ENVIRONMENTAL STUDIES
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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 three curricular options in Environmental Studies—the major in Environmental Studies and the concentrations in Environmental and Maritime Studies—are designed to help majors and concentrators 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 Center, a Living Building and the Program's home, includes a classroom, living room, study rooms, kitchen, as well as student gardens. The CES manages the Hopkins Memorial Forest, a 2600-acre natural area 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. The Maritime Studies concentration builds on the course offerings of the Williams-Mystic Maritime Studies Program at Mystic Seaport.

The requirements for the environmental studies major and concentration have been revised. The requirements for students from the class of 2020 and subsequent classes are immediately below, followed by the requirements for the students from the class of 2019.

Overview of the Major and Concentrations for Classes of 2020 and Subsequent Classes

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 411, 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 senior year (or junior year under special circumstances), ENVI 411, Environmental Planning Workshop: Community-Based Environmental Problem Solving (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 ENVI 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, environmental chemistry, sustainable food and agriculture, sustainable cities, environmental ethics, etc. Students are responsible for designing their own specialization cluster in consultation with a faculty advisor and the CES Advisory Board 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).

The Environmental Studies concentration is a seven course concentration in which students gain broad exposure to environmental studies while pursuing another major. In addition to the core of ENVI 101, ENVI 102, ENVI 411 and ENVI 412. Students pursuing the concentration will take one elective each from each of three lists of courses, each list (see below) representing a broad category of inquiry: the natural world; humanities, arts, and social sciences; and environmental policy.

The Maritime Studies concentration is a seven course concentration that builds on course work completed during the Williams-Mystic Maritime Studies Program. In addition to four intermediate-level core courses completed at Williams-Mystic, students pursuing the Maritime Studies concentration will also take the interdisciplinary introductory course GEOS 104 (Oceanography), an elective, and ENVI 412, ENvironmental Studies Senior Seminar. Students may attend the Williams-Mystic Program in their sophomore, junior or senior year. Students who have completed other study-away programs that emphasize marine studies should consult with the program chair about the possibility of completing the Maritime Studies concentration.
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 proposals will be reviewed by the CES Advisory Board.

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

At this time, students are not allowed to place out of ENVI 101 or ENVI 102.

Planning for prerequisites on your path through the Environmental Studies major

While ENVI 101 or ENVI 102 are recommended starting points for the major, and are prerequisites for many other ENVI course offerings, please note that some of the course options for the major may have other courses as prerequisites that may not count toward the programs. For example, ENVI/ECON 213 (Intro to Environmental and Natural Resource Economics) has a prerequisite of ECON 110 (Principles of Microeconomics). We strongly suggest that you do advance planning to avoid being blocked from taking a relevant course. For example, should you want to design a cluster that emphasizes environmental economics, ENVI/ECON 387 (Economics of Climate Change) has a prerequisite of ECON 251 (Price and Allocation Theory), which in turn has a prerequisite of ECON 110. Similarly, should you design a cluster that emphasizes resource conservation, you should be aware that ENVI 312 (Communities and Ecosystems) has a prerequisite of ENVI/BIOL 203 (Ecology) or ENVI/BIOL 220 (Field Botany and Plant Natural History). Students interested in the program are encouraged to consult with members of the Environmental Studies Program and to contact the Environmental Studies Director or Associate Director.

Study Away

Many study away options are available to students in Environmental Studies, including the Williams-Mystic Maritime Studies Program. Furthermore, the Williams-Mystic Program is the foundation of the Maritime Studies concentration. Students considering either a semester or year away who intend to major or concentrate 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 or concentration, but must have advance approval in writing from the Chair of Environmental Studies.

Advising

Majors and concentrators (or first years and sophomores interested in the major or concentrations 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 or Maritime Studies for advice. All incoming majors and concentrators will choose a faculty advisor in the spring of their sophomore year.

Advisors for 2018-19: Ralph Bradburd, Henry Art, Sarah Gardner, Nicolas Howe, Pia Kohler, Laura Martin, Mea Cook, Luana Maroja, James Manigault-Bryant.

Overview of the Major and Concentrations for the Classes of 2019

The Environmental Studies major is an eleven course major. The major has a “core” of six courses, with varying amounts of choice for the various “core” course requirements. All majors are required to take two of the courses, ENVI 101 and ENVI 102. 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, 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 senior year (or junior year under special circumstances), one 400-level Environmental Studies capstone research practicum that involves either collaborative research on a specific environmental problem or client-driven team project on issues of environmental significance in the Berkshire region. Two such courses will be offered in the 2018-19 academic year: ENVI 411, Environmental Planning Workshop: Community-Based Environmental Problem Solving, and ENVI 412, Environmental Studies Senior Seminar. The remaining component of the “core” is comprised of three 200-level courses, one from each of three lists of courses, 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 six-course foundation, each ENVI major devises an individualized five-course cluster of electives that together comprise a disciplinary or thematic specialization sequence—for example, climate change policy, environmental justice, environmental chemistry, sustainable food and agriculture, sustainable cities, environmental ethics, etc. Students are responsible for designing their own specialization cluster in consultation with a faculty advisor and the CES Advisory Board in the spring semester of their sophomore year. One of these five electives in the cluster must be among those listed by the Program as a research methods course.

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).

The Environmental Studies concentration is a six course concentration in which students gain broad exposure to environmental studies while pursuing another major. In addition to the core of ENVI 101, ENVI 102, and one of the 400-level ENVI capstone practicum courses, students pursuing the concentration will take one elective each from each of three lists of courses, each list representing a broad category of inquiry: the natural world; humanities, arts, and social sciences; and environmental policy.

The Maritime Studies concentration is a seven course concentration that builds on course work completed during the Williams-Mystic Maritime Studies Program. In addition to four intermediate-level core courses completed at Williams-Mystic, students pursuing the Maritime Studies concentration will also take the interdisciplinary introductory course GEOS 104 (Oceanography), an elective, and one of the 400-level ENVI capstone practicum courses. Students may attend the Williams-Mystic Program in their sophomore, junior or senior year. Students who have completed other study-away programs that emphasize marine studies should consult with the program chair about the possibility of completing the Maritime Studies concentration.


HONORS IN ENVIRONMENTAL STUDIES (MAJOR OR CONCENTRATION)

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. Environmental Studies concentrators may undertake an honors thesis and submit it to both their major department and Environmental Studies; petitions for a joint honors project should be approved by the department chair and the Chair of Environmental Studies by the end of the junior year. Students 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.

HONORS IN MARITIME STUDIES

Candidates for honors in Maritime Studies will complete a thesis in their senior year. The project will involve original research (archive, museum, field, or laboratory) followed by on-campus analysis and write-up of results. The thesis may either be a one-semester plus winter study project, or a full year (two semesters plus winter study). In either case, data collection during the summer before the senior year may be necessary. In some cases, the thesis project may be a continuation and expansion of the student’s Williams-Mystic research project. Honors will be awarded if the thesis shows a high degree of scholarship, originality, and intellectual insight.

WINTER STUDY AND INDEPENDENT STUDY

In addition to courses fulfilling the environmental studies major and concentration requirements, the following courses are offered:

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

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.
THE MAJOR IN ENVIRONMENTAL STUDIES

The Environmental Studies major is an eleven course major, distributed according to the requirements detailed below. Because the ENVI curriculum was restructured, students in the class of 2019 have different requirements than those for the class of 2020 and subsequent classes. The requirements for the class of 2020 follow immediately below. Those for the class of 2019 are provided below those for the class of 2020.

For students in the class of 2020 and subsequent classes:

Introductory required courses (2 courses):

ENVI 101 Nature and Society: An Introduction to Environmental Studies
ENVI 102 Introduction to Environmental Science

200-level foundational courses required for all ENVI majors (3 courses, 1 from each category):

Culture/Humanities
ENVI 217 Landscape, Place, and Power (formerly Environmental Humanities: Theory and Practice)
or ENVI 244 Environmental Ethics
or ENVI 250 Environmental Justice
or ENVI 259 New England Environmental History

Social Science/Policy
ENVI/ECON 213 Introduction to Environmental and Natural Resource Economics (ECON 110 prerequisite)
or ENVI 270 Environmental Problems: Social Causes, Consequences and Policy Solutions
or ENVI/PSCI 283 Dirty Politics: Regulating Hazardous Chemicals and Wastes
or ENVI 307/PSCI 317 Environmental Law

Environmental Science (with lab)
ENVI 203 Ecology
or ENVI 205 Geomorphology
or ENVI 215 Climate Changes

Specialization (4-course) Cluster (including a “methods course” and in some cases one “living systems” 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 economics, environmental justice, environmental literature, environmental chemistry, environmental biology, environmental geosciences, environmental planning and design, urban environmental studies, water and energy, sustainable food and agriculture, environmental justice.

The student’s specialization sequence will be developed under guidance of an adviser from the CES faculty, and formally approved by the CES Advisory Board, 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.

