

## **ENVIRONMENTAL STUDIES**

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Professor: R. BRADBURD. Assistant Professors: N. HOWE, P. KOHLER. Class of 1946 Visiting Distinguished Professor of Environmental Studies: E. KOLBERT. Class of 1946 Visiting Distinguished Professor of Environmental Studies: D. CASSUTO. Lecturer: S. GARDNER. Visiting Lecturer: A. APOTSOS. Mellon Postdoctoral Fellow in Environmental Studies: L. BELDO. Research Associates: R. BOLTON, VENOLIA.

Environmental Studies Advisory Committee: Professors: H. ART, R. BRADBURD, J. FRENCH. Associate Professors: M. COOK, J. MANIGAULT-BRYANT, L. MAROJA. Assistant Professors: N. HOWE, P. KOHLER. Lecturer: S. GARDNER.

Maritime Studies Advisory Committee: Professors: H. ART, R. BRADBURD, R. COX. Associate Professors: C. TING, L. GILBERT. Associate Dean: J. GERRY.

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**Note to students:** In the spring of 2016, the College approved a restructuring of the Environmental Studies curriculum. Under the previous curriculum, ENVI offered two different majors, Environmental Science and Environmental Policy, with three separate tracks in each, each with its own set of required courses and elective choices, as well as a Concentration in Environmental Studies. The new curriculum offers just one major, Environmental Studies (see below for a complete description), as well as a Concentration in Environmental Studies and a Concentration in Maritime Studies.

The Major: Students in the Class of 2017 who declared a *major* in either Environmental Science or Environmental Policy are “grandparented in” to the earlier curriculum. Students in the Class of 2018 who declared a *major* in Spring 2016 will pursue their major under the *new* curriculum, though students in this category who feel that this creates problems for them may request an accommodation from the Chair or Associate Director of Environmental Studies. Starting with the Class of 2019, students who wish to pursue a *major* will do so under the new curriculum.

The Concentrations: Students in the Class of 2017 who wish to pursue a *Concentration* in Environmental Studies or Maritime Studies may do so under the requirements of the previous curriculum. Students in the Class of 2018 who declared a *Concentration* in Environmental Studies or Maritime Studies in Spring 2016 will pursue their major under the *new* curriculum, though students in this category who feel that this creates problems for them may request an accommodation from the Chair or Associate Director of Environmental Studies. Starting with the Class of 2019, students who wish to pursue a *Concentration* will do so under the new curriculum.

Because there are some students whose requirements will be those of the new curriculum and some whose requirements are set by the earlier curriculum, we provide *both* versions of the curriculum, each with its own requirements, below. The description of the new curriculum is provided first; the description of the earlier curriculum follows.

## 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. The three curricular options in Environmental Studies—the major in Environmental Studies and the concentrations in Environmental and Maritime Studies—are designed to prepare students to effectively address these issues by integrating perspectives and methodologies from the natural sciences, the social sciences, and the arts and humanities.

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 Center 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.

### Overview of the Major and Concentrations for Classes of 2018 and Subsequent Classes

The Program in Environmental Studies offers three curricular options: students may pursue either a major in Environmental Studies or, alternatively, a concentration in Environmental Studies or Maritime Studies that complements a major in a different subject.

The *Environmental Studies major* is an eleven course major. The major has a “core” of six courses. All majors are required to take two of the courses, ENVI 101 and ENVI 102. ENVI 101, Nature and Society, 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 projects on issues of immediate environmental significance in the Berkshire region; we plan to offer students at least two such courses in each year between which to choose. 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 a 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.

### **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 five-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](http://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. Students who have received an AP score of 5 in Environmental Science or a grade of 6 or higher in the IB Environmental Science course may submit a petition to the Chair or Associate Director of Environmental Studies requesting credit for ENVI 102. The petition should include the syllabus, course materials, assignments, etc. for the course(s) that the student wishes to substitute for ENVI 102.

**Substituting laboratory science courses taken at Williams for ENVI 102:** Students who have taken two or more laboratory science courses at Williams in BIOL, CHEM, or GEOS may in some circumstances be excused from the requirement to take ENVI 102. Requests should be submitted to the Chair or Associate Director of Environmental Studies prior to the spring of the junior year.

**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 pre-requisite of ECON 110. Conversely, should you design a cluster that emphasizes resource conservation, 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 and 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. Up to two courses for the majors and three courses for the concentration may be taken outside of Williams. Approval for courses taken elsewhere must be granted in writing by the Chair of Environmental Studies.

**Advising:** Majors and concentrators (or those 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 2016-17: Ralph Bradburd, Sarah Gardner, Nicolas Howe, Pia Kohler, Mea Cook, Jennifer French, James Manigault-Bryant, Henry Art

### **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, need only complete a four-course specialization cluster. Honors will be awarded on the basis of the academic merit and originality demonstrated by the student in the completed thesis.

Because most 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 honors 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 work with 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.

Guidelines for the thesis proposal and the thesis process itself (including deadlines and requirements for progress reports and for presenting the final project) are available on the CES website.

