CENTER FOR ENVIRONMENTAL STUDIES
ENVIRONMENTAL STUDIES MAJOR
Chair: Professor Henry Art
Associate Director: Lecturer Sarah Gardner


On leave fall/spring: N. Howe


Mystic Executive Director: T. Van Winkle.

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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
Mary K. Bercaw-Edwards, Associate Professor for Literature of The Sea, Williams-Mystic Maritime Studies Program
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Roger E. Bolton, Professor of Economics, Emeritus
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Cory E. Campbell, instructional Technology Specialist
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, Professor of Biology
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Michael Evans, Assistant Director of The Zilkha Center for Environmental initiatives
Jessica M. Fisher, Assistant Professor of English
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Jennifer L. French, Professor of Spanish
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Matthew Gibson, Assistant Professor of Economics
Lisa Gilbert, Associate Professor of Geosciences and Marine Sciences
Catherine Hall, Lecturer, Williams-Mystic Maritime Studies Program
Nicolas Howe, Associate Professor of Environmental Studies
Sarah Jacobson, Associate Professor of Economics
Amy Johns, Director of The Zilkha Center for Environmental initiatives
Andrew Jones, Manager, Hopkins Memorial Forest
Paul Karabinos, Professor of Geosciences
Pia Kohler, Assistant Professor of Environmental Studies
Elizabeth Kolbert, Class of 1946 Visiting Distinguished Professor of Environmental Studies
Joel Lee, Assistant Professor of Anthropology
Scott Lewis, Assistant Professor of Physical Education and Director of Outing Club
Dr. Alicia Maggard, Post-Doc, Williams-Mystic Maritime Studies Program
James Manigault-Bryant, Associate Professor of Africana Studies
Luana Maroja, Associate Professor of Biology
Laura Martin, Assistant Professor of Environmental Studies
Brittany Meché, Bolin Fellow
April Merleaux, Visiting Assistant Professor of Environmental Studies
Karen R. Merrill, Professor of History
Manuel Morales, Professor of Biology and Director of Research Hopkins Forest
James Nolan, Professor of Sociology
Julie Pedroni, Lecturer in Philosophy
Timothy Pusack, Assistant Professor of Marine Ecology, Williams-Mystic Maritime Studies Program
Jay Racela, Lecturer, CES and Morley Sciences Laboratories
David P. Richardson, Professor of Chemistry
Kenneth Savitsky, Professor of Psychology
David C. Smith, Senior Lecturer in Biology
David L. Smith, Professor of English
Greta F. Snyder, Visiting Assistant Professor of Women's, Gender, and Sexuality Studies
John W. Thoman, Jr., Professor of Chemistry
Claire Ting, Professor of Biology
Tom Van Winkle, Executive Director of The Williams-Mystic Maritime Studies Program

ENVIRONMENTAL STUDIES
Environmental issues 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 major 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;
• 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, CES was one of the first environmental studies programs at a liberal arts college. In addition to the academic program described below, CES is the focus of a varied set of activities in which students lead and participate, often with other members of the Williams community. 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. CES manages the Hopkins Memorial Forest, a 2600-acre natural area northwest of campus, in which there are field-study sites and a laboratory, and where passive-recreation opportunities may be found in all seasons. 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 or Associate Director of Environmental Studies, or any other members of CES for advice. All incoming majors will choose a faculty advisor in the spring of their sophomore year.

Advisors for 2019-20: Henry Art, Sarah Gardner, Pia Kohler, Laura Martin, Mea Cook, James Manigault-Bryant.

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.

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 senior seminar, ENVI 412. 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 component of the core is comprised of three foundational 200-level courses, one from each of three lists of courses (see below), with each list representing 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, each Environmental Studies major devises 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 Henry Art, Director or Sarah Gardner, 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 216Landscape, Place and Power
      Taught by: Nicolas Howe
      Catalog details
   ENVI 229 / HIST 264(S)Environmental History
      Taught by: Laura Martin
      Catalog details
   ENVI 244 T / PHIL 244(S)Environmental Ethics
      Taught by: Julie Pedroni
      Catalog details
   ENVI 250 / STS 250(S)Environmental Justice
      Taught by: Laura Martin
      Catalog details
   ENVI 259 / AMST 259 / HIST 259New England Environmental History
      Taught by: Laura Martin
      Catalog details

Environmental Science Foundational (with lab, 1 course)

   BIOL 203 / ENVI 203(F)Ecology
      Taught by: Ron Bassar
      Catalog details
   GEOS 201 / ENVI 205Geomorphology
      Taught by: José Constantine
      Catalog details
   GEOS 215 / ENVI 215Climate Changes
      Taught by: Mea Cook
      Catalog details
   GEOS 309 / ENVI 209(F)Modern Climate
      Taught by: Alice Bradley
      Catalog details

Social Science/Policy Foundational (1 course)

   ECON 213 / ENVI 213(S)Introduction to Environmental and Natural Resource Economics
      Taught by: Sarah Jacobson
      Catalog details
   ENVI 270Environmental Problems: Social Causes, Consequences, and Policy Solutions
      Taught by: Pia Kohler
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.

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.

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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 and rural land use planning and environmental design.

Senior Seminar Required Course (1 course)

In the senior year students will take ENVI 412, the senior seminar 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. Some other departments 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 end of the week following spring break. 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 by the end of the spring semester whether or not their proposal has been approved.

Students doing a full-year thesis should plan on a presentation in early November to their thesis advisor, second reader, and, if applicable, co-advisor, at which the thesis writer will offer a discussion of the work completed on the thesis to date, and provide an outline of the full thesis and a timetable for completion of the remaining parts of the thesis.
ENVI 12 (W) Geology of the National Parks

Cross-listings: ENVI 12 GEOS 12

Secondary Cross-listing

A vicarious trip through a variety of the national parks of the U.S. and Canada to appreciate the geological basis of their spectacular scenery. Parks will be selected to portray a wide range of geological processes (volcanism, desert and coastal erosion, mountain building, glaciation, etc.). We will meet most mornings during the first two weeks for highly illustrated classes supplemented by the interpretation of topographic and geologic maps and by out-of-class study of rock samples. Reading will be from a paperbound text PARKS AND PLATES and from short publications of the U.S. Geological Survey and natural history associations linked to the parks. The second part of the month will involve independent study and meetings with the instructor to prepare an oral report about the geology of a park of the student's choice. These reports during the last week will be comprehensive and well illustrated, using PowerPoint and pertinent maps and samples. A detailed outline and list of references will be provided to the group at the time of the presentation.

Requirements/Evaluation: final project or presentation; participation in class meetings

Prerequisites: none

Enrollment Limit: 10

Enrollment Preferences: preference to first-year students who have had no previous college study of geology

Grading: pass/fail only

Materials/Lab Fee: approximately $150 for books

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

ENVI 12 GEOS 12

Winter 2020

LEC Section: 01 TBA Bud Wobus


Cross-listings: ENVI 13 JLST 13

Secondary Cross-listing

Taught from the perspective of an experienced trial attorney, this course will examine the role environmental law plays in the United States today in light of how that role has developed during the nearly fifty years since the modern era of environmental law began. As a preface, we will consider the significantly more limited influence of environmental law in our national affairs before 1970 and some of the historical and political reasons for that situation. We will examine the reasons why the law's early application in the first half of the 20th century almost exclusively to the conservation and preservation of natural resources took on in the second half a markedly different approach, one emphasizing pollution control and all but ignoring resource conservation. The course will begin by tracing the development of an American consciousness towards the environment through an examination of our law and our literature. The term "law" includes state and federal judicial decisions and legislation, particularly during the presidency of Theodore Roosevelt and during the decades which followed the year 1970 when much of the legal basis for the American environmental protection movement was established. The term "literature" includes not just the written word (the first book we look at is "The Lorax" by your favorite childhood author, Dr. Seuss, but also painting, sculpture, and music. Nothing too heavy! We will examine the historical and legal choices we as Americans have made which have put our environment on trial. What has occurred in our development as a people that explains this quintessentially American phenomenon? Our journey begins with the Puritans of New England and the planters of Virginia and their predecessors in the New World and then moves swiftly to the beginning of the modern era in environmental law and to its now uncertain future. In light of this historical situation students will examine state and federal legislative and judicial attempts to address environmental problems and then try to reach informed, rational conclusions as to whether those attempts were successful. What were the political, social and economic issues involved and, ultimately, how did their context affect the legal solutions imposed. Cases decided at the appellate level will be introduced and examined through their trial court memoranda opinions in order to observe how the legal system actually works and how frequently the reasoning and conclusions behind the trial judge's decision changes as the case works its way through the appellate process. This course will be presented from a litigator's point of view, that is to say, both the practical and the theoretical, emphasizing what is possible to achieve in the litigator's real world as informed by what the academician would present from the security of the classroom. Evaluation will be based on attendance and classroom participation. Students will prepare several short papers, single-page "clerk's notes," which will present one or more sides of an issue and form the basis for classroom discussion. They will be asked to defend or reject the conclusions reached or approaches taken by our courts and legislatures and by our literature, as broadly defined, on environmental issues. Adjunct Instructor Bio: Philip R. McKnight '65 is a trial and appellate attorney. At Williams he completed the honors program for both American History and
Literature and European History and then he earned his law degree from The University of Chicago Law School and practiced in the state and federal courts of New York and Connecticut, as well as in Europe.