One “methods course” requirement:

ENVI 214/GEOS 214 Geographic Information Systems
or STAT 201 Statistics and Data Analysis
or STAT 202 Introduction to Statistical Modeling
or ANSO 205 Ways of Knowing
or POEC 253 Empirical Methods in Political Economy
or ECON 255 Econometrics
or STAT 346 Regression and Forecasting
or CHEM 364/ENVI 364 Instrumental Methods of Analysis
or MATH 410/BIOL 214 Mathematical Ecology

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.

**One “living systems course” requirement:**

- BIOL 203/ENVI 203 Ecology
- BIOL 134/ENVI 134 The Tropics: Biology and Social Issues
- BIOL 220/ENVI 220 Field Botany and Plant Natural History
- BIOL 231/MAST 311 Marine Ecology
- GEOS 210/MAST 211 Oceanic Processes
- BIOL 302/ENVI 312 Communities and Ecosystems

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.

**Senior Seminar Requirement:**

In the senior year—or, under special circumstances during the junior year—students will take two 400-level seminars, ENVI 411 and ENVI 412, that together serve as a capstone experience for the major and concentrations. These courses are interdisciplinary, issue-based and project-driven. Offered every fall semester, the practicum Environmental Planning Workshop engages students in team-based work on community projects in the Berkshires involving urban and rural land use planning and sustainable design. Offered in the spring semester, the Senior Research Seminar engages students in research on a policy-related environmental problem.

**Required Courses (2 courses)**

- ENVI 411 Practicum: Environmental Planning Workshop: Community Based Environmental Problem Solving
- ENVI 412 Practicum: Senior Research Seminar

**CONCENTRATION IN ENVIRONMENTAL STUDIES**

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

**Required Courses (4 courses)**

- ENVI 101 Nature and Society: An Introduction to Environmental Studies
- ENVI 102 Introduction to Environmental Science
- ENVI 411 Practicum: Environmental Planning Workshop: Community Based Environmental Problem Solving
- ENVI 412 Practicum: Senior Research Seminar

**Distribution Courses (3 courses, 1 from each group)**
In order to earn the concentration a student must take one course from each of the following three groups. Courses may be counted both toward the concentration in Environmental Studies and toward a disciplinary major. (It is not possible to major in Environmental Studies while also concentrating in Environmental Studies).

Students may check with the Chair or Associate Director of Environmental Studies to see if other courses not listed here might count as electives, such arrangements must be approved in writing.

**The Natural World**

BIOL 134/ENVI 134 The Tropics: Biology and Social Issues
BIOL 203/ENVI 203 Ecology
BIOL 220/ENVI 220 Field Botany and Plant Natural History
BIOL 302/ENVI 312 Communities and Ecosystems
BIOL 422/ENVI 422 Ecology of Sustainable Agriculture
BIOL 424/ENVI 424 Conservation Biology
CHEM 341/ENVI 341 Toxicology and Cancer
CHEM 364/ENVI 364 Instrumental Methods of Analysis
ENVI 240T Conservation and Climate Change
GEOS 101/ENVI 105 The Co-Evolution of Earth and Life
GEOS 102 An Unfinished Planet
GEOS 103/ENVI 103 Global Warming and the Reshaping of Landscapes
GEOS 104/ENVI 104/MAST 104 Oceanography
GEOS 201/ENVI 205 Geomorphology
GEOS 205/ENVI 207 Earth Resources
GEOS 206/ENVI 206 Renewable Energy and the Sustainable Campus
GEOS 214/ENVI 214 Remote Sensing and Geographic Information Systems
GEOS 215/ENVI 215 Climate Changes
GEOS 226/ENVI 226/MAST 226 The Oceans and Climate
GEOS 254/ENVI 254 Gulf of California Tectonics and Coastal Ecosystems
GEOS 314/MAST 314/ENVI 314 Sediment Records of Climate Change
GEOS 324/ENVI 324 Coral and Sea Level
GEOS 405/ENVI 405 Geochemistry: Understanding Earth’s Environment
MAST 211/GEOS 210 Oceanographic Processes
MAST 311/BIOL 231 Marine Ecology
MATH 410/BIOL 214 Mathematical Ecology
PHYS 108/ENVI 108 Energy Science and Technology

**Humanities, Arts, and Social Sciences**

AFR 211/ENVI 211/SOC 211/AMST 211 Race and the Environment
ANTH 214/ENVI 224 The Rise and Fall of Civilizations
ANTH 272/WGSS 272 Sex and the Reproduction of Society
ANTH 332/ENVI 332/JLST 332/GBST 332 Environmental Justice
ARTS 329 Architectural Design II
ENGL 331 Romantic Culture
ENGL 378/ENVI 378 Nature/Writing
ENVI 110 The Anthropocene
ENVI 217 Landscape, Place, and Power (formerly Environmental Humanities: Theory and Practice)
ENVI 239/COMP 238 Introduction to Ecocriticism: North South Dialogues on Nature and Culture
ENVI 250 Environmental Justice
ENVI 252 Biodiversity and Climate Change
ENVI 259/HIST 259 New England Environmental History
ENVI 260 The Whale
ENVI 261 Animal Biocapital and the Politics of meat
ENVI 243/ANTH 243 Reimagining Rivers
ENVI 244T/PHIL 244T Environmental Ethics
ENVI 285/ENGL 286 Writing about Science and Nature
ENVI 291/REL 291/SOC 291 Religion and the American Environmental Imagination
ENVI 303/SOC 303 Cultures of Climate Change
ENVI 322 Trash
HIST 478/ENVI 478/AMST 478 Cold War Landscapes
HIST 491/ENVI 491/AMST 490 The Suburbs
LATS 220/AMST 221/ENVI 221 Introduction to Urban Studies: Shaping and Living the City
LATS 312/AMST 312/ENVI 313 Chicago
LATS 318/AMST 318/REL 318/COMP 328/ENVI 318 California: Myths, Peoples, Places
LATS 408/AMST 408 Envisioning Urban Life: Objects, Subjects, and Everyday People
MAST 231/ENGL 231 Literature of the Sea
MAST 352/HIST 352 America and the Sea, 1600 Present
PHIL 216/ENVI 216 Philosophy of Animals
PSCI 235/ENVI 235 Environmental Political Theory
PSCI 347 Law of the Sea
PSYC 346/ENVI 346 Environmental Psychology
REL 227/LATS 227/AMST 227/ENVI 227 Utopias and Americas
REL 287/ENVI 287 The Dynamics of Globalization: Society, Religion and the Environment
RLSP 223/ENVI 223/COMP 263 Colonial Landscapes: Latin America's Contemporary Environmental Literature
SOC 315 Culture, Consumption and Modernity
SOC 368 Technology and Modern Society

Environmental Policy
ANTH 210/ENVI 210/JLST 210 Governing Nature
ANTH 332/ENVI 332/JLST 332/GBST 332 Environmental Justice
ECON 213/ENVI 213 Introduction to Environmental and Natural Resources Economics
ECON 228/ENVI 228 Water as a Scarce Resource
ECON 238/ENVI 238 Sustainable Economic Growth
ECON 386/ENVI 386/ECON 518 Environmental Policy and Natural Resource Management
ECON 387/ECON 522/ENVI 387 Economics of Climate Change
ECON 388/ECON 517/ENVI 388 Urbanization and Development
ECON 465 Pollution and the Labor Market
ENGL 331 Romantic Culture
ENVI 244T Environmental Ethics
ENVI 248T "Our Response Will Define Our Future": Climate Change Policy Analysis
ENVI 270 Environmental Problems: Social Causes, Consequences and Policy Solutions
ENVI 283/PSCI 283 Dirty Politics: Regulating Hazardous Chemicals and Wastes
ENVI 307/PSCI 317 Environmental Law
ENVI 308 Science and Politics in Environmental Decision Making
ENVI 309/HSCI 309/SCST 309/PSCI 301 Environmental Politics and Policy
ENVI 328/PSCI 328 Global Environmental Politics
ENVI 329 Our Planet's Plastic Plight
MAST 351/ENVI 351/PSCI 319 Marine Policy
PSCI 229 Global Political Economy
PSCI 273/ENVI 273 Politics without Humans?
PSCI 347 Law of the Sea

CONCENTRATION IN MARITIME STUDIES

The Maritime Studies concentration provides students with an opportunity to explore how humans interact with the environment, including the maritime environment. Understanding the oceans and our interactions with them is of increasing importance in this era of climate change, sea-level rise, fisheries crises, and the internationalization of the high seas. We encourage students to investigate our WaterWorld from the perspectives of the humanities, social sciences, and physical sciences. Maritime Studies is an interdisciplinary, cross-divisional program that includes the literature, history, policy issues, and science of the ocean. Candidates for the concentration in Maritime Studies must complete a minimum of seven courses: the interdisciplinary introductory course (GEOS 104 Oceanography), four intermediate core courses (at Williams-Mystic), an elective, and the senior seminar.