## **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 they 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.

### **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 Environmental Humanities: Theory and Practice  
or ENVI 244 Environmental Ethics  
or ENVI 209 Ecologies of Place  
or ENVI 307 Environmental Law  
or ENVI 340 Climate Change Law

#### **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

#### **Environmental Science (with lab):**

ENVI 203 Ecology  
or ENVI 205 Geomorphology  
or ENVI 215 Climate Changes

### **Specialization (5-course) Cluster (including a "methods course" and 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 five 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 and choice of research practicum). 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 ENVI 239/COMP 238 Introduction to Ecocriticism: North-South Dialogues on Nature and Culture  
 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 Practicum (1 course chosen from the list below):**

In the senior year—or, under special circumstances during the spring semester of the junior year—the student will take a 400-level practicum that serves as a capstone experience for the major and concentrations. The student can choose among three courses, each of which focuses on a different domain of environmental problem-solving. 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-based projects in the Berkshires involving urban and rural land use planning and sustainable design. Offered every other spring in rotation with the Culture and Society Practicum, the Science and Policy Practicum engages students in broadly collaborative research on a policy-related theme at regional, national, and international scales. The Culture and Society Practicum engages students in broadly collaborative research on the cultural and social dimensions of a local, regional, or national environmental problem.

ENVI 302/411 Practicum: Environmental Planning Workshop  
 or ENVI 412 Practicum: Environmental Science and Policy  
 or ENVI 413 Practicum: Environmental Culture and Society

**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 six courses: three 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 (3 courses)**

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

**One from among the offered Environmental Research Practicum courses:**

ENVI 302/411 Practicum: Environmental Planning Workshop  
 ENVI 412 Practicum: Environmental Science and Policy  
 ENVI 413 Practicum: Environmental Culture and Society

**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  
 GEOS 101/ENVI 105 The Co-Evolution of Earth and Life  
 GEOS 102 An Unfinished Planet  
 GEOS 103/ENVI 103 Global Warming and Natural Disasters  
 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 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 209/ANTH 209/AMST 209 Ecologies of Place: Culture, Commodities and Everyday Life  
 ENVI 217/AMST 216 Environmental Humanities: Theory and Practice  
 ENVI 239/COMP 238 Introduction to Ecocriticism: North South Dialogues on Nature and Culture  
 ENVI 260: The Whale  
 ENVI 261: Animal Biocapital and the Politics of meat  
 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  
 HIST 478/ENVI 478/AMST 478 Cold War Landscapes  
 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  
 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 204/ENVI 234 Economics of Developing Countries  
 ECON 213/ENVI 213 Introduction to Environmental and Natural Resources Economics  
 ECON 215/GBST 315 International Trade, Globalization and Its Effects  
 ECON 228/ENVI 228 Water as a Scarce Resource  
 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 208 Science and Politics in Environmental Decision Making  
 ENVI 260 The Whale  
 ENVI 261 Animal Biocapital and the Politics of meat  
 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 340 Climate Change Law  
 ENVI 309/HSCI 309/SCST 309/PSCI 301 Environmental Politics and Policy  
 ENVI 328/PSCI 328 Global Environmental Politics  
 MAST 351/ENVI 351/PSCI 319 Marine Policy  
 PSCI 229 Global Political Economy  
 PSCI 273/ENVI 273 Politics without Humans?

### **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 302/MAST 411 Practicum: Environmental Planning Workshop

or ENVI/MAST 412 Practicum: Environmental Science and Policy

or ENVI/MAST 413 Practicum: Environmental Culture and Society

#### **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

MAST/ENVI 351/ PSCI 319 Marine Policy

MAST/HIST 352 America and the Sea, 1600-Present

#### **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

ENVI 260 The Whale

ECON/ENVI 386/ ECON 518 Environmental and Natural Resource Policy  
ENVI 307/PSCI 317 Environmental Law  
ENVI 340 Climate Change Law  
PSCI 223 International Law  
PSCI 229 Global Political Economy  
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

**For the Class of 2017 (or Class of 2018, with permission of the department), the requirements for the Environmental Policy Major, Environmental Science Major, and the Environmental Studies Concentration can be found [here](#).**

### **COURSES IN ENVIRONMENTAL STUDIES**

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

This course introduces environmental studies as an interdisciplinary field of learning. It will provide a survey of a broad range of environmental problems, cases, and questions, from climate change to sustainable agriculture, from toxic waste to species extinction. We will also examine the intellectual traditions, authors, and historical developments that have most profoundly shaped our understanding of these issues. Keeping a constant eye on the complexities of life in the twenty-first century, we will explore the many different theories and methods that inform environmental scholarship, activism, and policy-making in a variety of cultural arenas and across geographical scales. Along the way, we will read works by philosophers, economists, journalists, historians, sociologists, and many others.