**Requirements/Evaluation:** five single-spaced, 1-page papers called "clerk's notes," class performance, including a team approach to the Pebble Mine, Alaska, permitting controversy

**Prerequisites:** none

**Enrollment Limit:** 15

**Enrollment Preferences:** seniors first, then juniors, etc

**Grading:** pass/fail only

**Materials/Lab Fee:** approximately $100 for books

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

ENVI 13 JLST 13*

Winter 2020

**LEC Section:** 01

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**ENVI 15 (W) Bridges over Troubled Waters: Environmental and Public Health Advocacy for Safe Drinking Water**

Go behind the headlines to learn about the issues and advocates involved in recent drinking water crises, including lead in Flint, Michigan, Pittsburgh, Pennsylvania, and Newark, New Jersey; chemicals in Hoosick Falls, New York; and crumbling infrastructure in Puerto Rico. This course will introduce students to basic drinking water science, public health data, laws and regulations, types of lawsuits, and advocacy tools involved in today's most pressing drinking water threats. We will discuss issues such as environmental justice, citizen science, corporate responsibility, grassroots organizing, and the role of government and law in addressing public health crises. The course is geared towards interested water consumers and students interested in pursuing careers in environmental or public health advocacy alike. Students will be assigned brief readings drawn from journal and popular news articles and excerpts from nonfiction books, and to view a couple films (either during evening group screenings or independently). In conjunction with this course, and in addition to attending hour-long Friday seminar discussions, students will be expected to attend Friday Log Lunches during Winter Study, which will feature drinking water advocates. Evaluation will be based on class participation and a short (3-5 page) paper and (5-10 minute) presentation on a topic of students' choice involving a drinking water threat or community that is experiencing or has confronted a drinking water threat.  

*Adjunct Instructor Bio: Joya Sonnenfeldt '10 was Williams' first Environmental Policy major. She also holds a law degree and a masters in environmental management from Yale University. She has spent the majority of her career on the litigation team of the Natural Resources Defense Council, largely working to secure safe drinking water. Most recently, she clerked for the Honorable Patty Shwartz on the United States Court of Appeals for the Third Circuit.*

**Requirements/Evaluation:** short paper and final project or presentation

**Prerequisites:** none

**Enrollment Preferences:** brief statement of interest

**Grading:** pass/fail only

**Materials/Lab Fee:** approximately $50 for books

Winter 2020

**LEC Section:** 01

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**ENVI 16 (W) Sensing Place**

**Cross-listings:** ENVI 16 ARTH 16

**Secondary Cross-listing**

Bridging art history and environmental humanities, this course will explore how the experience of landscape, a term that privileges the visual, is impacted not only by sight but by sound, touch, smell, and even taste. We will look at the way artists have translated embodied experiences of landscape into paint and other media as we ask what is lost or gained, just as we will consider what the taste of tea or oysters might tell us about the history and present environment of the places they come from. By looking at how artists and writers have theorized and experienced landscapes in the past, we will explore how those histories inform how and what we sense today. We will ask: how is the environment experienced (and narrated)
through our bodies? How do human interactions with nature produce a “sense” of ownership and domination? Is something more symbiotic possible? To answer these questions, we will look at works of art in the collections of WCMA and The Clark, read work by historical and contemporary writers, and engage in experiential learning that activates all senses, including hiking, tasting, and making. Evaluation will be based on participation, including weekly journal reflections, and the completion of a 10-page written assignment that will combine creative reflection and research. Attendance and active participation in class discussions will also be required. We will typically meet three times a week for two-hour sessions, with some additional required field trips. Adjunct Instructor Bio: Elliot Krasнопoler is a Doctoral Candidate in the History of Art at Bryn Mawr College, where he is completing a dissertation about the intersections of contemporary art, landscape, and time. He holds an M.A. in Art History from Williams College, and a B.F.A. in Photography from the Rochester Institute of Technology. He lives in North Adams, MA, and is an avid hiker, tea enthusiast, and mineral collector.

Requirements/Evaluation: 10-page paper
Prerequisites: none
Enrollment Limit: 15
Enrollment Preferences: more senior students will be given priority
Grading: pass/fail only
Materials/Lab Fee: $50

This course is cross-listed and the prefixes carry the following divisional credit:
ENVI 16 ARTH 16

Winter 2020
LEC Section: 01

ENVI 17 (W) Unsettling Environments: Conservation, Care, and Indigeneity in the Anthropocene

Cross-listings: ANTH 16 ENVI 17
Secondary Cross-listing

How might we think of killing animals as a form of care? How do narratives of ecological decline associated with the Anthropocene and climate change potentially exclude Indigenous perspectives? In this course, we will think critically about themes related to resource use and extraction, human-animal relations, and settler colonialism. We will unsettle dominant conceptions of conservation, call into question management models that marginalize Indigenous peoples and ways of being in the world, and explore how ways of relating to the more-than-human shape Indigenous and non-Indigenous responses to climate change and environmental degradation. Drawing upon theoretical works and ethnographic investigations within anthropology and American Indian and Indigenous Studies, as well as poetry and fiction, including the works of Indigenous and settler scholars and writers, we will examine how theorizations of and relations with animals, plants, and landscapes shape conservationist logics, resource management models, and understandings of what it means to "care" for land and the multiple beings that animate it. This course involves six hours of in-class work and an average of 20 hours of outside-of-class work weekly. The course will rely heavily on student preparation for class and student participation in small- and large-group discussions in class. This is an introductory course, and assessments will be weighted more towards students' understandings of broader themes and questions rather than proficiency in any one school of theory or ethnographic locale. Students will earn their grades as follows: with one-sentence summaries and prepared questions for twelve of the assigned readings (once for each class meeting); as co-discussants for one class meeting; with one short take-home essay exam (750-1000 words); and with a final paper (roughly 3000 words) drawing upon ideas and comparative examples encountered in the course to analyze a current episode or event. Adjunct Bio: William Voinot-Baron is a PhD candidate in cultural anthropology at the University of Wisconsin-Madison. His dissertation is an ethnographic examination of the ways in which salmon are central to both understandings and practices of care in an Alaska Native (Yupiaq) village in southwest Alaska, and the consequences of State of Alaska and federal fishing regulations for tribal sovereignty and well-being. He holds an M.A. in Anthropology from Columbia University and an A.B. in Anthropology and Environmental Studies from Bowdoin College

Requirements/Evaluation: 10-page paper
Prerequisites: none
Enrollment Limit: 30
Enrollment Preferences: seniority; students may be asked to send the instructor and email explaining why they are interested in the course
Grading: pass/fail only
Materials/Lab Fee: approximately $80 for books
This course is cross-listed and the prefixes carry the following divisional credit:

**ANTH 16 ENVI 17**

Winter 2020

**LEC Section: 01**

**ENVI 25 (W) Tropical Marine Conservation**

**Cross-listings:** BIOL 25 ENVI 25

**Secondary Cross-listing**

Tropical marine ecosystems such as coral reefs and mangrove forests are biodiversity 'hotspots'; they are home to an astounding variety of marine organisms, provide critical support for the livelihoods and food sources of millions of people, but are also highly vulnerable to human impacts such as climate change and overfishing. This winter study travel course will offer a unique combination of classroom, laboratory, and hands-on experiences in the scientific study, management, and restoration of tropical marine ecosystems using the Bahamian island of Eleuthera as a case study. Eleuthera is rich in marine diversity but still in the process of implementing management policies and practices for its many fisheries. As such, it presents a unique opportunity for students to experience conservation-in-action. Students will gain an understanding of the structure, function, and major threats facing tropical marine ecosystems. They will develop practical skills in conducting field surveys of tropical marine species and in implementing management and restoration strategies on the Island. They will also engage with the local community to understand the social and economic impacts of marine conservation policy and to explore alternative sustainable development strategies for subsistence fisheries that rely on these marine ecosystems. Students are expected to participate in 2 days travel and 13 days of research on the Island. The daily schedule will include field research and independent study. Students are expected to devote time each day to researching and writing a final paper that integrates their field studies, interviews, and policy research. Students will also use this time to prepare and deliver an oral slide presentation on their research the last two days of the trip. After return to Williamstown, students will be given 5 days to finish writing their final papers.