Students who have completed other study-away programs that emphasize maritime studies should consult with the CES chair about the possibility of completing the Maritime Studies concentration

Required Courses (7 courses)

Introductory Course

MAST/ENVI/GEOS 104 Oceanography

Note: Students who take MAST 211/GEOS 210 (Oceanographic Processes) at Williams-Mystic can substitute an extra elective in lieu of GEOS 104

Capstone Course

One Practicum course:

ENVI/MAST 412 Practicum: Environmental Science and Policy

Core Courses (taken as part of Williams-Mystic program at Mystic Seaport):

MAST/ENGL 231 Literature of the Sea

MAST 311/BIOL 231 Marine Ecology OR MAST 211/GEOS 210 Oceanographic Processes
Elective Courses

Elective courses are listed based on either a clear maritime statement in the course description or broad practical/theoretical applicability to maritime studies. Concentrators will take a minimum of one course from the list below. If concentrators find other courses in the catalog that they believe meet the requirements for a MAST elective, they may bring them to the attention of the Chair or Associate Director.

Maritime History

- HIST 127 The Expansion of Europe
- HIST/AFR 248 The Caribbean: From Slavery to Independence
- HIST/JAPN/ASST 321 History of U.S.-Japan Relations
- HIST/ASST/INST 391 When India was the World: Trade, Travel and History in the Indian Ocean

Maritime Literature

- CLAS 101/COMP 107 The Trojan War

Marine Policy

- ECON/ENVI 213 Introduction to Environmental and Natural Resources Economics
- ECON/ENVI 386/ ECON 518 Environmental and Natural Resource Policy
- ENVI 307/PSCI 317 Environmental Law
- PSCI 223 International Law
- PSCI 229 Global Political Economy
- PSCI 347 Law of the Sea
- ENVI/PSCI 328 Global Environmental Politics

Marine Science

- BIOL 414 Life at Extremes: Molecular Mechanisms
- GEOS 212 / BIOL 211 Paleobiology
- GEOS/ENVI 215 Climate Changes
- GEOS/ENVI/MAST 226 The Oceans and Climate
- GEOS 302 Sedimentology
- GEOS/ENVI/MAST 314 Sediment Records of Climate Change

ENVI 12 (W) Geology of the National Parks

Crosslistings: ENVI12 / GEOS12

Secondary Crosslisting

A vicarious trip through a variety of national parks of the U.S. and Canada to appreciate the geological basis of their spectacular scenery. Areas 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 by the U.S. Geological Survey and by natural history associations linked to the parks. The second part of the month will involve independent 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 bibliography will be distributed by the presenter at the time
of the report.

**Class Format:** mornings

**Requirements/Evaluation:** final project

**Prerequisites:** none

**Enrollment Limit:** 10

**Enrollment Preferences:** preference to first-year students

**Materials/Lab Fee:** approximately $125 for books

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**ENVI 15 (W)  From Basalt to Balsam to Beavers: The Natural History of New England**

In this course we will explore, far and wide, the New England Landscape and try to make some sense of the amazing physiographic and biological diversity that it offers in a relatively small area. From the spruce clad Berkshires to the broad Connecticut River Valley to the glacially forged coastal plain, we will delve into various landscapes and decipher the primary forces and features that make them distinct--their bedrock and climate, glacial history, flora and fauna. We'll learn the predominant trees and shrubs and search for patterns to their occupation of the landscape. We will observe the behavior and evidence of winter-hardy wildlife--including chickadees, waterfowl, rabbits, weasels, beavers and coyotes. How do they manage to cope in their often rigorous and fickle environments and how might they be affected by climate change and other human influences? Through field trips, museum visits, individual investigations, readings, discussions and guest presentations, you'll become a little more aware and appreciative of the natural heritage of the region that you have made your recent home. Students should be prepared to spend significant time outdoors, sometimes hiking several miles, in winter conditions; some trips will require students to be away from campus beyond normal class hours.  Adjunct Instructor Bio: Drew Jones is Manager of Hopkins Memorial Forest where he oversees the management of the facilities, coordinates research and teaching activities and outreach programs for the public and local schools. He also operates an owl banding station in the fall and intermittently engages in other field research. In the past, he has worked as a wildlife biologist and educator from the Southern Appalachians to the North Woods.

**Class Format:** mornings; several class sessions off campus will likely last the entire day

**Requirements/Evaluation:** 2- to 3-page paper; final project

**Prerequisites:** none

**Enrollment Limit:** 10

**Enrollment Preferences:** students who demonstrate a special enthusiasm for this subject will be favored; all else being equal, seniors will receive special consideration

**Materials/Lab Fee:** $260 plus cost of books

**Distributions:** (D3)

**Attributes:** EXPE Experiential Education Courses

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**ENVI 18 (W)  Games!**

**Crosslistings:** ENVI18 / ECON18

**Secondary Crosslisting**

We will explore interactive games and how they can be used for scholarly research, teaching or training, negotiation, and, oh, yes, having fun. In math and economics, games are the fundamental way we model situations in which people (or firms or governments) interact with each other, and we use these games to predict responses to new policies, to teach policymakers how policies might work in practice, and to test theories of behavior. In negotiation and policy making, games can be used to identify key concepts about stakeholders, their positions, and their strategies, as well as pitfalls and paths to "win-win" outcomes to resolve public disputes. A number of popular board games and video games also can have similar applications. In our class, we will learn about different types of games and how they can be used. Short readings will be complemented with in-class game play and discussions of the games, and we will watch some relevant movies. Students will keep a journal of reflections on their experiences with
the games. The semester will culminate in students designing games of their own—negotiation games, economic games, mathematical games, or board games—and presenting them and playing them with the group.

**Class Format:** Tuesday, Wednesday & Thursday 1-4pm

**Requirements/Evaluation:** final project; game journal

**Prerequisites:** none

**Enrollment Limit:** 20

**Enrollment Preferences:** expressed interest

**Materials/Lab Fee:** none

**Attributes:** EXPE Experiential Education Courses

Winter 2019

LEC Section: 01  TBA  Sarah A. Jacobson,  Pia M. Kohler

**ENVI 19 (W) Methods in Environmental Chemistry**

**Crosslistings:** CHEM19 / ENVI19

**Secondary Crosslisting**

This course introduces students to the advanced techniques used to study the fate of contaminants in the environment. Students will collect samples, learn a variety of extraction protocols, and become comfortable using chemical instrumentation (GC-MS, LC-MS, AA, etc.) to identify and quantify target inorganic and organic contaminants from various environmental media (soil, air, water, and biota). Studies may include: determination of heavy metals from water and sediment sources, measurement of chemical partition coefficients (octanol-water, soil-water, air-water, etc.), rates of contaminant degradation, microscopic and chemical analysis of airborne particular matter, etc. This course will meet for approximately 10-12 hours each week for lectures, discussion of reading assignments, laboratory work, and field sampling.

**Requirements/Evaluation:** evaluation will be based on overall performance in the laboratory, three 2- to 3-page assignments

**Prerequisites:** CHEM 151 or CHEM 153 or CHEM 155 or ENVI 102

**Enrollment Limit:** 10

**Enrollment Preferences:** preference will be given to CHEM and/or ENVI majors/concentrators

**Materials/Lab Fee:** none

**Attributes:** EXPE Experiential Education Courses

Winter 2019

LEC Section: 01  TBA  Anthony J. Carrasquillo

**ENVI 20 (W) Winter Naturalist's Journal**

**Crosslistings:** ENVI20 / ENGL20

**Primary Crosslisting**

This course will engage with the natural world through writing, drawing, and personal observation. Students will spend time out of doors exploring the ecosystem of the Williamstown area, and indoors practicing reflective writing (both poetry and prose), and observational drawing. Everyone will be required to keep a nature journal, to be shared and displayed as part of the final project. This course is designed for students who are interested in environmental studies, creative writing, and drawing. Instructor will meet with students for 6 hours of in-class time, and will provide assignments totaling at least 15 hours a week, including daily visits to a chosen spot on campus for writing and observation. Students will be provided with a binder of articles and poems, which they will be expected to read and comment on. There will be at least one field trip. The class will conclude with a celebratory reading/showing of student work. Students will be required to keep a daily journal, and also to write in class. They will be asked to perfect and edit several of these pieces in place of a ten page paper, and to read from one or more of them at the final celebration.