**Class Format:** lecture/discussion

**Requirements/Evaluation:** participation, in-class exercises, several writing assignments and a midterm and final exam

**Extra Info:** each student will attend only one of the two Friday class meetings (these will emphasize discussion); students will be assigned to one of the two Friday sessions after the start of the semester

**Prerequisites:** none

**Enrollment Limit:** 35

**Expected Class Size:** 35

**Dept. Notes:** required course for students wishing to complete the Environmental Studies concentration

**Distributional Requirements:** Division 2

**Other Attributes:** AMST Space and Place Electives, ENVI Core Courses, ENVP Core Courses, ENVS Core Courses, GBST Urbanizing World Electives, SCST Elective Courses

*Fall 2016*

LEC Section: 01 TF 02:35 PM 03:50 PMF 11:00 AM 12:15 PM Instructor: Pia Kohler

LEC Section: 02 MR 01:10 PM 02:25 PM Instructor: Nicolas Howe

#### **ENVI 102(S) Introduction to Environmental Science**

Environmental science is the interdisciplinary study of the Earth's systems through the synthesis of physical, chemical, geological, and biological perspectives. This course introduces students to the scientific methods used to assess human impacts on the environment. This is important because with the human population expected to grow to more than nine billion people by 2050, we will continue to struggle to find ways to solve, or at least mitigate, the growing environmental consequences of our activities. In this course, we will take a problem-oriented approach to environmental science, focusing on five key questions: 1) *Do we have sufficient material resources for the future world population?* 2) *How can we feed our growing population?* 3) *How can this population maintain a clean environment?* 4) *Do we have sufficient sustainable energy resources for a growing population?* and 5) *How will this growing population change our planet?* Over the course of this semester, we will explore the science necessary to understand the underlying environmental systems involved and to develop effective scientific and policy solutions. We will also touch on how science can (and cannot) influence broader issues associated with complex environmental problems. Field and laboratory exercises will generate data that students will analyze, interpret and compare to historic data sets. Students will design and complete an independent project on an environmental science topic of their choice.

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

**Requirements/Evaluation:** lab reports; class participation; reaction papers; quizzes/exam; independent project presentation and paper

**Prerequisites:** none; no seniors without permission of the instructors

**Enrollment Preferences:** first-year students

**Enrollment Limit:** 30

**Expected Class Size:** 30

**Dept. Notes:** required course for majors in Environmental Policy & Environmental Science  
**Distributional Requirements:** Division 3  
**Other Attributes:** ENVP Core Courses, ENV5 Core Courses, EXPE Experiential Education Courses

*Spring 2017*

LEC Section: 01 TR 08:30 AM 09:45 AM Instructor: Alex Apotsos

LAB Section: 02 T 01:00 PM 04:00 PM Instructor: Alex Apotsos

LAB Section: 03 R 01:00 PM 04:00 PM Instructor: Alex Apotsos

### **ENVI 103(F) Global Warming and Natural Disasters**

**Crosslistings:** GEOS 103/ENVI 103

*Secondary Crosslisting*

The destruction caused by recent storms such as Irene and Sandy, devastation of prolonged drought in the African Sahel, catastrophic flooding and mudslides in SE Asia and sea level encroachment on the Alaska coast are visible examples of natural disasters that may be modulated by climate change. Global climate change, together with environmental degradation and the explosive growth of urban areas, has the potential to increase the severity and impact of natural disasters. In this course we globally examine geological and climatological processes that "set up" natural disasters such as hurricanes, floods, landslides, droughts, extreme temperatures, and coastal surges, as well as the processes that condition availability of water resources. We study in detail the causes and anticipated consequences of human alteration of global climate and its impact on the spectrum of natural hazards and resources. During laboratory sessions we use local field sites and computer models to analyze recent disasters/hazards, trends in weather and climate and options for mitigating future impacts.

**Class Format:** lectures, 3 hours per week; laboratory, 2 hours per week

**Requirements/Evaluation:** evaluation based on written reports from laboratories, class participation, two hour exams and a final exam

**Prerequisites:** none

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

**Enrollment Limit:** 40

**Expected Class Size:** 20

**Distributional Requirements:** Division 3

**Other Attributes:** ENVI Natural World Electives, ENV5 Group EB-B Electives, ENV5 Group EG-A Electives, SCST Related Courses

*Fall 2016*

LEC Section: 01 MWF 09:00 AM 09:50 AM Instructor: Alex Apotsos

LAB Section: 02 M 01:00 PM 03:00 PM Instructor: Jose Constantine

LAB Section: 03 W 01:00 PM 03:00 PM Instructor: Alex Apotsos

### **ENVI 104(S) Oceanography**

**Crosslistings:** GEOS 104/ENVI 104/MAST 104

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

**Prerequisites:** none

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

**Enrollment Limit:** 48

**Expected Class Size:** 48

**Distributional Requirements:** Division 3

**Other Attributes:** ENVI Natural World Electives, ENV5 Group EB-B Electives, ENV5 Group EG-A Electives, EXPE Experiential Education Courses

*Spring 2017*

LEC Section: 01 MWF 09:00 AM 09:50 AM Instructor: Mea Cook

LAB Section: 02 M 01:00 PM 03:00 PM Instructor: Mea Cook

LAB Section: 03 W 01:00 PM 03:00 PM Instructor: Mea Cook

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

**Crosslistings:** GEOS 101/ENVI 105

*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, a writing project, and a final exam