**Requirements/Evaluation:** short paper and final project or presentation

**Prerequisites:** BIOL 203 or ENVI 101 or MAST 311 or BIOL 413/ENVI 423 or permission of instructor

**Enrollment Limit:** 8

**Enrollment Preferences:** preference will be given to juniors and seniors

**Grading:** pass/fail only

**Materials/Lab Fee:** cost of books

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

**BIOL 25 ENVI 25**

**Attributes:** TRVL Winter Study Travel Course

Winter 2020

**TVL Section: 01 TBA Sonya K. Auer, Sarah Gardner**

**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

Winter 2020

**HON Section: 01 TBA Henry W. Art**

**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
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

**Winter 2020**  
**IND Section:** 01   TBA   Henry W. Art

**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.

**Class Format:** lecture  
**Requirements/Evaluation:** Lab assignments, a midterm, and a final exam  
**Prerequisites:** none  
**Enrollment Limit:** 40  
**Enrollment Preferences:** first-years and sophomores  
**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

**Spring 2020**  
**LEC Section:** 01   MWF 9:00 am - 9:50 am   Alice C. Bradley  
**LAB Section:** 02   M 1:00 pm - 3:00 pm   Alice C. Bradley  
**LAB Section:** 03   T 1:00 pm - 3:00 pm   Alice C. Bradley

**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 historical development of environmental problems -- including pollution, land grabbing, and species extinction -- and 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:** lecture/discussion  
**Requirements/Evaluation:** participation, in-class exercises, several shorter writing assignments, and a final exam  
**Prerequisites:** none  
**Enrollment Limit:** 25/section  
**Expected Class Size:** 25/section
ENVI 102 (S) Introduction to Environmental Science

Environmental Science is an interdisciplinary field that develops scientific and technical means for assessing and mitigating human impacts on the environment. This course provides an overview of the discipline in the context of the interconnected global earth system: the geosphere, atmosphere, hydrosphere, and biosphere. Students are introduced to scientific methods from physics, chemistry, geology, and biology that are used to examine real-world case studies at global and local scales. Topics may include: climate change, air and water pollution, resource extraction and management, land use change, and their effects on environmental quality, biodiversity, and human health. During weekly fieldwork and laboratory sessions, students gain hands-on experience in collecting, analyzing, and interpreting data that can be used to make recommendations for addressing local environmental issues.

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

Requirements/Evaluation: weekly short quizzes, three exams, weekly homework, two lab reports, participation

Prerequisites: none

Enrollment Limit: 48

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

Expected Class Size: 48

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

Unit Notes: required course for Environmental Studies major and concentration

Distributions: (D2)

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

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 the Earth's surface are tied to temperature and precipitation, and as those change, the landscape reacts. People are beginning to feel the impacts, but in different ways depending on where we call home. Our ability to cope with the changes also depends are where we are, with low-income nations the least able to implement costly adaptive strategies. In this course, we will take a tour of the planet, investigating how climate change is altering landscapes and the natural processes that support them. 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 freshwater and soil. Labs will use local field sites and analytical exercises to evaluate
recent cases that reflect an interaction of the landscape and climate.

Class Format: lecture/discussion, three hours per week; laboratory, two hours per week in alternate weeks/occasional field trips

Requirements/Evaluation: evaluation based on written reports from laboratories, class participation, weekly quizzes, a midterm and final exam

Prerequisites: none

Enrollment Limit: 48

Enrollment Preferences: first-year and sophomore students

Expected Class Size: 48

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 103 (D3) ENVI 103 (D3)

Attributes: ENVI Natural World Electives EXPE Experiential Education Courses

Not offered current academic year

ENVI 104 (F) Oceanography

Cross-listings: GEOS 104 ENVI 104 MAST 104

Secondary Cross-listing

The oceans cover about 72% of Earth's surface, yet we know the surface of Venus better than our own ocean floors. Why is that? This integrated introduction to the oceans covers formation and history of the ocean basins; the composition and origin of seawater; currents, tides, and waves; ocean-atmosphere interactions; oceans and climate; deep-marine environments; coastal processes; productivity in the oceans; and human impacts. Coastal oceanography will be investigated on an all-day field trip, hosted by the Williams-Mystic program in Connecticut. This course is in the Oceans and Climates group for the Geosciences major.

Class Format: lecture/discussion, three hours per week; laboratory, two hours per week in alternate weeks/one all-day field trip

Requirements/Evaluation: evaluation will be based on two hour exams, lab work, participation in the field trip, and a final exam

Prerequisites: none

Enrollment Limit: 48

Enrollment Preferences: first-year and sophomore students, MAST concentrators

Expected Class Size: 48

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

Distributions: (D3)

This course is cross-listed and the prefixes carry the following divisional credit:
GEOS 104 (D3) ENVI 104 (D3) MAST 104 (D3)

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

Fall 2019

LEC Section: 01 MWF 9:00 am - 9:50 am Mea S. Cook
LAB Section: 02 W 1:00 pm - 3:00 pm Mea S. Cook
LAB Section: 03 R 1:00 pm - 3:00 pm Mea S. Cook

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

Cross-listings: GEOS 101 ENVI 105

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: lecture; one laboratory per week plus one all-day field trip

Requirements/Evaluation: evaluation will be based on lab work, short quizzes, midterms, an independent project, and a final exam
Prerequisites: none
Enrollment Limit: 30
Enrollment Preferences: underclassmen
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

Fall 2019
LEC Section: 01  MWF 10:00 am - 10:50 am  Phoebe A. Cohen
LAB Section: 02  M 1:00 pm - 3:00 pm  Phoebe A. Cohen
LAB Section: 03  T 1:00 pm - 3:00 pm  Phoebe A. Cohen

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

Cross-listings: ENVI 108  PHYS 108

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

Class Format: lecture twice a week, occasional lab exercises, and a field trip to the college heating plant, all during class hours
Requirements/Evaluation: evaluation will be based on 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
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 we have 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.

Class Format: tutorial

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

Not offered current academic year

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

Cross-listings: BIOL 134  ENVI 134

Secondary Cross-listing

Intended for the non-scientist, this course 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 of humans, including major climatic and habitat features. The next section focuses on human population biology, and emphasizes demography and the role of disease particularly malaria and AIDS. The final part of the course covers the place of human societies in local and global ecosystems including the challenges of tropical food production, the importance of organic diversity, 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: lectures and debates

Requirements/Evaluation: two hour exams, a short paper, panel preparation, and a final exam

Prerequisites: none

Enrollment Limit: 60

Enrollment Preferences: seniors, juniors, sophomores, and first-year students—in that order

Expected Class Size: 60

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

Unit Notes: does not count for major credit in Biology; does not satisfy the distribution requirement for the Biology major
Distributions: (D3) (QFR)
This course is cross-listed and the prefixes carry the following divisional credit:
BIOL 134 (D3) ENVI 134 (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 focus on 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 2019
LEC Section: 01 MWF 9:00 am - 9:50 am Joan Edwards

ENVI 203 (F) Ecology (QFR)
Cross-listings: BIOL 203 ENVI 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).

Class Format: lecture/laboratory, six hours per week
Requirements/Evaluation: evaluation will be based on 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: none
Expected Class Size: 35
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:
BIOL 203 (D3) ENVI 203 (D3)
Attributes: ENVI Natural World Electives EVST Environmental Science EVST Living Systems Courses

Fall 2019
LEC Section: 01 MWF 10:00 am - 10:50 am Ron D. Bassar
LAB Section: 02 T 1:00 pm - 4:00 pm Ron D. Bassar
LAB Section: 03 W 1:00 pm - 4:00 pm Ron D. Bassar

ENVI 205 (F) Geomorphology
Cross-listings: ENVI 205 GEOS 201

Secondary Cross-listing
Geomorphology is the study of landforms, the processes that shape them and the rates at which surface processes change the landscape in which we live. The course is designed for Geosciences majors and for environmental studies students interested in surficial geologic processes and their importance in shaping the physical environment. We 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. At this time scale, the influence of human activity and climate change on geomorphic processes is strong, perhaps dominant, in many geologic environments. Many of our examples analyze human interaction -
planned or unplanned—with geomorphic processes. Labs focus on field measurements of channels and landscapes in the Williamstown area as well as on the analysis of topographic maps and imagery.