**Class Format:** mornings

**Requirements/Evaluation:** daily journal and 2- to 3-page papers

**Prerequisites:** none
Enrollment Limit: 12
Enrollment Preferences: random selection
Materials/Lab Fee: $80 plus cost of books
Distributions: (D2)
Attributes: EXPE Experiential Education Courses

Winter 2019
LEC Section: 01 TBA Christian McEwen

ENVI 24 (W) Touring Black Religion in the 'New' South
Crosslistings: ENVI24 / AFR24 / REL24

Secondary Crosslisting
In February of 1927 anthropologist Franz Boas asked folklorist Zora Neale Hurston to identify an ideal location in which to study and collect data about "Negro culture in the South." Hurston's reply, without hesitation, was the central and gulf coast of Florida because she believed there, "it was possible for [her] to get a cross section of the Negro South in one state." Hurston traveled directly to Eatonville, the town she eventually claimed as her birth home, and for over a decade, utilized the information she collected as the backdrop to her fiction as well as her nonfiction explorations of Black religion. Taking Hurston's lead, this course will utilize Florida's gulf coast as the backdrop to exploring the diverse manifestations of modern black religious expression. Because of its diverse geographical, political structures, populations, and economy, Florida has historically been characterized as a "new South" with distinctive cultural expressions. With this history in mind, this course will address four critical questions: (1) What is Black religion?; (2) What are the distinctive aspects of southern expressions of Black Protestant religion; (3) How do Black communities see themselves in relation to broader social concerns? and (4) How, if at all, is religious expression in Florida unique? To answer these questions, we will travel to Florida's west coast and visit three different church communities to understand Black Protestant religion as currently expressed in the 'New South' including a small mainstream denominational church in Tallahassee Florida; a Pentecostal-Holiness church in St. Petersburg, Florida; and a mega-church in Eaton, Florida. In addition to learning about Black religion along the western coast of Florida through participant observation, students will visit and tour local historical sites significant to Black religious experiences, and will meet with local academics, archivists, and leaders. A 200-page course packet will contextualize the trip.

Class Format: travel
Requirements/Evaluation: based on an electronic field journal, participation in weekly colloquies, and an oral presentation
Prerequisites: none; not open to first-year students
Enrollment Limit: 8
Enrollment Preferences: majors and concentrators in Africana Studies, Religion, and Environmental Studies; students with a background in ethnographic methods; application essays and interviews
Materials/Lab Fee: cost to student: $3362
Attributes: EXPE Experiential Education Courses; TRVL Winter Study Travel Course

Winter 2019
TVL Section: 01 TBA Rhon S. Manigault-Bryant, James A. Manigault-Bryant

ENVI 25 (W) Sustainable Agriculture in California
Crosslistings: BIOL25 / ENVI25

Primary Crosslisting
This Winter Study Period course engages students with the diversity of agricultural practices in California on farms ranging from winter fruit and vegetable production, to orchards and vineyards, to livestock and dairy, to eggs along the Central Coast through hands-on experiences on a variety of farms. This is a Winter Study 2019 field course on Sustainable Agriculture in California, a field experience conducted primarily on-site for the month of January. For some participants, the WSP field course will segue from the seminar BIOL/ENVI 422--The Ecology of Sustainable Agriculture to be taught in Fall 2018 by H.W. Art. Preference for the WSP will be given to students who have previously taken BIOL 422. The WSP course will be limited to 8 students. This project is a replication of a WSP course HW Art taught in 2013 and again 2016, a travel WSP experiential course in which 7-8
students gained hands-on knowledge about agricultural systems by working on 8 farms and vineyards on the Central Coast of California. We concluded the month by participating in the Ecological Farming (EcoFarm) Conference. Sarah Gardner will be co-teaching the course with Prof. Art for pedagogical and practical reasons, including her experience in agriculture and her continuing this WSP periodically in the future. The learning-through-working experience is designed to both de-mystify and de-romanticize agriculture by having the students gain a fuller sense of the realities of producing food by working shoulder-to-shoulder with farmers and laborers. Art's previous experience is that the investments of time, labor, thought, and sweat by engaging in actual farming practice creates a depth of understanding not possible in the classroom. In addition to assigned texts, we also will be reading books individually and take turns reporting back to the group in the evenings, a bit like story-telling in the oral tradition. The final product will be a collaborative journal written by the class.

**Class Format:** travel

**Requirements/Evaluation:** 10-page paper; synthetic journal of field experiences to be produced by the group

**Prerequisites:** none, but see preferences for over-enrollment; not open to first-year students

**Enrollment Limit:** 8

**Enrollment Preferences:** preference to senior Biology and Environmental Studies majors/concentrators who have taken The Ecology of Sustainable Agriculture and/or other food and agriculture courses; then by essay

**Attributes:** EXPE Experiential Education Courses; TRVL Winter Study Travel Course

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### ENVI 26 (W) Material Culture and Craft of 19th Century Coastal New England

**Crosslistings:** ENVI26 / MAST25

**Secondary Crosslisting**

The goal in this course is to provide an opportunity for students to develop an intimate understanding of 19th century Mystic through lived experience. To appreciate a culture or a community so different from what we live and experience today, you must also understand the ways in which its residents shaped their world, specifically, the crafts they plied. There are few opportunities in life when this understanding can be delivered through lived experience. This will be one of them. Taking advantage of the extraordinary resources of Williams-Mystic, the coastal and ocean studies campus of Williams College located at the Mystic Seaport in Mystic, CT, this winter-study course, taught at Williams-Mystic, aims to: 1) provide rich hands-on participatory experiences that authentically mirror 19th century maritime craft and culture; and 2) offers learners a rare opportunity to delve deeply into the mindset of 19th century maritime culture by creating an authentic artifact that reflects understanding of the values and mores of this time period. There will be a number of instructors; including instructors employed by the Mystic Seaport in who specialize in chanteys, shipsmithing, ship Carving, scrimshaw, canvasesworks, and boatbuilding.

**Class Format:** Williams-Mystic

**Requirements/Evaluation:** performance-based evaluation using exemplars, experts and authentic audience; final paper or project

**Prerequisites:** none

**Enrollment Limit:** 12

**Enrollment Preferences:** by application

**Materials/Lab Fee:** $1,500

**Attributes:** EXPE Experiential Education Courses

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

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

**Class Format:** thesis

**Distributions:** (D2)
ENVI 99 (W) Independent Study: Environmental Studies
Open to upperclass students. Students interested in doing an independent project (99) during Winter Study must make prior arrangements with a faculty sponsor. The student and professor then complete the independent study proposal form available online. The deadline is typically in late September. Proposals are reviewed by the pertinent department and the Winter Study Committee. Students will be notified if their proposal is approved prior to the Winter Study registration period.

Class Format: independent study
Distributions: (D2)

ENVI 100 (S) Introduction to Weather and Climate
Crosslistings: GEOS100 / ENVI100
Secondary Crosslisting
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 oceans and glaciers interact with the climate. 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 learning how to run a climate model on a computer.

Class Format: lecture
Requirements/Evaluation: class participation, labs, one midterm and a final exam
Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option
Prerequisites: none
Enrollment Limit: 40
Enrollment Preferences: first-years and sophomores
Expected Class Size: 40
Distributions: (D3)
Attributes: EXPE Experiential Education Courses

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
Environmental Science is the study of how the global earth system functions within the context of its four distinct yet interconnected "spheres," the geosphere, atmosphere, hydrosphere, and biosphere. This course introduces students to scientific methods from physics, chemistry, geology and biology that are applied to understanding both how these spheres interact and how we as scientists can interpret and assess human impacts. Discussions are accompanied by in-depth examinations of real-world case studies at the local and global scale. Topics may include: anthropogenic carbon dioxide, the ozone hole, groundwater contamination, resource sustainability, and loss of biodiversity. In weekly fieldwork and laboratory sessions students collect and analyze environmental samples, and interpret and write about these datasets. In addition to these group projects, students design, complete and present independent projects on a topic of their choice.

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

Requirements/Evaluation: quizzes/exam, lab reports, independent project and presentation, participation in discussions
Prerequisites: none; no seniors without permission of the instructors
Enrollment Limit: 45
Enrollment Preferences: first-year students
Expected Class Size: 45
Department Notes: required course for Environmental Studies major and concentration
Distributions: (D3)
Attributes: ENVI Core Courses; EXPE Experiential Education Courses
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

Distributions: (D3)

Attributes: ENVI Natural World Electives; EXPE Experiential Education Courses; SCST Related Courses

Fall 2018

LEC Section: 01  MWF 11:00 am - 11:50 am  José A. Constantine
LAB Section: 02  M 1:00 pm - 3:00 pm  José A. Constantine
LAB Section: 03  W 1:00 pm - 3:00 pm  José A. Constantine

ENVI 104 (S) Oceanography

Crosslistings: MAST104 / ENVI104 / GEOS104

Secondary Crosslisting

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.

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

Extra Info: not available for the fifth course option

Prerequisites: none

Enrollment Limit: 48

Enrollment Preferences: first-year and sophomore students

Expected Class Size: 48

Distributions: (D3)

Attributes: ENVI Natural World Electives; EXPE Experiential Education Courses

Not offered current academic year

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

Crosslistings: GEOS101 / ENVI105

Secondary Crosslisting

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.

**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

**Distributions:** (D3)

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

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**Fall 2018**

**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)

**Crosslistings:** ENVI108 / PHYS108

**Secondary Crosslisting**

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

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

**Attributes:** ENVI Natural World Electives; SCST Related Courses

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**Fall 2018**

**LEC Section:** 01  MR 1:10 pm - 2:25 pm  Kevin M. Jones

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

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

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

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

Prerequisites: none

Enrollment Limit: 10

Enrollment Preferences: first years and sophomores

Expected Class Size: 10

Distributions: (D2) (WI)

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

Not offered current academic year

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

Crosslistings: BIOL134 / ENVI134

Secondary Crosslisting

Intended for the non-scientist, this course explores the biological dimensions of social issues in tropical societies, and focuses on specifically on the peoples and cultures 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 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.