**Prerequisites:** none

**Enrollment Preferences:** underclassmen

**Enrollment Limit:** 30

**Expected Class Size:** 30

**Distributional Requirements:** Division 3

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-B Electives, ENVS Group EG-A Electives

*Fall 2016*

LEC Section: 01 MWF 10:00 AM 10:50 AM Instructor: Phoebe Cohen

LAB Section: 02 M 01:00 PM 03:00 PM Instructor: Phoebe Cohen

LAB Section: 03 T 01:00 PM 03:00 PM Instructor: Phoebe Cohen

### **ENVI 108(F) Energy Science and Technology (Q)**

**Crosslistings:** PHYS 108/ENVI 108

*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, except five Thursdays when the class will break into two conference sections

**Requirements/Evaluation:** evaluation will be based on weekly assignments, two hour tests, and a final project; all of these will be substantially quantitative

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

**Enrollment Limit:** 40

**Expected Class Size:** 40

**Distributional Requirements:** Division 3, Quantitative/Formal Reasoning

**Other Attributes:** ENVI Natural World Electives, SCST Related Courses

*Fall 2016*

LEC Section: 01 M 01:10 PM 02:25 PM Instructor: Jefferson Strait

CON Section: 02 R 01:10 PM 02:25 PM Instructor: Jefferson Strait

CON Section: 03 R 02:35 PM 03:50 PM Instructor: Jefferson Strait

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

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

**Class Format:** tutorial

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

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

**Prerequisites:** none

**Enrollment Preferences:** first years, sophomores and those with demonstrated interest in environmental studies

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Distributional Requirements:** Division 2, Writing Intensive

**Other Attributes:** AMST Space and Place Electives

*Spring 2017*

TUT Section: T1 TBA Instructor: Nicolas Howe

### **ENVI 112(S) Observing Writing (W)**

**Crosslistings:** GEOS 108/ENVI 112/COMP 109

*Secondary Crosslisting*

There are many ways to write stories about the planet that we live on. Beautiful ideas can be expressed in fiction, in journalism, and in formal scientific writing. In this course we will investigate the earth by reading about it, by writing about it, and by analysing the writings of others. We will think about the ways in which fiction can be true, how journalism can be both clear and correct, and how scientific articles can be made accessible and interesting. All these things are in the hands of the writer. We will focus on both the act of writing (writing about observations) and analysis of the writings of others (observations about writing). We will write in and about the natural world, thinking about how to do so in ways that are evocative, interesting, and true. And we will read the writings of others, asking ourselves whether and how the writers have succeeded in being evocative, interesting, and true.

**Class Format:** seminar

**Requirements/Evaluation:** continuous assessment of drafts and rewrites, and class participation

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

**Prerequisites:** a piece of writing should be submitted to instructor, describing the student's interests

**Enrollment Preferences:** first years, especially prospective Environmental Studies or Geoscience majors

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Distributional Requirements:** Division 3, Writing Intensive

*Spring 2017*

SEM Section: 01 TF 01:30 PM 03:45 PM Instructor: Ronadh Cox

### **ENVI 134 The Tropics: Biology and Social Issues (D)**

**Crosslistings:** BIOL 134/ENVI 134

*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. This course fulfills the EDI requirement. Through lectures, debates and readings, students confront social issues in the tropics from the perspective of biologist. This builds a framework for lifelong exploration of human diversity.

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

**Enrollment Limit:** 60

**Expected Class Size:** 60

**Dept. Notes:** does not count for major credit in Biology; does not satisfy the distribution requirement in the Biology major

**Distributional Requirements:** Division 3, Exploring Diversity

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-B Electives, EVST Living Systems Courses, GBST African Studies Electives, PHLH Biomedical Determinants of Health, SCST Elective Courses

*Not Offered Academic Year 2017*

LEC Instructor: David Smith

### **ENVI 203(F) Ecology (Q)**

**Crosslistings:** BIOL 203/ENVI 203

*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

**Dept. Notes:** required course for the majors in Environmental Policy & Environmental Science and Environmental Studies concentration; satisfies the distribution requirement in the Biology major

**Distributional Requirements:** Division 3, Quantitative/Formal Reasoning

**Other Attributes:** ENVI Core Courses, ENVI Natural World Electives, ENVP Core Courses, ENVS Core Courses, EVST Environmental Science, EVST Living Systems Courses

*Fall 2016*

LEC Section: 01 MWF 10:00 AM 10:50 AM Instructor: David Smith

LAB Section: 02 M 01:00 PM 04:00 PM Instructor: David Smith

LAB Section: 03 T 01:00 PM 04:00 PM Instructor: David Smith

### **ENVI 205(F) Geomorphology**

**Crosslistings:** GEOS 201/ENVI 205

*Secondary Crosslisting*

This course is designed for Geosciences majors and for environmental studies students interested in surficial geologic processes and their importance in shaping the physical environment. Geomorphology is the study of landforms, the processes that shape them and the rates at which surface processes change the landscape. This class emphasizes 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 landforms may be 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 stereo air photos.