**Class Format:** lecture/discussion, three hours per week; laboratory, three hours per week/student projects; weekend field trip to the White Mountains

**Requirements/Evaluation:** evaluation will be based on two hour exams, a project, lab work and class participation

**Prerequisites:** any 100-level GEOS course or permission of instructor

**Enrollment Limit:** 18

**Expected Class Size:** 15

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

**Distributions:** (D3)

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

ENVI 205 (D3) GEOS 201 (D3)

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

Not offered current academic year

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**ENVI 207  (F) Economic Geology and Earth Resources**

**Cross-listings:** ENVI 207 GEOS 205

**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 components of your computer, the glass in your window, 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; 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

**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:**

ENVI 207 (D3) GEOS 205 (D3)

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

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Fall 2019

LEC Section: 01  TR 11:20 am - 12:35 pm  Ronadh Cox
LAB Section: 02  R 1:00 pm - 4:00 pm  Ronadh Cox

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

**Cross-listings:** ENVI 208 ARAB 209  COMP 234

**Secondary Cross-listing**

Literary representations of the Sahara challenge facile assumptions about this undertheorized place. Literature furnishes a unique opportunity to gain
more awareness of the organization of life in the desert and the ways in which its inhabitants have found harmony between their humanity and the Sahara's biodiversity. This course offers students the opportunity to engage in close readings of novels through the theme of the Sahara and Saharan space. Reading through the ethics of human mobility and actions 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 Sahara sub-genre of Maghrebi and Middle Eastern literature. Whether grappling with transcontinental issues of climate change, biodiversity cannibalization or overexploitation of natural resources, the Saharan novel 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. Students will be initiated to the ecocritical dimension of Maghrebi and Arabic literature and the discourses underlying it through the prism of the Sahara.

Class Format: seminar

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

Prerequisites: none

Enrollment Limit: 19

Enrollment Preferences: Arabic Studies majors and certificate students

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:

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

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.

Not offered current academic year

ENVI 209 (F) Modern Climate

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: lecture and lab

Requirements/Evaluation: a series of lab projects, a midterm, and a final exam

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

Enrollment Limit: 24

Expected Class Size: 15

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 309 (D3) ENVI 209 (D3)

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

Fall 2019

LEC Section: 01 TR 9:55 am - 11:10 am Alice C. Bradley
ENVI 211 (F) Race and the Environment

Cross-listings: ENVI 211 SOC 211 AMST 211 AFR 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: lecture/discussion

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

Prerequisites: none

Enrollment Limit: 20

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

Distributions: (D2)

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

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

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

Not offered current academic year

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

Cross-listings: POEC 214 ECON 214 ENVI 212

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: meetings with the instructor in pairs for one hour each week

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

Prerequisites: ECON 110 or the equivalent, permission of instructor

Enrollment Limit: 10

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

Expected Class Size: 10

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

Distributions: (D2) (WS)

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

POEC 214 (D2) ECON 214 (D2) ENVI 212 (D2)

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

**Attributes:** ENVI Environmental Policy  POEC Comparative POEC/Public Policy Courses

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**ENVI 213 (S)** 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, 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.

**Class Format:** lecture

**Requirements/Evaluation:** problem sets, short essays, paper(s); exam(s) are possible

**Prerequisites:** ECON 110

**Enrollment Limit:** 30

**Enrollment Preferences:** first-year and sophomore students

**Expected Class Size:** 30

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

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

**Distributions:** (D2)  (QFR)

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

ECON 213 (D2)  ENVI 213 (D2)

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

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**ENVI 214 (F)** 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:** lecture, three hours per week; laboratory, three hours per week

**Requirements/Evaluation:** based on weekly lab exercises, weekly quizzes, a research project, and a midterm and final exam

**Prerequisites:** at least one introductory course in BIOL, ENVI, or GEOS

**Enrollment Limit:** 20

**Enrollment Preferences:** Geosciences and Biology majors and Environmental Studies majors and concentrators
**ENVI 215 (F) Climate Changes**

**Cross-listings:** ENVI 215 GEOS 215

**Secondary Cross-listing**

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.

**Class Format:** lecture, three hours per week; one three-hour lab per week

**Requirements/Evaluation:** evaluation will be based on lab exercises and problem sets (25%), three hour 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 permission of instructor

**Enrollment Limit:** 14

**Enrollment Preferences:** Geosciences majors

**Expected Class Size:** 14

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

**Distributions:** (D3)

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

ENVI 215 (D3) GEOS 215 (D3)

**Attributes:** ENVI Natural World Electives EVST Environmental Science EXPE Experiential Education Courses MAST Interdepartmental Electives

Not offered current academic year

**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: 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 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: seminar

Requirements/Evaluation: four 4- to 5-page papers and one 10- to 12-page final paper

Prerequisites: none

Enrollment Limit: 19

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

Expected Class Size: 19

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 PHIL Contemp Metaphysics & Epistemology Courses

Not offered current academic year

ENVI 217 (F) Landscape, Place and Power

Cross-listings: ENVI 217 AMST 216

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.

Class Format: seminar

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

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 217 (D2) AMST 216 (D2)

Attributes: AMST Critical and Cultural Theory Electives AMST Space and Place Electives ENVI Humanities, Arts + Social Science Electives EVST Culture/Humanities

Not offered current academic year

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.

**Class Format:** seminar

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

**Prerequisites:** RLSP 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.

Not offered current academic year

**ENVI 219  (S)  Evolution of and on Volcanic Islands**

**Cross-listings:** ENVI 219 GEOS 220

**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.

**Class Format:** tutorial

**Requirements/Evaluation:** evaluation based on five written papers.

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

**Enrollment Limit:** 10

**Enrollment Preferences:** geosciences majors and students with a demonstrated interest in geosciences

**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:

ENVI 219 (D3) GEOS 220 (D3)

**Attributes:** ENVI Natural World Electives

Not offered current academic year

**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:** lecture and 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

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**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:** lecture/discussion

**Requirements/Evaluation:** evaluation will be based on 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 +
ENVI 222  (F)  Examining Inconvenient Truths: Climate Science meets U.S. Senate Politics

Cross-listings: GEOS 221  ENVI 222

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.

Class Format: tutorial

Requirements/Evaluation: weekly papers and a final oral presentation

Prerequisites: none

Enrollment Limit: 10

Enrollment Preferences: second-year students, Geosciences and Environmental Studies third- and fourth-year students

Expected Class Size: 10

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

Distributions: (D3)

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

GEOS 221 (D3) ENVI 222 (D3)

Attributes: EXPE Experiential Education Courses

Not offered current academic year

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: lecture/class discussion

Requirements/Evaluation: midterm, final exam, paper, two quizzes

Prerequisites: none

Enrollment Limit: 30

Expected Class Size: 25
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.

**Class Format:** tutorial

**Requirements/Evaluation:** evaluation will be based on 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

**Unit Notes:** satisfies the distribution requirement for the Biology major

**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

Not offered current academic year

ENVI 228 (F) Water as a Scarce Resource

**Cross-listings:** ENVI 228  ECON 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:** tutorial, meeting with the instructor in pairs for an hour each week; 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

**Requirements/Evaluation:** 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:

ENVI 228 (D2) ECON 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: seminar 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

Spring 2020

SEM Section: 01 TR 9:55 am - 11:10 am Laura J. Martin

ENVI 231 (F) The African Anthropocene (DPE)

Cross-listings: STS 231 AFR 231 ENVI 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: seminar; 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:

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

Fall 2019

SEM Section: 01    TR 8:30 am - 9:45 am    Brittany Meché

**ENVI 232 (S) The Garden in the Ancient World**

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

**Class Format:** seminar

**Requirements/Evaluation:** class participation, short written assignments, and a final project

**Prerequisites:** none

**Enrollment Limit:** 20

**Enrollment Preferences:** Classics majors

**Expected Class Size:** 15

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

**Distributions:** (D1)

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

CLAS 235 (D1) REL 235 (D2) ENVI 232 (D1) COMP 235 (D1)

Not offered current academic year

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

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

**Secondary Cross-listing**

The leaders of poor 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 pro-actively invest in health and education? Can agriculture support incomes and provide jobs, or is urban industrial development a prerequisite? How do households in poor countries insure themselves against adverse outcomes? Can policies enable entrepreneurship and innovation in such economies? Is it true that corruption is major obstacle? Has the climate crisis upended our traditional models to the point where we need to rethink the notion of development? The class will
introduce these and other issues, as analyzed by economists.