Class Format: lecture/debate, three hours per week

Requirements/Evaluation: evaluation will be based on two hour exams, a short paper, panel preparation, and a final exam

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

Prerequisites: none

Enrollment Limit: 60

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

Expected Class Size: 60

Department Notes: does not count for major credit in Biology; does not satisfy the distribution requirement in the Biology major

Distributions: (D3)

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

Not offered current academic year

ENVI 203 (F) Ecology (QFR)

Crosslistings: BIOL203 / ENVI203

Secondary Crosslisting

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

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

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

Enrollment Limit: none

Expected Class Size: 35

Department Notes: satisfies the living system course requirement for the major in Environmental Studies; satisfies the distribution requirement in the Biology major

Distributions: (D3) (QFR)

Attributes: ENVI Natural World Electives; EVST Environmental Science; EVST Living Systems Courses;

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ENVI 205 (F) Geomorphology
Crosslistings: GEOS201 / ENVI205

Secondary Crosslisting

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

Distributions: (D3)

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

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ENVI 207 (F) Earth Resources
Crosslistings: ENVI207 / GEOS205

Secondary Crosslisting

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.

Class Format: lecture

Requirements/Evaluation: one hour exam, a final exam, lab exercises, and class participation

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

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

Enrollment Limit: 18

Enrollment Preferences: sophomores and Geosciences majors

Expected Class Size: 18

Distributions: (D3)

Attributes: ENVI Natural World Electives

Not offered current academic year

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

Crosslistings: COMP234 / ARAB209 / ENVI208

Secondary Crosslisting

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

Distributions: (D1) (DPE) (WI)

Distribution Notes: DPE: 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.

Spring 2019

SEM Section: 01    TR 9:55 am - 11:10 am     Brahim El Guabli

ENVI 211 (F) Race and the Environment

Crosslistings: AMST211 / ENVI211 / AFR211 / SOC211

Secondary Crosslisting

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

**Extra Info:** may not be taken on a pass/fail basis; not available for the fifth course option

**Prerequisites:** none

**Enrollment Limit:** 20

**Distributions:** (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

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

**Crosslistings:** ECON213 / ENVI213

**Secondary Crosslisting**

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:** sophomores if course is overenrolled

**Expected Class Size:** 30

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

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

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**Spring 2019**

**LEC Section: 01  MW 11:00 am - 12:15 pm Friday Org Mtg 11:00 am - 12:15 pm  James A. Manigault-Bryant**

**ENVI 214 (S) Mastering GIS**

**Crosslistings:** ENVI214 / GEOS214

**Secondary Crosslisting**

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.

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**Spring 2019**

**LEC Section: 01  MW 11:00 am - 12:15 pm  Sarah A. Jacobson**
ENVI 215 (F) Climate Changes

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
Distributions: (D3)
Attributes: ENVI Natural World Electives; EVST Environmental Science; EXPE Experiential Education Courses; MAST Interdepartmental Electives; SCST Related Courses

Spring 2019
LEC Section: 01    MW 11:00 am - 12:15 pm     José A. Constantine
LAB Section: 02    M 1:00 pm - 4:00 pm     José A. Constantine
LAB Section: 03    W 1:00 pm - 4:00 pm     José A. Constantine

ENVI 215 (F) Climate Changes
Crosslistings: GEOS215 / ENVI215
Secondary Crosslisting

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: based on weekly lab exercises, weekly quizzes, a research project, and a midterm and final exam
Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option
Prerequisites: at least one introductory course in BIOL, ENVI, or GEOS
Enrollment Limit: 24
Enrollment Preferences: Geosciences and Biology majors and Environmental Studies majors and concentrators
Expected Class Size: 24
Distributions: (D3)
Attributes: ENVI Natural World Electives; EVST Methods Courses; EXPE Experiential Education Courses

Fall 2018
LEC Section: 01    MWF 9:00 am - 9:50 am     Mea S. Cook
LAB Section: 02    W 1:00 pm - 4:00 pm     Mea S. Cook

ENVI 216 (S) Philosophy of Animals (WI)
Crosslistings: ENVI216 / PHIL216
Secondary Crosslisting

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
Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option
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
Department Notes: meets Contemporary Metaphysics & Epistemology requirement only if registration is under PHIL
Distributions: (D2) (WI)
Attributes: COGS Interdepartmental Electives; PHIL Contemp Metaphysics & Epistemology Courses;

ENVI 217 (F) Landscape, Place and Power
Crosslistings: ENVI217 / AMST216

Primary Crosslisting
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
Extra Info: may not be taken on a pass/fail basis
Prerequisites: ENVI 101 or permission of instructor
Enrollment Limit: 19
Expected Class Size: 15
Distributions: (D2)
Attributes: AMST Critical and Cultural Theory Electives; AMST Space and Place Electives; ENVI Humanities, Arts + Social Science Electives; EVST Culture/Humanities; SCST Related Courses

ENVI 218 (S) "Ecologismo": Literature, Culture and the Environment in Latin America (DPE)
Crosslistings: RLSP214 / ENVI218

Secondary Crosslisting
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

**Extra Info:** may not be taken on a pass/fail basis

**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

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

**Distribution Notes:** DPE: 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.

Spring 2019

SEM Section: 01    MWF 12:00 pm - 12:50 pm    Jennifer L. French

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

Crosslistings: ENVI219 / GEOS220

Secondary Crosslisting

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.

**Extra Info:** may not be taken on a pass/fail basis; not available for the fifth course option

**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

**Distributions:** (D3) (WI)

**Attributes:** ENVI Natural World Electives;

Not offered current academic year

**ENVI 220 (S) Field Botany and Plant Natural History**

Crosslistings: BIOL220 / ENVI220

Secondary Crosslisting
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 developments in plant systematics, characteristics of plant families, and cultural-economic uses of plants, especially native species. The labs cover field identification, natural history, and ecology of local species.

Class Format: lecture
Requirements/Evaluation: evaluation will be based on exams, field quizzes, field notebook and a class project
Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option
Prerequisites: none
Enrollment Limit: 30
Enrollment Preferences: seniors, Biology majors, and Environmental Studies majors & concentrators
Expected Class Size: 25
Department Notes: satisfies the distribution requirement in the Biology major
Distributions: (D3)
Attributes: ENVI Natural World Electives; EVST Living Systems Courses; EXPE Experiential Education Courses; PHLH Nutrition, Food Security + Environmental Health

Spring 2019
LEC Section: 01 MWF 9:00 am - 9:50 am Henry W. Art
LAB Section: 02 T 1:00 pm - 4:00 pm Henry W. Art
LAB Section: 03 W 1:00 pm - 4:00 pm Henry W. Art

ENVI 221 (F) Introduction to Urban Studies: Shaping and Living the City
Crosslistings: AMST221 / ENVI221 / LATS220

Secondary Crosslisting
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)
Extra Info: may not be taken on a pass/fail basis, not available for the fifth course option
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
Distributions: (D2)
Attributes: AMST Comp Studies in Race, Ethnicity, Diaspora; AMST Space and Place Electives; ASAM Related Courses; ENVI Humanities, Arts + Social Science Electives; EXPE Experiential Education Courses; GBST Urbanizing World Electives; LATS Core Electives
Not offered current academic year

ENVI 222 (F) Examining Inconvenient Truths: Climate Science meets U.S. Senate Politics (WI)
Crosslistings: ENVI222 / GEOS221
Secondary Crosslisting

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

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

Prerequisites: none

Enrollment Limit: 10

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

Expected Class Size: 10

Distributions: (D3) (WI)

Distribution Notes: WI: This course will involve significant writing in terms of weekly assignments.

Attributes: EXPE Experiential Education Courses;

Fall 2018

TUT Section: T1  TBA Thursday Org Mtg 8:30 pm - 9:00 pm  Alex A. Apotsos

ENVI 224 (F)  The Rise and Fall of Civilizations

Crosslistings: ENVI224 / ANTH214

Secondary Crosslisting

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

Extra Info: may not be taken on a pass/fail basis

Prerequisites: none

Enrollment Limit: 30

Expected Class Size: 25

Distributions: (D2)

Attributes: ENVI Humanities, Arts + Social Science Electives
**ENVI 225 (F) Sustainable Food & Agriculture (WI)**

Crosslistings: BIOL225 / ENVI225

**Secondary Crosslisting**

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.

**Extra Info:** may not be taken on a pass/fail basis; not available for the fifth course option

**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

**Department Notes:** satisfies the distribution requirement in the Biology major, the Natural World distributional requirement of the Environmental Studies program

**Distributions:** (D3) (WI)

**Distribution Notes:** WI: Each student will write five papers that deal with questions requiring extensive reading of primary resources. Paper presentations will alternate with serving as a critic of other student papers. Students will be given the opportunity to revise and rewrite two of the five papers in the week following their tutorial presentation thereby being able to respond to the criticism and discussion of the tutorial group.