**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

**Distributional Requirements:** Division 3

**Other Attributes:** AMST Space and Place Electives, ENVI Natural World Electives, ENVS Group EG-B Electives, EVST Environmental Science

*Fall 2016*

LEC Section: 01 TR 08:30 AM 09:45 AM Instructor: David Dethier

LAB Section: 02 T 01:00 PM 04:00 PM Instructor: David Dethier

### **ENVI 206(F) Renewable Energy and the Sustainable Campus**

**Crosslistings:** GEOS 206/ENVI 206

*Secondary Crosslisting*

Rising oil and electricity costs disrupt the economy and help fuel global insecurity. Extraction of fossil fuels degrades the environment. Clearer understanding of how fossil-fuel consumption contributes to global climate change is increasing the demand for renewable sources of energy and for more sustainable campus environments. What sources of energy will supply Williams College and nearby areas in the twenty-first century? How will campus buildings, old and new, continue to be attractive spaces while making far more efficient use of heat and light? How can the College's operations and purchasing become more sustainable? This course is a practical introduction to renewable sources of energy, including conservation, principles of sustainability, and to their application to the campus environment. Topics covered include: biological sources of energy (biomass, biogas, liquid fuels), wind energy, geothermal and solar energy, energy efficiency and the environmental impacts of using renewable energy. Lectures, field trips and individual projects emphasize examples from the campus and nearby area.

**Class Format:** seminar, three hours per week

**Requirements/Evaluation:** evaluation will be based on an hour exam, class participation that includes a seminar presentation, and a research project that investigates some aspect of campus energy use and greenhouse-gas emissions

**Enrollment Preferences:** sophomores

**Enrollment Limit:** 20

**Expected Class Size:** 20

**Distributional Requirements:** Division 3

**Other Attributes:** AMST Space and Place Electives, ENVI Natural World Electives, ENVS Group EG-C Electives, EXPE Experiential Education Courses

Fall 2016

LEC Section: 01 MWF 11:00 AM 12:15 PM Instructor: David Dethier

### **ENVI 207 Earth Resources**

**Crosslistings:** GEOS 205/ENVI 207

*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 Preferences:** sophomores and Geosciences majors

**Enrollment Limit:** 18

**Expected Class Size:** 18

**Distributional Requirements:** Division 3

**Other Attributes:** ENVI Natural World Electives, ENVS Group EG-C Electives

*Not Offered Academic Year 2017*

LEC Instructor: Ronadh Cox

### **ENVI 208 Science and Politics in Environmental Decision Making (D)**

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:** lecture/discussion with some role-play exercises

**Requirements/Evaluation:** several shorter writing assignments and a final project

**Prerequisites:** none

**Enrollment Limit:** 19

**Expected Class Size:** 15

**Dept. Notes:** satisfies the "policy elective" requirement of the Environmental Policy major and the "Environmental Policy" requirement of the Environmental Studies concentration

**Distributional Requirements:** Non-divisional, Exploring Diversity

**Other Attributes:** ENVI Environmental Policy, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, PHLH Nutrition, Food Security+Environmental Health, SCST Related Courses

*Not Offered Academic Year 2017*

LEC Instructor: Pia Kohler

### **ENVI 209 Ecologies of Place: Culture, Commodities and Everyday Life**

**Crosslistings:** ENVI 209/ANTH 209/AMST 209

*Primary Crosslisting*

This course will explore the environmental implications of everyday life in modern America. It will ask how cultural, political, economic, and ecological systems interact to produce ordinary places and vernacular landscapes, from campuses to cul-de-sacs, farms to forests, nation-states to national parks. Combining approaches from cultural geography, environmental history, and political ecology, it will focus on the hidden lives of "things"—the commodities and technologies that form the basic building blocks of place: food, oil, water, wood, machines. With strong emphasis on local-global relations, it will look beneath the surface of the ordinary to reveal the complex networks of power, meaning, and matter that connect "here" to "there," "now" to "then," and "us" to "them." In so doing, it will pursue parallel goals: to understand the socio-spatial processes shaping today's global environment; and to explore the cultural systems through which those processes are understood and contested. Topics will include the bottled water controversy, factory farming and local agriculture, the political economy of lawns, and the cultural politics of invasive species.

**Class Format:** lecture/discussion

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

**Prerequisites:** none; open to first-year students

**Enrollment Limit:** 20

**Expected Class Size:** 20

**Distributional Requirements:** Division 2

**Other Attributes:** AMST Critical and Cultural Theory Electives, AMST Space and Place Electives, ENVI Humanities, Arts + Social Science Electives, ENVP PE-B Group Electives, ENVP PTL-A Group Electives, ENVP SC Theory/Method Courses, ENVP SC-B Group Electives, EVST Culture/Humanities