Class Format: lecture/discussion

Requirements/Evaluation: short essays/assignments; exam; final group project, including a 15-page paper

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

Spring 2020

LEC Section: 01 M 7:00 pm - 9:40 pm Michael Samson

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

Cross-listings: ENVI 235 PSCI 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.

Class Format: seminar

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:

ENVI 235 (D2) PSCI 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
Demigods: Nature, Social Theory, and Visual Imagination in Art and Literature, Ancient to Modern

Cross-listings: ARTH 236  ENVI 236  CLAS 236

Secondary Cross-listing

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 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 and Lucretius. 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. 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, Mallermé, "L'Apres midi d'une faun," Aby Warburg, 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: seminar

Requirements/Evaluation: attendance, participation in discussion, one short presentation on a demigod in ancient art, one longer presentation on demigods in early modern, modern, or contemporary art, and a 20-page research paper

Prerequisites: none

Enrollment Limit: 16

Enrollment Preferences: first year graduate students, then second year graduate students, then advanced undergraduates

Expected Class Size: 12

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

Distributions: (D1)

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

ARTH 236 (D1) ENVI 236 (D1) CLAS 236 (D1)

Attributes: ARTH pre-1800 Courses

Not offered current academic year

Sustainable Economic Growth

Cross-listings: ECON 238  ENVI 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, land, water and food, 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, but we will also discuss other forms of environmental degradation. 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 core economic concepts taught in introductory microeconomics and introductory macroeconomics.

Class Format: lecture

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

Prerequisites: ECON 110 and ECON 120

Enrollment Limit: 30
Enrollment Preferences: potential or declared social science majors

Expected Class Size: 20

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

Distributions: (D2)

This course is cross-listed and the prefixes carry the following divisional credit:
ECON 238 (D2) ENVI 238 (D2)

Attributes: ENVI Environmental Policy  POEC Comparative POEC/Public Policy Courses

Fall 2019

LEC Section: 01    TF 1:10 pm - 2:25 pm     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?

Class Format: tutorial

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

Fall 2019

TUT Section: T1    TBA     Laura J. Martin

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*

**Class Format:** Seminar

**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:** PSCI Political Theory Courses

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

**Cross-listings:** CLAS 242  ENVI 242  ANTH 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 ideals--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.

**Class Format:** seminar

**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:** 25

**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:

CLAS 242 (D1) ENVI 242 (D1) ANTH 242 (D2)

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**Spring 2020**

**SEM Section:** 01  W 4:45 pm - 8:30 pm  Laura D. Ephraim

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**ENVI 243 (F) Reimagining Rivers**

**Cross-listings:** ANTH 243  ENVI 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 cultural identities 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. Combining approaches 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, legal texts, and more.

Class Format: seminar

Requirements/Evaluation: three 5- to 7-page papers and several short response papers

Prerequisites: none

Enrollment Limit: 19

Enrollment Preferences: Environmental Studies majors and concentrators

Expected Class Size: 19

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

Distributions: (D2)

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

ANTH 243 (D2) ENVI 243 (D2)

Not offered current academic year

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: tutorial

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 Environmental Policy EVST Culture/Humanities PHIL Contemporary Value Theory Courses
ENVI 246  (F) Race, Power, & Food History  (DPE)

Cross-listings:  HIST 265  AMST 245  ENVI 246

Primary Cross-listing

Have you ever wondered why Spam is so popular in Hawaii and why ramen noodles are a cheap, ubiquitous food? Are you curious why black-eyed peas and collards are considered "soul food"? In this course, we will answer these questions by digging in to 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 critical food studies. 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, and gender.

Class Format: seminar

Requirements/Evaluation:  two to three short writing assignments (4-5 pages); one longer final paper (8-10 pages)

Prerequisites:  none

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)  (DPE)

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

HIST 265 (D2) AMST 245 (D2) ENVI 246 (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:  ENVI Humanities, Arts + Social Science Electives  HIST Group F Electives - U.S. + Canada

Fall 2019

ENVI 247  (S) Race and Religion in the American West

Cross-listings:  LATS 247  REL 247  AMST 247  ENVI 247

Secondary Cross-listing

From the "Land of Enchantment" of New Mexico in the far reaches of the desert to the sacred temples on the West Coast that overlook Pacific Ocean, this course examines the peoples and the "sacroscapes" of the American West. Historian Patricia Limerick regards this region as an extraordinary site of convergence and one of "the greatest meeting places on the planet." The region is a site of cultural complexity where Penitentes maintained a sacred order, Pentecostals attracted a global audience, Native Americans forged legal/protected definitions of "religion," and Asian immigrants built the first Buddhist and Sikh temples. Until recently, standard surveys of religious history in North America have devoted minimal attention to the distinctive role of religion in the American West. They have focused on religious history in the flow of events westward from the Plymouth Rock landing and Puritan establishment while generally overlooking the Pueblo Revolt in modern-day New Mexico which occurred in that same century and marked the temporary suspension of Spanish encroachment. How do scholars of religion and history account for these renditions between the past and present? Most mainstream religious histories treat religious experience and identity in the U.S. West as additive rather than complementary to or constitutive of its mainstream narratives. Contemporary historians of religion note the need for new "sights," "cites," and "sites" in order to deconstruct and reconstruct this incomplete meta-narrative, taking into account such factors as migration, gender, region, and the environment.
**Class Format:** seminar/discussion

**Requirements/Evaluation:** student participation, weekly reflection papers (up to half page), midterm primary source paper (up to 5 pages), and a final research paper on Religion and the Environment (8-10 page paper with a media/visual component)

**Extra Info:** course is part of the 2016-17 Climate Change Initiative

**Prerequisites:** none

**Enrollment Limit:** 25

**Enrollment Preferences:** none

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

**Unit Notes:** Religion elective course

**Distributions:** (D2)

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

LATS 247 (D2) REL 247 (D2) AMST 247 (D2) ENVI 247 (D2)

**Attributes:** AMST Comp Studies in Race, Ethnicity, Diaspora  ENVI Humanities, Arts + Social Science Electives  LATS Comparative Race + Ethnic Studies Electives

Not offered current academic year

**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).

**Class Format:** tutorial

**Requirements/Evaluation:** students alternate in preparing 5- to 7-page papers and 2-page responses (five papers and five responses in total), final paper building on one of the 5- to 7-page papers

**Prerequisites:** none

**Enrollment Limit:** 10

**Enrollment Preferences:** 1. second-year students 2. Environmental studies concentrators and majors 3. first-year students

**Expected Class Size:** 10

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

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

**Writing Skills Notes:** Bi-weekly 5-7 pages long papers. Students will receive from the instructor timely comments on their writing skills, with suggestions for improvement.

**Attributes:** ENVI Environmental Policy

Fall 2019

TUT Section: T1    TBA    Pia M. Kohler

**ENVI 249 (S) Food, Agriculture, and Globalization**

This course examines the history and current politics of the international political economy of food with a particular focus on how agriculture and food provisioning have been transformed through imperialism and globalization. We will pay particular attention to 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, free trade and fair trade schemes, labor migration, the antiglobalization and local food movements, and transnational food businesses. 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 and food history—there is a definite historical bent to this course—and we will also read
works from political scientists, international relations scholars, geographers, anthropologists, and activists. The written assignments will be a series of policy briefs on topics you design in consultation with me. You will also be responsible for two oral presentations during the semester, related to the policy briefs.

Class Format: seminar

Requirements/Evaluation: two oral presentations with handouts; 2 policy briefing papers (5-7 pages); 2 short concept papers (3-4 pages)

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

Seminar

Spring 2020

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.

Class Format: seminar

Requirements/Evaluation: several short essays, final essay

Prerequisites: ENVI101 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

Spring 2020

ENVI 255  (F)  Environmental Observation

Cross-listings: GEOS 255  ENVI 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.