**Attributes:** ENVI Natural World Electives;

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**ENVI 228 (F) Water as a Scarce Resource (WI)**

Crosslistings: ECON228 / ENVI228

**Secondary Crosslisting**

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

**Extra Info:** may not be taken on a pass/fail basis; not available for the fifth course option

**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

**Distributions:** (D2) (WI)

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

*Not offered current academic year*

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

Crosslistings: CLAS235 / COMP235 / ENVI232 / REL235

**Secondary Crosslisting**

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

**Extra Info:** may not be taken on a pass/fail basis

**Prerequisites:** none

**Enrollment Limit:** 20

**Enrollment Preferences:** Classics majors

**Expected Class Size:** 15

**Distributions:** (D1)

**Distribution Notes:** meets Division 1 requirement if registration is under CLAS, COMP or ENVI; meets Division 2 requirement if registration is under REL

Spring 2019

SEM Section: 01   MR 1:10 pm - 2:25 pm   Nicole G. Brown

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

Crosslistings: ECON204 / ENVI234

**Secondary Crosslisting**

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

**Extra Info:** may not be taken on a pass/fail basis; not available for the fifth course option

**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

Distributions: (D2) (DPE)

Distribution Notes: DPE: 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

Fall 2018
LEC Section: 01 MWF 8:30 am - 9:45 am Steven E. Nafziger

ENVI 235 (S) Survival and Resistance: Environmental Political Theory (WI)
Crosslistings: ENVI235 / PSCI235

Secondary Crosslisting

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

Distributions: (D2) (WI)

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

Spring 2019
SEM Section: 01 TF 1:10 pm - 2:25 pm Laura D. Ephraim

ENVI 236 (S) Demigods: Nature, Social Theory, and Visual Imagination in Art and Literature, Ancient to Modern
Crosslistings: ARTH236 / CLAS236 / ENVI236

Secondary Crosslisting

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, Dürrer, 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 andsentimental poetry," Nietzsche, Birth of Tragedy, Mallermé, "L'Après midi d'une faune," 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

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

Prerequisites: none

Enrollment Limit: 16

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

Expected Class Size: 12

Department Notes: pre-1600 undergraduate requirement

Distributions: (D1)

Attributes: ARTH pre-1600 Courses;
Not offered current academic year

ENVI 238 (F) Sustainable Economic Growth

Crosslistings: ECON238 / ENVI238

Secondary Crosslisting

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

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

Prerequisites: ECON 110 and ECON 120

Enrollment Limit: 30

Enrollment Preferences: potential or declared social science majors

Expected Class Size: 20

Distributions: (D2)

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

Fall 2018

LEC Section: 01    TR 9:55 am - 11:10 am    Gregory P. Casey

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

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
Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option
Prerequisites: ENVI101 or permission of the instructor
Enrollment Limit: 10
Enrollment Preferences: Environmental Studies majors and concentrators
Expected Class Size: 10
Distributions: (D2) (WI)
Distribution Notes: WI: Tutorial format
Attributes: ENVI Humanities, Arts + Social Science Electives; ENVI Natural World Electives; SCST Related Courses;

Fall 2018
TUT Section: T1 TBA Thursday Org Mtg 8:30 pm - 9:00 pm Laura J. Martin

ENVI 242 (S) The Country and the City in the Classical World
Crosslistings: ANTH242 / CLAS242 / ENVI242
Secondary Crosslisting
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)
Extra Info: may not be taken on a pass/fail basis
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
Distributions: (D1)
Distribution Notes: meets Division 1 requirement if registration is under CLAS or ENVI; meets Division 2 requirement if registration is under ANTH
Not offered current academic year

ENVI 243 (F) Reimagining Rivers
Crosslistings: ENVI243 / ANTH243
Primary Crosslisting
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 reimage 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

Extra Info: may not be taken on a pass/fail basis

Prerequisites: none

Enrollment Limit: 19

Enrollment Preferences: Environmental Studies majors and concentrators

Expected Class Size: 19

Distributions: (D2)

Attributes: ENVI Humanities, Arts + Social Science Electives

Class Format: tutorial

Requirements/Evaluation: one 5- to 7-page essay every other week (6 in all) and carefully prepared oral responses to partners' essays in alternate weeks; evaluation will be based on essays, oral critiques, and quality of discussion

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

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

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

Distributions: (D2) (WI)

Attributes: ENVI Environmental Policy; EVST Culture/Humanities; PHIL Contemporary Value Theory Courses; SCST Elective Courses;

Spring 2019

TUT Section: T1 TBA Julie A. Pedroni

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

Crosslistings: AMST247 / ENVI247 / LATS247 / REL247

Secondary Crosslisting

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," "sites," and "cites" 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: may not be taken on a pass/fail basis; not available for the fifth course option
Extra Info 2: course is part of the 2016-17 Climate Change Initiative
Prerequisites: none
Enrollment Limit: 25
Enrollment Preferences: none
Department Notes: religion: Elective Course
Distributions: (D2)
Attributes: AMST Comp Studies in Race, Ethnicity, Diaspora; ENVI Humanities, Arts + Social Science Electives; LATS Comparative Race + Ethnic Studies Electives

ENVI 248 (S) "Our Response Will Define Our Future": Climate Change Policy Analysis (WI)
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 5-7 page papers and 2 page responses (5 papers and 5 responses in total), final paper building on one of the 5-7 page papers
Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option
Prerequisites: none
Enrollment Limit: 10
Enrollment Preferences: 1. first-year students 2. second-year students 3. Environmental studies concentrators and majors
Expected Class Size: 10
Distributions: (D2) (WI)
Attributes: ENVI Environmental Policy;

Spring 2019
TUT Section: T1 TBA Pia M. Kohler

ENVI 250 (S) Environmental Justice (DPE)
Crosslistings: SCST250 / ENVI250
Primary Crosslisting

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

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

Prerequisites: ENVI101 or permission of the instructor

Enrollment Limit: 12

Enrollment Preferences: Environmental Studies concentrators

Expected Class Size: 10

Distributions: (D2) (DPE)

Distribution Notes: DPE: 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 2019

SEM Section: 01   W 1:10 pm - 3:50 pm   Laura J. Martin

ENVI 255 (F)  Environmental Observation

Crosslistings: ENVI255 / GEOS255

Secondary Crosslisting

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, LIDAR/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, biosphere, and erosion processes. Students will carry out a research project using observation techniques covered in class to explore a part of the local environment.

Class Format: lecture

Requirements/Evaluation: Labs, one midterm exam, and a final project

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

Prerequisites: at least one prior course in GEOS or ENVI

Enrollment Limit: 10

Enrollment Preferences: sophomores

Expected Class Size: 10

Distributions: (D3)

Attributes: ENVI Natural World Electives; EXPE Experiential Education Courses

Fall 2018

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

LAB Section: 02   T 1:00 pm - 4:00 pm   Alice C. Bradley
ENVI 259 (S) New England Environmental History

Crosslistings: HIST259 / ENVI259

Primary Crosslisting

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

Extra Info: may not be taken on a pass/fail basis

Prerequisites: ENVI 101 or permission of the instructor

Enrollment Limit: 19

Enrollment Preferences: Environmental Studies concentrators

Expected Class Size: 15

Distributions: (D2)

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

Spring 2019

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

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

Extra Info: may not be taken on a pass/fail basis

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

Distributions: (D2)

Attributes: ENVI Environmental Policy; EVST Social Science/Policy

Not offered current academic year

ENVI 273 (F) Politics without Humans?

Crosslistings: ENVI273 / SCST273 / PSCI273

Secondary Crosslisting

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: lecture/seminar

Requirements/Evaluation: class participation, three 6- to 8-page papers

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: 35

Expected Class Size: 15

Distributions: (D2)

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

Fall 2018

LEC Section: 01 Cancelled

ENVI 283 (F) Dirty Politics: Regulating Hazardous Chemicals and Wastes

Crosslistings: ENVI283 / PSCI283

Primary Crosslisting

Since consumers were first introduced to the promise of "better living through chemistry," society has had to wrestle with the impacts, often far removed in place and time, resulting from a rapid proliferation of hazardous chemicals and wastes. Policy responses, be they at the local, national or global scale, are often limited to reactionary efforts to counter releases into the environment, are constrained by the prevalent use of the technologies in question, and further bring to the fore key challenges of environmental justice and risk management. How then are we to regulate DDT without adversely affecting our fight against mosquito-borne malaria? How might we preserve the ozone layer while still maintaining the benefits of food preservation through refrigeration? How can we reap the benefits of the electronic age without 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

Distributions: (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

Fall 2018

SEM Section: 01 MR 1:10 pm - 2:25 pm Pia M. Kohler

ENVI 285 (S) Writing About Science and Nature (WI)

Crosslistings: ENVI285 / ENGL286

Primary Crosslisting

Over the last few decades, the nature of nature has changed and so, necessarily, has nature writing. In this course we will read essays and articles by
some of the most innovative science and nature writers working today. Students will also produce their 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

Requirements/Evaluation: short writing exercises and a long final project

Prerequisites: ENVI 101 or 102

Enrollment Limit: 15

Enrollment Preferences: Environmental Studies majors and concentrators

Expected Class Size: 15

Distributions: (D1) (WI)

Attributes: ENVI Humanities, Arts + Social Science Electives; SCST Related Courses;

Not offered current academic year

ENVI 291 (S) Religion and the American Environmental Imagination (WI)

Crosslistings: ENVI291 / REL291 / SOC291

Primary Crosslisting

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

Extra Info: may not be taken on a pass/fail basis

Prerequisites: ENVI 101 or permission of instructor

Enrollment Limit: 19

Enrollment Preferences: Environmental Studies majors and concentrators

Expected Class Size: 12

Distributions: (D2) (WI)

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

Not offered current academic year

ENVI 303 (S) Cultures of Climate Change (WI)

Crosslistings: ENVI303 / SOC303

Primary Crosslisting

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

Distributions: (D2) (WI)

Attributes: ENVI Humanities, Arts + Social Science Electives; SCST Related Courses;

Spring 2019

SEM Section: 01 TR 11:20 am - 12:35 pm Nicolas C. Howe

ENVI 307 (F) Environmental Law

Crosslistings: ENVI307 / PSCI317

Primary Crosslisting

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: based on several short writing assignments, a term research project, and active participation in class.