*Not Offered Academic Year 2017*

LEC Instructor: Nicolas Howe

### **ENVI 211(S) Race and the Environment (D)**

**Crosslistings:** AFR 211/ENVI 211/SOC 211/AMST 211

*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

**Prerequisites:** none

**Enrollment Limit:** 20

**Distributional Requirements:** Division 2, Exploring Diversity

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

*Spring 2017*

LEC Section: 01 TR 09:55 AM 11:10 AM Instructor: James Manigault-Bryant

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

**Crosslistings:** ECON 213/ENVI 213

*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 Preferences:** sophomores if course is overenrolled

**Enrollment Limit:** 40

**Expected Class Size:** 30

**Distributional Requirements:** Division 2, Quantitative/Formal Reasoning

**Other Attributes:** ENVI Environmental Policy, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, EVST Social Science/Policy, MAST Interdepartmental Electives, POEC Comparative POEC/Public Policy Courses

*Spring 2017*

LEC Section: 01 MW 11:00 AM 12:15 PM Instructor: Sarah Jacobson

### **ENVI 214(S) Remote Sensing and Geographic Information Systems**

**Crosslistings:** GEOS 214/ENVI 214

*Secondary Crosslisting*

This class provides a practical look at fast-evolving methods used to integrate information about the Earth's surface with spatial data collected by disciplines such as archaeology, economics, the field sciences, history and political science. Remote sensing involves collection and processing of data from satellite and airborne sensors to yield environmental information about the Earth's surface and lower atmosphere. Remote sensing allows regional mapping of rock materials, analysis of vegetation cover and measurement of urban areas and land-use change over time. A Geographic Information System (GIS) links satellite-based environmental measurements with spatial data such as topography, transportation networks, and political boundaries, allowing display and quantitative analysis at the same scale using the same geographic reference. This course covers concepts of remote-data capture and geographic rectification using a Global Positioning System (GPS), as well as principles of remote sensing, including linear and non-linear image enhancements, convolution filtering, and image classification. Principles of GIS include display and classification, spatial buffers, logical overlays and techniques of spatial analysis. Weekly labs focus on training in the application of techniques using data from the region and other areas of North America.

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

**Requirements/Evaluation:** based on weekly lab exercises, two take-home exams 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 introductory course in BIOL, ENVI, or GEOS

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

**Enrollment Limit:** 15

**Expected Class Size:** 15

**Distributional Requirements:** Division 3

**Other Attributes:** ENVI Natural World Electives, ENVS Group EG-C Electives, ENVS Methods Courses, EXPE Experiential Education Courses

*Spring 2017*

LEC Section: 01 MW 11:00 AM 12:15 PM Instructor: Jose Constantine

LAB Section: 02 M 01:00 PM 04:00 PM Instructor: Jose Constantine

### **ENVI 215(S) Climate Changes (Q)**

**Crosslistings:** GEOS 215/ENVI 215

*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 insolation, 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.

Laboratory exercises and problem sets will emphasize developing problem solving skills and using quantitative analyses to assess if a given explanation is possible and reasonable. These exercises will include developing and applying numerical models of the radiative balance of earth and the carbon cycle.

**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 Preferences:** Geosciences majors

**Enrollment Limit:** 20

**Expected Class Size:** 20

**Distributional Requirements:** Division 3, Quantitative/Formal Reasoning

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-B Electives, ENVS Group EG-B Electives, EVST Environmental Science, MAST Interdepartmental Electives, SCST Related Courses

*Spring 2017*

LEC Section: 01 TR 08:30 AM 09:45 AM Instructor: Mea Cook

LAB Section: 02 T 01:00 PM 04:00 PM Instructor: Mea Cook

### **ENVI 216 Philosophy of Animals (W)**

**Crosslistings:** PHIL 216/ENVI 216

*Secondary Crosslisting*

This course will investigate the mental lives of non-human animals. Throughout we will aim to fuse a rigorous scientific perspective with more humanistic themes and moral inquiry. Topics will include animal minds and cognition, empathy and evolution, the history of domestication, animal rights, cross-cultural views on animals, arguments against and for vegetarianism and veganism, and pets and happiness.

**Class Format:** seminar

**Requirements/Evaluation:** four 4- to 6-page papers and one 10- to 12-page final paper

**Prerequisites:** none

**Enrollment Preferences:** students with at least one previous philosophy course

**Enrollment Limit:** 19

**Expected Class Size:** 19

**Dept. Notes:** meets Contemporary Metaphysics & Epistemology requirement only if registration is under PHIL

**Distributional Requirements:** Division 2, Writing Intensive

**Other Attributes:** COGS Interdepartmental Electives, ENVI Humanities, Arts + Social Science Electives, ENVP SC-A Group Electives, ENVP SC-B Group Electives, PHIL Contemp Metaphysics & Epistemology Courses

*Not Offered Academic Year 2017*

SEM Instructor: Joseph Cruz

### **ENVI 217(S) Environmental Humanities: Theory and Practice (D)**

**Crosslistings:** ENVI 217/AMST 216

### *Primary Crosslisting*

How does culture shape our use and imagination of the physical environment? And how does the physical environment shape culture in turn? These are the central questions of the environmental humanities. 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 land and landscape in the Americas from the time of European colonization to the present, it will examine key works from fields such as environmental history, ecocriticism, environmental philosophy, and cultural geography, and it will survey the major methodological and theoretical commitments that unite these fields. Emphasis will be placed on the ideological critique of modernity. How have scholars made environmental sense of liberalism, colonialism, capitalism, nationalism, sexism, racism, and speciesism? How have these "isms" influenced our relations with the natural world, and how can the humanities help us both understand and change these relations for the better?