**Class Format:** lecture

**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

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

**Distributions:** (D3)

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

GEOS 255 (D3) ENVI 255 (D3)

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

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**ENVI 259 (S) New England Environmental History (WS)**

**Cross-listings:** ENVI 259 AMST 259 HIST 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

**Class Format:** seminar

**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:**

ENVI 259 (D2) AMST 259 (D2) HIST 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
**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.

**Class Format:** seminar

**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

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**ENVI 273 (F) Politics without Humans?**

**Cross-listings:** ENVI 273 STS 273 PSCI 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.

**Class Format:** seminar

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

**Extra Info:** 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

**Prerequisites:** none

**Enrollment Limit:** 25

**Expected Class Size:** 20

**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 273 (D2) STS 273 (D2) PSCI 273 (D2)

**Attributes:** AMST Critical and Cultural Theory Electives  ENVI Environmental Policy  PHIL Related Courses  PSCI Political Theory Courses

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Fall 2019

SEM Section: 01   TF 1:10 pm - 2:25 pm   Laura D. Ephraim
Dirty Politics: Regulating Hazardous Chemicals and Wastes

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 forefront 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 condoning 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.

Class Format: seminar

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

Religion and the American Environmental Imagination

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?

Class Format: seminar

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

Expected Class Size: 12

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

Distributions: (D2)
This course is cross-listed and the prefixes carry the following divisional credit:
REL 291 (D2) SOC 291 (D2) ENVI 291 (D2)

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

Not offered current academic year

ENVI 301 (F) Climate Changes (Latin America): Aesthetics, Politics, Science

Cross-listings: ENVI 301  RLSP 401

Secondary Cross-listing

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).

Class Format: This is the senior seminar required for all Class of '20 Spanish majors. Other well-qualified students may enroll and take the course for a grade, up to the enrollment cap

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

Distributions: (D1)

This course is cross-listed and the prefixes carry the following divisional credit:
ENVI 301 (D1) RLSP 401 (D1)

Fall 2019

SEM Section: 01   TF 2:35 pm - 3:50 pm   Jennifer L. French

ENVI 302 (F) Environmental Planning Workshop: Community-Based Experience

Cross-listings: ENVI 302  AMST 302

Primary Cross-listing

This interdisciplinary, experiential workshop introduces students to the field of planning through community-based projects. Environmental Planning encompasses many disciplines pertaining to the natural and built landscape such as city planning, ecological design, climate resiliency, natural resource planning, landscape architecture, agricultural and food systems, walkable neighborhood design, energy planning, and community development, to name a few. In this workshop, students regularly get out of the classroom and gain direct experience working in the greater Berkshire region. The class is organized into two parts. Part 1 involves reading and discussion of the planning literature: history, theory, policy, ethics, and legal
framework, site visits, and concludes with a design project. Part 2 focuses on hands-on field work tackling an actual planning project under the guidance of a community partner. Small teams of students, working in conjunction with a client in the region and under supervision of the instructor, conduct a planning project using all the tools of a planner, including interviews, survey research, site visits, primary research, mapping, and site design and other activities as demanded by the particular project. The project work draws on students’ academic training and extracurricular activities, and applies creative, design thinking techniques to solve thorny problems. The midterm assignment is a creative landscape/site design project. The lab sections include field trips, GIS mapping labs, project-related skill sessions, public meetings, and team project work. The course includes several class presentations and students will gain skills in public speaking, preparing presentations, interviewing, survey research, report-writing, design, and teamwork. The class culminates in an on-site public presentation of each team's planning study.

Class Format: seminar discussion/group workshop/project lab
Requirements/Evaluation: short writing assignments, class discussion, team projects, class presentations, final group public presentation and report
Prerequisites: ENVI 101 or permission of instructor; open to juniors and seniors only
Enrollment Limit: 16
Enrollment Preferences: Environmental Studies majors and concentrators
Expected Class Size: 16
Grading: no pass/fail option, yes 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:
ENVI 302 (D2) AMST 302 (D2)
Attributes: AMST Space and Place Electives ENVI Core Courses EVST Core Courses EXPE Experiential Education Courses

Fall 2019
SEM Section: 01  TR 11:20 am - 12:35 pm  Sarah  Gardner
LAB Section: 02  Cancelled
LAB Section: 03  R 1:00 pm - 4:00 pm  Sarah  Gardner
SEM Section: 04  TR 11:20 am - 12:35 pm  Henry W. Art
LAB Section: 05  T 1:00 pm - 4:00 pm  Henry W. Art

ENVI 303  (S)  Cultures of Climate Change
Cross-listings: ENVI 303  SOC 303
Primary Cross-listing
This course asks why people think and talk about climate change in such very different ways. Climate change is a physical phenomenon that can be observed, quantified, and measured. But it is also an idea, and as such it is subject to the vagaries of cultural interpretation. Despite scientific agreement about its existence and its causes, many people do not see climate change as a serious problem, or as a problem at all. Many others see it as the most serious problem our species has ever faced. What are the sources of this disparity? Why can't we agree about 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.

Class Format: seminar
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 303 (D2) SOC 303 (D2)

Attributes: ENVI Humanities, Arts + Social Science Electives

Not offered current academic year

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.

Class Format: seminar

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

Prerequisites: ENVI 101 or permission of instructor

Enrollment Limit: 25

Expected Class Size: 25

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

Distributions: (D2)

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

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 2019

LEC Section: 01  M 7:00 pm - 9:40 pm Thursday Org Mtg 7:00 pm - 7:25 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.

Class Format: seminar

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
### ENVI 312  (F) Communities and Ecosystems (QFR)

**Cross-listings:** ENVI 312  BIOL 302

**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:** lecture/laboratory, six hours a week

**Requirements/Evaluation:**

- evaluation will be based on lab reports, a midterm exam, a term project presentation, and a final project paper

**Prerequisites:** BIOL/ENVI 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:

ENVI 312 (D3) BIOL 302 (D3)

**Attributes:** ENVI Natural World Electives  EVST Living Systems Courses  EXPE Experiential Education Courses

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### ENVI 313  (S) Chicago

**Cross-listings:** AMST 312  ENVI 313  LATS 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 urbanity within a broader national and global context.

**Class Format:** discussion

**Requirements/Evaluation:**

- evaluation will be based on 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:

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

Class Format: seminar

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

Spring 2020

SEM Section: 01 TR 11:20 am - 12:35 pm Jessica M. Fisher

ENVI 318 (F) California: Myths, Peoples, Places

Cross-listings: COMP 328 AMST 318 ENVI 318 LATS 318 REL 318

Secondary Cross-listing

Crosslisting Between Paradise and Hell, between environmental disaster and agricultural wonderland, between Reagan and Berkeley, between a land of all nations and a land of multiracial enmity, a diversity of myths have been inscribed onto and pursued within the space we call California. How did certain narratives of California come to be, who has imagined California in certain ways, and why? What is the relationship between certain myths, the peoples who have imagined them, and the other peoples who have shared California dreams? In this course, we will examine some of the myths that surround California by looking at a few specific moments of interaction between the peoples who have come to make California home and the specific places in which they have interacted with each other. Of special interest will be imaginations of the Spanish missions, the Gold Rush, agricultural California, wilderness California, California as “sprawling multicultural dystopia,” and California as “west of the west.”
What is waste? What is filth? Why do titles or categories of sanitation workers—"garbage man," for instance—bear such charged social and sometimes moral significance in many societies? In this seminar we will critically examine the production of waste and its role in the production of value, meaning, hierarchy, and the environment. Readings will be of three types. First we will consider theoretical inquiries into the relations between filth and culture. Second, we will examine studies of the political and environmental consequences of systems of waste management historically and in the present, with a focus on South Asia and the United States. Third, we will read ethnographies of sanitation labor and social hierarchy with the same regional focus—work on Dhaka and Delhi, Chicago and New York. There is also a fieldwork component to this class. In groups, students will conduct ethnographic micro-studies of elements of the systems of waste production and management in Berkshire County (e.g., cafeterias, retail outlets, homes, dorms, recycling facilities, sewage treatment plants). Students will post field notes to a class blog, and each group will present its findings in the form of a short film, multimedia presentation, or paper.

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.