Extra Info: may not be taken on a pass/fail basis

Prerequisites: ENVI 101 or permission of instructor

Enrollment Limit: 25

Expected Class Size: 25

Department Notes: satisfies the "Environmental Policy" requirement for the Environmental Studies concentration

Distributions: (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; SCST Elective Courses

Fall 2018

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
ENVI 312 (F) Communities and Ecosystems (QFR)

Crosslistings: BIOL302 / ENVI312

Secondary Crosslisting

An advanced ecology course that examines how species interact with each other and their environment with a focus on conservation implications. 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 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 but will also include some laboratory microcosm experiments. 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

Department Notes: satisfies the distribution requirement in the Biology major

Distributions: (D3) (QFR)

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

Not offered current academic year

ENVI 313 (S) Chicago

Crosslistings: ENVI313 / AMST312 / LATS312

Secondary Crosslisting

"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)

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

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

Distributions: (D2)

Attributes: AMST Comp Studies in Race, Ethnicity, Diaspora; AMST Space and Place Electives; ENVI Humanities, Arts + Social Science Electives;
ENVI 318 (F)  California: Myths, Peoples, Places  (WI)
Crosslistings: AMST318 / ENVI318 / LATS318 / COMP328 / REL318

Secondary Crosslisting

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.”

Class Format: seminar

Requirements/Evaluation: this course will be mostly discussion oriented, with grading based upon participation, short writing exercises, one 3-page review essay with mandatory revision, one 5- to 8-page midterm review essay, and a final 10- to 15-page comparative review essay

Prerequisites: none

Enrollment Limit: 19

Enrollment Preferences: none

Expected Class Size: 15

Distributions: (D2) (WI)

Distribution Notes: meets Division 1 requirement if registration is under COMP; meets Division 2 requirement if registration is under LATS, AMST, ENVI or REL

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

Not offered current academic year

ENVI 322 (F)  Trash
Crosslistings: ANTH322 / ENVI322 / GBST322

Secondary Crosslisting

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.

Class Format: lecture/discussion

Requirements/Evaluation: regular posting of critical response papers and an ethnographic final project

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

Prerequisites: none

Enrollment Limit: 20

Enrollment Preferences: seniors and juniors

Expected Class Size: 20

Distributions: (D2)
ENVI 324 (S) Corals and Sea Level
Crosslistings: MAST324 / ENVI324 / GEOS324

Secondary Crosslisting

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

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

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

Distributions: (D3)

Attributes: ENVI Natural World Electives; EXPE Experiential Education Courses

Spring 2019
LEC Section: 01 TR 11:20 am - 12:35 pm Mea S. Cook
LAB Section: 02 R 1:00 pm - 4:00 pm Mea S. Cook

ENVI 328 (F) Global Environmental Politics (WI)
Crosslistings: ENVI328 / PSCI328

Primary Crosslisting

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

Extra Info: may not be taken on a pass/fail basis

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

Department Notes: satisfies the "Environmental Policy" requirement for the Environmental Studies concentration
ENVI 329 (S) Our Planet’s Plastic Plight
#stopsucking, #gotopless, #foodinthenude: these rallying calls to #rethinkplastic and ban plastic straws, coffee cups, and excessive food packaging are just the latest consumer-driven campaigns to combat the scourge of plastic proliferation. Indeed, over the past century, plastic has become ubiquitous in our societies. Durability, affordability and versatility, the very characteristics that explain this success, have heightened the pollution challenge we face today. Yet, we also rely on plastic for a variety of life-saving devices and implements. In this course, we will examine the chemistry and history of plastic and understand how its uses have impacted diverse systems including our oceans. As we undertake this semester-long lifecycle analysis of plastic in our daily lives, we will explore how additives, often toxic, complicate efforts to recycle plastic goods. We will also study international flows of this material, notably following China’s decision in 2017 to constrain its imports of plastics for recycling. Finally, we will evaluate novel efforts to regulate plastic from the local to the global scale.

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

Distribution Notes: No Divisional Credit

Attributes: ENVI Environmental Policy

Spring 2019

SEM Section: 01    TF 2:35 pm - 3:50 pm     Pia M. Kohler

ENVI 339 (F) Conservation Biology (QFR)

Crosslistings: BIOL329 / ENVI339

Secondary Crosslisting

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 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

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

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

Enrollment Limit: 24

Enrollment Preferences: biology majors, seniors, and juniors

Expected Class Size: 24

Department Notes: satisfies the distribution requirement for the Biology major

Distributions: (D3) (QFR)

Distribution Notes: QFR: 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.
ENVI 341 (S) Toxicology and Cancer

Crosslistings: ENVI341 / CHEM341

Secondary Crosslisting

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: evaluation is based on two hour tests, a class presentation and paper, participation in discussion sessions, a self-exploration of the current toxicological literature, and a final exam

Extra Info: may not be taken on a pass/fail basis

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

Enrollment Limit: 30

Expected Class Size: 24

Department Notes: satisfies the Natural World requirement for the Environmental studies concentration

Distributions: (D3)

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

Not offered current academic year

ENVI 346 (F) Environmental Psychology

Crosslistings: ENVI346 / PSYC346

Secondary Crosslisting

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
ENVI 351 (F) Marine Policy
Crosslistings: ENVI351 / PSCI319 / MAST351

Secondary Crosslisting
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
Department Notes: satisfies the Environmental Policy requirement for the Environmental studies concentration
Distributions: (D2)
Attributes: ENVI Environmental Policy; EXPE Experiential Education Courses; POEC International Political Economy Courses

Fall 2018
LEC Section: 01 TBA Catherine Robinson Hall
Spring 2019
LEC Section: 01 TBA Catherine Robinson Hall

ENVI 352 (S) After Nature: Writing About Science and The Environment (WI)
Crosslistings: ENGL351 / ENVI352

Primary Crosslisting
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
Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option
Prerequisites: ENVI 101 or 102 suggested
Enrollment Limit: 15
Enrollment Preferences: Environmental Studies majors
Expected Class Size: 15
Distributions: (D1) (WI)
Not offered current academic year

ENVI 364 (S) Instrumental Methods of Analysis
Crosslistings: ENVI364 / CHEM364

Secondary Crosslisting
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, laboratory work, and an independent project

**Extra Info:** may not be taken on a pass/fail basis; not available for the fifth course option

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

**Enrollment Limit:** 12

**Expected Class Size:** 12

**Distributions:** (D3)

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

Spring 2019

**LEC Section:** 01    TR 8:30 am - 9:45 am     Lee Y. Park
**LAB Section:** 02    M 1:00 pm - 5:00 pm

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

Crosslistings: ENVI368 / SOC368

Secondary Crosslisting

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

**Extra Info:** may not be taken on a pass/fail basis

**Prerequisites:** none

**Enrollment Limit:** 20

**Enrollment Preferences:** Anthropology and Sociology majors

**Expected Class Size:** 20

**Distributions:** (D2)

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

Not offered current academic year

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

Crosslistings: ECON477 / ENVI376

Secondary Crosslisting

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.
ENVI 378 (F) Nature/Writing
Crosslistings: ENGL378 / ENVI378

Secondary Crosslisting
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, 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
Distributions: (D1)
Attributes: AMST Space and Place Electives; ENVI Humanities, Arts + Social Science Electives
Not offered current academic year

ENVI 386 (S) Environmental and Natural Resource Policy (QFR)
Crosslistings: ECON386 / ENVI386 / ECON518

Secondary Crosslisting
Economic activity often damages the environment significantly, especially in developing countries. Firms may clear-cut valuable forests, while consumers may drive high-pollution vehicles with little thought for the environmental consequences. Economists have proposed a variety of policy remedies, from pollution taxes to tradable permit schemes and restrictions on the quantity of pollution. This course first examines the relative merits of these policies from a theoretical perspective. When pollution damage is uncertain, is it better to use a pollution tax or a quantity restriction? Is it worse to set a pollution tax too high than to set it too low? It then proceeds to the practical issues that attend policy implementation, particularly where state capacity is limited. What is the best policy when inspectors can be threatened or bribed? When resource extraction is hard to monitor? Case studies will likely include policies aimed at deforestation, mineral ownership and extraction, particulate air pollution from industry and transportation, and carbon emissions from electricity generation. In evaluating policies we will think about both efficiency and the distribution of costs and benefits. (What if environmental regulation only benefits the wealthiest people in a country?) We will also examine the environmental consequences of policies aimed at other problems, like poverty and low education.