This course fulfills the Exploring Diversity requirement.

**Class Format:** lecture/discussion

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

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

**Enrollment Limit:** 19

**Expected Class Size:** 15

**Distributional Requirements:** Division 2, Exploring Diversity

**Other Attributes:** AMST Critical and Cultural Theory Electives, AMST Space and Place Electives, ENVI Humanities, Arts + Social Science Electives, ENVP SC Theory/Method Courses, EVST Culture/Humanities, SCST Related Courses

*Spring 2017*

LEC Section: 01 TR 09:55 AM 11:10 AM Instructor: Nicolas Howe

### **ENVI 218 "Ecologismo": Literature, Culture and the Environment in Latin America (D)**

**Crosslistings:** RLSP 214/ENVI 218

#### *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 US 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. This course satisfies the EDI requirement because it 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. We will also explore some of the ways that contemporary artists and intellectuals attempt to revise forms of subjectivity understood as characteristically Western and modern through creative cultural engagement with Amerindian knowledge and forms of expression.

**Class Format:** seminar

**Requirements/Evaluation:** evaluation based on three 5- to 7-page essays, reaction papers, oral presentations, active and informed class participation

**Prerequisites:** RLSP 105, or RLSP 200, or results of Williams College Placement Exam, or permission of instructor

**Enrollment Preferences:** Spanish majors, Envi majors and concentrators

**Enrollment Limit:** 20

**Expected Class Size:** 15

**Distributional Requirements:** Division 1, Exploring Diversity

*Not Offered Academic Year 2017*

SEM Instructor: Jennifer French

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

**Crosslistings:** BIOL 220/ENVI 220

#### *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 and revolutionary developments in plant systematics and phylogeny, and characteristics of plant families and cultural and economic uses of plants, 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 Preferences:** seniors, Biology majors, and Environmental Studies majors & concentrators

**Enrollment Limit:** 40

**Expected Class Size:** 25

**Dept. Notes:** satisfies the distribution requirement in the Biology major

**Distributional Requirements:** Division 3

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-B Electives, EVST Living Systems Courses, EXPE Experiential Education Courses, PHLH Nutrition, Food Security+Environmental Health

*Spring 2017*

LEC Section: 01 MWF 09:00 AM 09:50 AM Instructor: Joan Edwards

LAB Section: 02 T 01:00 PM 04:00 PM Instructor: Joan Edwards

LAB Section: 03 W 01:00 PM 04:00 PM Instructor: Joan Edwards

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

**Crosslistings:** LATS 220/AMST 221/ENVI 221

#### *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 (5-7 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 Preferences:** first and second year students as well as American Studies majors and Latina/o Studies concentrators

**Enrollment Limit:** 20

**Expected Class Size:** 20

**Distributional Requirements:** Division 2

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

*Fall 2016*

LEC Section: 01 TR 08:30 AM 09:45 AM Instructor: Merida Rua

### **ENVI 223T Colonial Landscapes: Latin America's Contemporary Environmental Literature (D) (W)**

**Crosslistings:** RLSP 223/ENVI 223/COMP 263

#### *Secondary Crosslisting*

"It is not by coincidence that our societies are both racist and anti-ecological," wrote the Chilean sociologist Fernando Mires in his now-classic study, *The Discourse of Nature*. This tutorial explores works of contemporary literature that implicitly and explicitly link Latin America's ongoing environmental crisis to the region's long and multi-layered history of colonialism: novels by Sylvia Iparraguirre (Argentina), Mayra Montero (Puerto Rico), Giaconda Belli (Nicaragua), Luis Sepúlveda (Chile); poetry by Homero Aridjis (México); essays by Octavio Paz (Mexico), Eduardo Viveiros de Castro (Brazil), and more. Representing a wide variety of geographies, literary styles and ideological perspectives, these writers nevertheless converge in challenging us to consider the effects of environmental crisis within structures of power that are radically unequal at the local, national, and global levels; and to recognize that consciousness of environmental vulnerability can prompt new forms of inclusion and community as well as exclusion. Topics to be explored also include the role of indigenous cosmologies in contemporary environmental politics, the place of urban ecologies within the environmental imaginary, and the ongoing debates among academic critics and others regarding the scope and methodologies of ecocriticism as an approach to Latin American literature.

Students have the option of tutorial in Spanish or in English; partners will be assigned accordingly. Each tutorial pair will meet with me for one hour during the week, during which time we will discuss a 5-page paper that one of the partners has submitted the night before. This adds up to a substantial amount of (reading and) writing for each student in the course, i.e., six 5-page essays over the course of the semester. This tutorial meets the goals of the Exploring Diversity Initiative by challenging students to position themselves, intellectually and imaginatively, in the space of those excluded from modernity's material benefits as they struggle to brace themselves against its catastrophic environmental effects.