**Class Format:** lecture/laboratory

**Requirements/Evaluation:** short papers, labs, participation in discussion, and a research project

**Prerequisites:** GEOS 104 or GEOS 210 or GEOS 215 or MAST 311 or permission of instructor

**Enrollment Limit:** 10

**Enrollment Preferences:** Geoscience majors, students who commit to the Spring Break trip

**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:

MAST 324 (D3) ENVI 324 (D3) GEOS 324 (D3)

**Attributes:** ENVI Natural World Electives EXPE Experiential Education Courses

Not offered current academic year

**ENVI 328 (F) Global Environmental Politics**

**Cross-listings:** PSCI 328 ENVI 328

**Primary Cross-listing**

This seminar draws on the last five decades of international efforts to regulate the environmental commons. The process of negotiating and implementing international environmental treaties will be a core focus of the course, yet emphasis will also be placed on emerging non-state means of addressing global environmental challenges. A variety of challenges faced in global environmental policymaking (compliance, participation by civil society and industry, incorporation of science, efficiency) will be examined through the study of several international regimes, including on climate change, endangered species, biodiversity, biosafety and mercury pollution.

**Class Format:** seminar

**Requirements/Evaluation:** participation; several shorter writing assignments; and a research paper to be completed in stages over the course of the semester

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

**Enrollment Limit:** 19

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

**Expected Class Size:** 15

**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 328 (D2) ENVI 328 (D2)

**Attributes:** ENVI Environmental Policy JLST Interdepartmental Electives MAST Interdepartmental Electives POEC International Political Economy Courses PSCI Research Courses

Not offered current academic year

**ENVI 329 (S) Our Planet's Plastic Plight**

#stopssucking, #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.

**Class Format:** seminar

**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

Not offered current academic year

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**ENVI 339 (F) Conservation Biology** (QFR)

**Cross-listings:** BIOL 329 ENVI 339

**Secondary Cross-listing**

Conservation biology is an interdisciplinary field that develops scientific and technical means for the protection, maintenance, and restoration of diversity at all levels of biological organization. This course provides an overview of the discipline including the causes and consequences of biodiversity loss as well as approaches and strategies used to combat biodiversity threats such as climate change, habitat fragmentation, and invasive species. Particular emphasis is placed on the ecological dimension of conservation and the application of biological principles (derived from physiological and behavioral ecology, population genetics, population ecology, community ecology, and systematics) to the conservation of biodiversity. The course combines lectures, readings, in-class discussion, and a laboratory that includes both field and lab projects.

**Class Format:** lecture and discussion three hours per week; lab three hours per week

**Requirements/Evaluation:** lab assignments, two exams, and discussion participation

**Prerequisites:** BIOL 203, or BIOL 202, or permission of instructor

**Enrollment Limit:** 24

**Enrollment Preferences:** biology majors, seniors, and juniors

**Expected Class Size:** 24

**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:

BIOL 329 (D3) ENVI 339 (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

Not offered current academic year

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**ENVI 340 (F) Posthuman Ecologies: Bodies, Environments, Art** (DPE) (WS)

**Cross-listings:** ENVI 340 GERM 339 COMP 339

**Secondary Cross-listing**
What is it that makes us human? Or, to paraphrase the philosopher Donna Haraway, what if we have never been human at all? One of the central arguments of posthumanist theory is that the human being is not, as traditionally assumed, an individual, fixed subject in full control over its actions. Rather, we emerge only through our connections and interdependencies with others. The networks that shape us are both organic and inorganic; they include "nature," the microbial ecologies of our bodies, affective landscapes, and social and cultural constructs. Over the course of the semester, we will analyze how such networks fashion our humanity with the help of literature, film, and theory. Among other things, we will consider the queer ecologies of android bodies, probe the subversive potential of the cyborg in relation to questions of disability, and think about what it means to be human in the Anthropocene. Texts will include Sasa Stanisic, Yoko Tawada, Olga Tokarczuk, Franz Kafka, Octavia Butler, Donna Haraway, Jacques Derrida, and Theodor W. Adorno; films will include Mad Max: Fury Road, Metropolis, Ex-Machina, and episodes of West World and Black Mirror.

Class Format: Seminar
Requirements/Evaluation: four 1-page critical response papers over the course of the semester, oral presentation, creative final project with 4-page self-analysis
Prerequisites: none
Enrollment Limit: none
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:
ENVI 340 (D1) GERM 339 (D1) COMP 339 (D1)

Writing Skills Notes: The 1-page papers will help students refine their argumentative skills; they will essentially contain all elements of a longer paper in miniature and provide a focused space on which to practice crafting convincing arguments. I will give students detailed feedback on these short papers. The final self-analysis will apply these skills to the student's own work. Students will receive from the instructor timely comments on their writing skills, with suggestions for improvement.

Difference, Power, and Equity Notes: The questions of ecology discussed in this course are inherently questions of power: power over the natural environment, power over our own bodies and those of others, both human and nonhuman, power over resources. We will consider how the very concept of "the human" facilitates such power structures, and acquire theoretical tools to help us rethink human being beyond such coercive relations.

Fall 2019
SEM Section: 01 Cancelled

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: lecture, 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
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: lecture-discussion classes, student-led seminars and one all-day field trip
Requirements/Evaluation: weekly reaction papers (500 words) to reading assignments, seminar presentation, final paper in lieu of final exam
Prerequisites: an application (e.g., online form, statement of interest)
Enrollment Limit: 16
Enrollment Preferences: senior and junior ENVI majors and concentrators
Expected Class Size: 16
Grading: no pass/fail option, no fifth course option
Distributions: No divisional credit

Fall 2019
SEM Section: 01    TR 8:30 am - 9:45 am     Henry W. Art

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.

Class Format: seminar
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)
ENVI 347 (S) Big Game: Adventure, Empire, Ecology (DPE)

Cross-listings: COMP 387 ENGL 347 ENVI 347

Secondary Cross-listing

Big Game: Adventure, Empire, Ecology asks how the era of imperial expansion and the study of "natural history" leads into our contemporary ecological crisis. We will begin with readings of influential colonial travel and adventure narratives like Robinson Crusoe, the captivity narrative of Mary Rowlandson, sections of Darwin and Captain Cook's travel journals, and in-class work with archival materials like the Indian Botanical Survey Flora and the photographs of Subhankar Banerjee. In the first weeks, we will consider how the aesthetics of adventure circulated throughout the British empire in both the East Indies and India, and ramifies elsewhere in the Dutch, French, Spanish, Portuguese and Belgian holdings. We will conclude with a suite of readings through which we will attempt to locate a productive intersection between ecocriticism and postcolonial studies, drawing together sensationalist disaster journalism with environmental activism emerging from the Global South. This course will be especially of interest to students in English, Comparative Literature, and Environmental Studies.

Class Format: seminar

Requirements/Evaluation: presentation, short paper and revision, final research project

Prerequisites: one lower-division literature or related course

Enrollment Limit: 25

Enrollment Preferences: students with related course experience

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:

COMP 387 (D1) ENGL 347 (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

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ENVI 348 (S) Telling Stories about Climate Change: Cultures of the Anthropocene

This environmental humanities seminar begins with the premise that our present climate crisis is a political project of globalization that simultaneously involves political economic and cultural processes. Causes and consequences of climate change can only be understood by examining the historical trajectories of carbon-based economic, political, and cultural systems in the 19th and 20th centuries. We trace the intellectual genealogy of modern climate science, literary engagements with the natural world, and discuss the politics of indigenous knowledge as related to extractivism. 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 conclude with fiction and creative responses to climate crisis. How might history inform social movements for climate resilience? How can the arts, theater, and cultural production promote climate action?

Class Format: seminar

Requirements/Evaluation: one short creative writing assignment; two short critical reviews (3-4 pages); final essay (10-15 pages)

Prerequisites: ENVI 101 or instructor permission

Enrollment Limit: 19
Enrollment Preferences: Environmental Studies concentrators and majors

Expected Class Size: 15

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

Distributions: (D2)

Attributes: ENVI Humanities, Arts + Social Science Electives

Spring 2020

SEM Section: 01    TF 2:35 pm - 3:50 pm     April Merleaux

ENVI 351 (F)(S) Marine Policy

Cross-listings: ENVI 351  PSCI 319  MAST 351

Secondary Cross-listing

This seminar utilizes the interdisciplinary background of the other Williams-Mystic courses to examine national and international contemporary issues in our relationship with our ocean and marine environment. This seminar takes a topical approach to the study of ocean and coastal law and policy, examining climate change, fisheries, coastal zone management, admiralty law, marine biodiversity, ocean and coastal pollution, and ocean governance.