Class Format: seminar
Requirements/Evaluation: problem sets, paper, brief presentation, a midterm, and a final exam
Prerequisites: ECON 251, familiarity with statistics
Enrollment Limit: 25
Enrollment Preferences: senior Economic majors and CDE fellows
Expected Class Size: 20
Department Notes: satisfies the Environmental Policy requirement for the Environmental studies concentration
Distributions: (D2) (QFR)
Attributes: ENVI Environmental Policy; MAST Interdepartmental Electives; POEC Comparative POEC/Public Policy Courses;

Not offered current academic year

ENVI 387 (S) Economics of Climate Change (QFR)
Crosslistings: ECON522 / ECON387 / ENVI387
Secondary Crosslisting
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
Distributions: (D2) (QFR)
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

Fall 2018
IND Section: 01 TBA Henry W. Art

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

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

Crosslistings: GEOS404 / ENVI404 / MAST404

**Secondary Crosslisting**

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 or permission of instructor

**Enrollment Limit:** none

**Expected Class Size:** 10

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

**Attributes:** ENVI Natural World Electives;

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

Crosslistings: ENVI405 / GEOS405

**Secondary Crosslisting**

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

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

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

Distributions: (D3)

Attributes: ENVI Natural World Electives

Not offered current academic year

ENVI 411 (F) Environmental planning workshop: community-based environmental problem solving

Crosslistings: ENVI411 / AMST302

Primary Crosslisting

This interdisciplinary, experiential workshop course introduces students to the field of planning through community-based projects. Environmental Planning encompasses many fields pertaining to the natural and built landscape such as city planning, sustainable design, natural resource planning, landscape design, agricultural planning, climate planning, transportation planning, and community development. Students will get out of the classroom and gain direct experience working on the planning process in the greater Berkshire region. The class is organized into two parts. Part 1 focuses on reading and discussion of the planning literature: history, theory, policy, ethics, and legal framework. Part 2 focuses on project work in which students apply the concepts learned to tackle an actual community problem. 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 research, interviews, survey research, mapping, and site design. 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 workshop 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, hands-on design, and team work. The class culminates in a public presentation of each team's planning study.

Class Format: seminar discussion/group workshop/project lab

Requirements/Evaluation: short written exercises, class discussion, class presentations, final group report

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

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

Department Notes: required course for Environmental Studies major and concentration

Distribution Notes: does not meet Division 1, 2, or 3 requirements

Attributes: AMST Space and Place Electives; ENVI Core Courses; EXPE Experiential Education Courses; SCST Related Courses

Fall 2018

SEM Section: 01    TR 11:20 am - 12:35 pm    Sarah Gardner
LAB Section: 02    T 1:00 pm - 4:00 pm    Sarah Gardner
LAB Section: 03    R 1:00 pm - 4:00 pm    Sarah Gardner

ENVI 412 (S) Senior Seminar: Perspectives on Environmental Studies (WI)
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:** evaluation is based on active participation, discussion leading, several smaller assignments and capstone project

**Extra Info:** may not be taken on a pass/fail basis; not available for the fifth course option

**Prerequisites:** ENVI 320 or MAST 351 Maritime Policy or permission of instructor

**Enrollment Limit:** 20

**Enrollment Preferences:** limited to senior Environmental Studies majors and concentrators and Maritime Studies concentrators

**Expected Class Size:** 20

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

**Distributions:** (WI)

**Distribution Notes:** does not meet Division 1, 2, or 3 requirements Each student in this course will complete a semester-long research project resulting in a final report of 20-25 pages. The project will proceed in phases, with significant pieces of writing due at regular intervals throughout the semester, and with multiple opportunities for revision and peer review. There will also be several short reading response papers during the first half of the semester.

**Attributes:** EVST Senior Practicum; SCST Elective Courses;

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Spring 2019

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

**ENVI 419 (F) Going to Ground: Considering Earth in the Arts of Africa** *(WI)*

**Crosslistings:** AFR419 / ARTH419 / ENVI419

**Secondary Crosslisting**

Drawing its inspiration from the landmark exhibition *Earth Matters: Land as Material and Metaphor in the Arts of Africa* (National Museum of African Art, 2013), this seminar explores how earth has been conceptualized and integrated into African artistic thought as material, metaphor, geography, environment, and intervention, and how this interpretive flexibility has allowed it to become a symbol of power and presence in African art-making from prehistory to the present. The seminar will also focus on the ways in which earth has been used in contemporary art towards addressing the growing problems of pollution, unsustainable development, and the widespread depletion of earth-based natural resources in Africa. Over the course of this seminar, students will develop a knowledge base of earth-related issues that have been addressed in African artistic production, and engage with various cross-disciplinary methodologies to critically analyze the conceptual and aesthetic strategies deployed in these works. Students will also have the opportunity to interact with specialists from diverse disciplines and fields towards fleshing out their knowledge base.

**Class Format:** seminar

**Requirements/Evaluation:** 2-page reading response papers, 2-page paper proposal, draft and final paper (15 pages) with presentation

**Extra Info:** may not be taken on a pass/fail basis; not available for the fifth course option

**Prerequisites:** some coursework in ARTH and/or AFR would be useful

**Enrollment Limit:** 19

**Enrollment Preferences:** seniors and majors

**Expected Class Size:** 19

**Distributions:** (D1) (WI)

**Distribution Notes:** meets Division 1 requirement if registration is under ARTH or ENVI; meets Division 2 requirement if registration is under AFR

**Attributes:** ARTH post-1600 Courses; GBST African Studies Electives;

Not offered current academic year
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

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

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

Enrollment Limit: 8

Enrollment Preferences: Art History majors, Environmental Studies majors

Expected Class Size: 8

Materials/Lab Fee: Travel funds will be provided by a Class of 1963 Sustainability Development Grant

Distributions: (D1) (WI)

Distribution Notes: meets Division 1 requirement if registration is under ARTH or ENVI or EXPR; meets Division 2 requirement if registration is under GBST

Spring 2019

ENVI 421 (F) Latinx Ecologies

Crosslistings: ENVI421 / LATS420

Secondary Crosslisting

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

Extra Info: may not be taken on a pass/fail basis

Prerequisites: none

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

Expected Class Size: 10

Distributions: (D2)

Attributes: LATS 400-level Seminars

Not offered current academic year

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: evaluation will be based on writing assignments, seminar presentation, and course participation

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

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

Department Notes: Satisfies the distribution requirement in Biology; the ENVS biology track; the Natural World distributional requirement of the Environmental Studies program

Distributions: (D3)

Attributes: ENVI Natural World Electives; PHLH Nutrition, Food Security + Environmental Health

Fall 2018

SEM Section: 01 Cancelled

ENVI 423 (S) Global Change Ecology (WI)

Crosslistings: BIOL413 / ENVI423

Secondary Crosslisting

Plants and animals are increasingly faced with rapid environmental change driven by human activities across the globe. How do they cope with challenges imposed by climate change, altered nutrient cycling, biological invasions, and increased urbanization? What are the impacts of organismal responses at the population and community level? This course uses an integrative approach to understand the impacts of global change at multiple levels of biological organization in both aquatic and terrestrial environments. We examine how global-scale environmental changes affect the distribution and abundance of species and alter community organization. We also consider the physiological and behavioral 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

Requirements/Evaluation: class participation and several short papers

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

Prerequisites: BIOL 203 or MAST 311 or BIOL 305 or permission of instructor

Enrollment Limit: 12

Enrollment Preferences: senior Biology majors who have not yet taken a 400-level course
ENVI 445 (F)  World's End: Literary Ecologies of the Limit
Crosslistings: ENVI445 / ENGL445
Secondary Crosslisting
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
Distributions: (D1)
Attributes: ENGL Criticism Courses; ENGL Literary Histories A; PHIL Related Courses

ENVI 478 (F)  Cold War Landscapes
Crosslistings: AMST478 / HIST478 / ENVI478
Secondary Crosslisting
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
ENVI 491 (S)  The Suburbs  (WI)

Secondary Crosslisting

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

Extra Info: may not be taken on a pass/fail basis; not available for the fifth course option

Prerequisites: none

Enrollment Limit: 10

Enrollment Preferences: History majors and students with previous coursework in History

Expected Class Size: 10

Distributions: (D2) (WI)

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

Spring 2019

TUT Section: T1  TBA  Karen R. Merrill

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

Fall 2018

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

Spring 2019

HON Section: 01 TBA Henry W. Art