which will occur online. At a couple junctures during the semester, we will also try to meet online as a whole class, as well as have a few small group discussions.

Requirements/Evaluation: 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 previous coursework in History

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

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

Fall 2020

TUT Section: RT1 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 2020

HON Section: H1 TBA Nicolas C. Howe

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 2021

HON Section: H1 TBA Nicolas C. Howe

Winter Study

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