Class Format: lecture, discussions, guest lectures by active professionals, and includes coastal and near-shore field trips, and 10 days offshore

Requirements/Evaluation: an independent research paper, a presentation, and a final exam

Extra Info: offered only at Mystic Seaport

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

Attributes: ENVI Environmental Policy  EXPE Experiential Education Courses  POEC International Political Economy Courses

Fall 2019

LEC Section: 01    TBA     Catherine Robinson Hall

Spring 2020

LEC Section: 01    TBA     Catherine Robinson Hall

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.

Class Format: seminar

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)
ENVI 364 (S) Instrumental Methods of Analysis

Cross-listings: ENVI 364 CHEM 364

Secondary Cross-listing

This course provides the student an understanding of the applicability of current laboratory instrumentation both to the elucidation of fundamental chemical phenomena and to the measurement of certain atomic and molecular parameters. Student will gain knowledge and understanding of the theory and practical use of a variety of instrumental techniques; including, but not limited to, chromatography, mass spectrometry, thermal methods, electroanalytical techniques, atomic and molecular absorption and emission spectroscopy, X-ray diffraction, and optical and electron microscopies, with examples drawn from the current literature. Analytical chemical and instrumental techniques will be developed in the lecture and extensively applied within the laboratory. These skills are useful in a wide variety of scientific areas. Through exploration of primary literature and review articles we will discuss recent developments in instrumental methods and advances in the approaches used to address modern analytical questions.

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

Requirements/Evaluation: evaluation is based on class participation, 2 exams, problem sets, oral presentations and discussions of selected topics, and an independent project

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

Enrollment Limit: 9 per lab

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:

ENVI 364 (D3) CHEM 364 (D3)

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

Spring 2020

LEC Section: 01 MWF 10:00 am - 10:50 am
LAB Section: 02 M 1:00 pm - 5:00 pm
LAB Section: 03 T 1:00 pm - 5:00 pm

ENVI 368 (F) Technology and Modern Society

Cross-listings: SOC 368 ENVI 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.

Class Format: seminar

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
**ENVI 376 (S) Economics of Environmental Behavior** (QFR)

**Cross-listings:** ENVI 376  ECON 477

**Secondary Cross-listing**

A community maintains a fishery; a firm decides whether to get a green certification; you choose to fly home or stay here for spring break: behaviors of people and firms determine our impact on the environment. We'll use economics to model environmental behavior and to 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:** seminar

**Requirements/Evaluation:** short essays and empirical exercises, class participation, oral presentation(s), and a final original research paper using an experiment, existing data, or theory

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

**Enrollment Limit:** 19

**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:

ENVI 376 (D2)  ECON 477 (D2)

**Attributes:** MAST Interdepartmental Electives  POEC Comparative POEC/Public Policy Courses

Not offered current academic year

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**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/seminar

**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)
ENVI 387 (S)  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 in both poor and wealthy 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 pilot cap-and-trade programs, the EU ETS, and the US Clean Power Plan. We will pay particular attention to the political economy of regulation and ways in which policy results have departed from theoretical predictions. Throughout the course we will discuss the limits of the economic approach to climate change, pointing out questions on which economic theory provides little guidance.

Class Format: lecture
Requirements/Evaluation: seven problem sets, midterm, group presentation, final exam
Prerequisites:  ECON 251, familiarity with statistics
Enrollment Limit:  19
Enrollment Preferences: senior Economic majors and CDE fellows
Expected Class Size:  19
Grading:  yes pass/fail option, yes fifth course option
Distributions:  (D2)  (QFR)

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

Attributes:  ENVI Environmental Policy  MAST Interdepartmental Electives  POEC Comparative POEC/Public Policy Courses

Not offered current academic year

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.

Class Format: independent study
Prerequisites: approval by the Chair of Environmental Studies
Grading:  yes pass/fail option, yes fifth course option
Distributions: No divisional credit

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.

Class Format: independent study
Prerequisites: approval by the Chair of Environmental Studies
Grading: yes pass/fail option, yes fifth course option
Distributions: No divisional credit

Spring 2020
IND Section: 01 TBA Henry W. Art

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

Cross-listings: MAST 404 ENVI 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: GEOS 104, GEOS 210, or permission of instructor
Enrollment Limit: none
Expected Class Size: 10
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:
MAST 404 (D3) ENVI 404 (D3) GEOS 404 (D3)
Attributes: ENVI Natural World Electives

Spring 2020
LEC Section: 01 MWF 8:30 am - 9:45 am Alex A. Apotsos

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

Class Format: seminar/lab

Requirements/Evaluation: evaluation will be based on seminar discussions, papers, labs 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

Expected Class Size: 10

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

Distributions: (D3)

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

GEOS 405 (D3) ENVI 405 (D3)

Attributes: ENVI Natural World Electives

Not offered current academic year

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/or 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.

Class Format: seminar

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: 14

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. In addition to 3 short writing assignments, there will be a scaffolded capstone project through which emphasis will be placed on honing writing skills, including for different audiences, and there will be opportunities to revise and resubmit work. Students will receive from the instructor timely comments on their writing skills, with suggestions for improvement.

Attributes: ENVI Core Courses EVST Core Courses EVST Senior Practicum
ENVI 420 (S) Architecture and Sustainability in a Global World

Cross-listings: GBST 420  ARTH 420  ENVI 420  EXPR 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. Students will also travel to South Africa during Spring Break to participate in a township sustainability project. 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: seminar; with travel component

Requirements/Evaluation: response papers on class readings (2 pages), leading class discussions, spring break trip to South Africa, and final project/paper (15-20 pages) and presentation

Prerequisites: none, although a course in art/architectural history would be advantageous; registered students will also be required to submit an online application provided by the instructor before enrollment in the course is confirmed

Enrollment Limit: 6

Enrollment Preferences: Art History majors, Environmental Studies majors

Expected Class Size: 6

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

Materials/Lab Fee: travel funds will be provided by a Class of 1963 Sustainability development grant

Distributions: (D1)

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

Not offered current academic year

ENVI 421 (S) Latinx Ecologies

Cross-listings: ENVI 421  LATS 420

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 María 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.

Class Format: seminar

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:
ENVI 421 (D2) LATS 420 (D2)
Attributes: LATS 400-level Seminars

Spring 2020
SEM Section: 01  W 1:10 pm - 3:50 pm  Jacqueline Hidalgo

ENVI 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: seminar; 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
Not offered current academic year

ENVI 423 (F) Global Change Ecology
Cross-listings: BIOL 413  ENVI 423
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 organisinal 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: seminar; 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:
BIOL 413 (D3) ENVI 423 (D3)

Fall 2019
SEM Section: 01 TR 11:20 am - 12:35 pm Sonya K. Auer

ENVI 445 (F) World's End: Literary Ecologies of the Limit
Cross-listings: ENVI 445 ENGL 445
Secondary Cross-listing
Consciousness of the world's finitude 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; Marvell, "Upon Appleton House"; Ovid, Metamorphosis; Browne, Urn Burial; Titian, Wordsworth, McCarthy, The Road; Alice Oswald; photography (Struth, Hutte), video installations (Pipilotti Rist). Theoretical texts include: Nixon, Slow Violence; 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: seminar; combination discussion seminar and tutorial conferences
Requirements/Evaluation: one 5-page paper and one final 15-page paper
Prerequisites: none
Enrollment Limit: 15
Enrollment Preferences: English majors using the course to fulfill a requirement; Environmental Studies majors; Comparative Studies majors
Expected Class Size: 12
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 445 (D1) ENGL 445 (D1)
Attributes: ENGL Criticism Courses ENGL Literary Histories A PHIL Related Courses
Not offered current academic year

ENVI 478 (S) Cold War Landscapes
Cross-listings: HIST 478 ENVI 478 AMST 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.

Class Format: seminar

Requirements/Evaluation: evaluation will be based on 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:
HIST 478 (D2) ENVI 478 (D2) AMST 478 (D2)

Attributes: AMST Space and Place Electives HIST Group C Electives - Europe and Russia HIST Group F Electives - U.S. + Canada

Spring 2020

SEM Section: 01 W 1:10 pm - 3:50 pm Karen R. Merrill

ENVI 491 (S) 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: tutorial

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

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 HIST Group F Electives - U.S. + Canada

Not offered current academic year

ENVI 493 (F) Senior Research and Thesis: Environmental Studies
Environmental Studies senior research and thesis.

Class Format: independent study

Extra Info: 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 2019
HON Section: 01   TBA   Henry W. Art

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

Environmental Studies senior research and thesis.

Class Format: independent study

Extra Info: 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 2020
HON Section: 01   TBA   Henry W. Art