**Class Format:** tutorial

**Requirements/Evaluation:** each tutorial pair will meet with me for one hour during the week, during which time we will discuss a 5-page paper that one of the partners has submitted the night before

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

**Prerequisites:** RLSP 105, or RLSP 200, or results of Williams College Placement Exam, or permission of instructor

**Enrollment Preferences:** students majoring in Spanish or Environmental Studies

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Distributional Requirements:** Division 1, Exploring Diversity, Writing Intensive

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

*Not Offered Academic Year 2017*

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

**Crosslistings:** ANTH 214/ENVI 224

*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

**Prerequisites:** none

**Enrollment Limit:** 30

**Expected Class Size:** 25

**Distributional Requirements:** Division 2

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

*Fall 2016*

LEC Section: 01 TF 02:35 PM 03:50 PM Instructor: Antonia Foias

### **ENVI 225(F) Natural History of the Berkshires: Stone Hill (W)**

**Crosslistings:** BIOL 225/ENVI 225

*Secondary Crosslisting*

This field-seminar course examines the rich diversity of upland and wetland communities located within walking distance of the Williams College Campus in general and on Stone Hill in particular. The course will utilize the Summer/Fall 2016 exhibition *Sensing Place: The Nature of Stone Hill* that will be hosted by the Clark Art Institute at the Lunder Center on Stone Hill and co-curated by the instructor. Seminars/discussions/field exercises will focus on the biological, geological, climatological, and historical underpinnings needed to observe, interpret, and analyze the biological communities of this place. The field lab investigations will engage students in reading the landscape, field identification of indicator species, natural history, and using historical documents and textural materials. On a weekly basis, students will write response papers that integrate field observations and experiences with reading assignments. Students will also undertake a longitudinal study of a specific site on Stone Hill and write entries in a field journal on a weekly basis. These entries will serve as the foundation for a final research project report on the specific site.

**Class Format:** seminar / field laboratory, three hours per week

**Requirements/Evaluation:** based on field journal entries, field trip / reading responses, one hour exam, class presentations, and a final project

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

**Prerequisites:** none

**Enrollment Preferences:** seniors, Biology majors, and Environmental Studies majors and concentrators

**Enrollment Limit:** 12

**Expected Class Size:** 10

**Dept. Notes:** satisfies the distribution requirement in the Biology major

**Distributional Requirements:** Division 3, Writing Intensive

**Other Attributes:** AMST Space and Place Electives, ENVI Natural World Electives, ENVS Group EB-B Electives

*Fall 2016*

SEM Section: 01 W 01:10 PM 03:50 PM Instructor: Henry Art

### **ENVI 226T The Oceans and Climate (W)**

**Crosslistings:** GEOS 226/ENVI 226/MAST 226

*Secondary Crosslisting*

The oceans are a fundamental part of Earth's climate system. Ocean currents redistribute heat and water vapor around the globe, controlling temperature and precipitation patterns. Marine phytoplankton blooms and air-sea gas exchange modulate the atmospheric carbon dioxide concentration. The dynamic interaction of the atmosphere and the sea surface results in multi-year climate variations such as the El Niño-Southern Oscillation. This course will examine gradual and abrupt climate shifts from Earth's history and the ocean's role in driving, amplifying or dampening the changes, the ocean's response to anthropogenic greenhouse gas emissions, and the projected impacts of continued emissions and climate change on the ocean in the coming decades and millennia. We will analyze articles from the scientific literature that lay out the theory on the ocean's influence on climate, reconstruct past climate and ocean changes, test the mechanisms responsible for those changes, and with that knowledge, project the consequences of continued anthropogenic greenhouse gas emissions. Topics may include the climate effects of opening and closing seaways with plate tectonics, ocean feedbacks that amplify the intensity of ice ages, the instability of ocean circulation during ice-sheet retreat, the evolution of the El Niño-Southern Oscillation with changing carbon dioxide through the geologic past and the next century, ocean heat and carbon dioxide uptake during the last century and into the future, and the impact on sea level, seafloor methane reservoirs, ocean acidification, oxygenation and marine ecosystems.

**Class Format:** tutorial

**Requirements/Evaluation:** each student will write five 5-page position papers; evaluation based on the critical analysis of reading from the scientific literature through writing and discussion

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

**Prerequisites:** GEOS 104, GEOS 210 or permission of instructor

**Enrollment Preferences:** sophomores and juniors

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Distributional Requirements:** Division 3, Writing Intensive

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-B Electives, ENVS Group EG-B Electives, ENVS Group EG-C Electives, MAST Interdepartmental Electives, SCST Related Courses

*Not Offered Academic Year 2017*

TUT Instructor: Mea Cook

### **ENVI 227 Utopias and Americas**

**Crosslistings:** REL 227/LATS 227/AMST 227/ENVI 227

*Secondary Crosslisting*

Where does the term "new world" come from? What do we mean by "utopia," "utopian," and "utopianism?" What relationships exist between the people who imagine utopias and the lands they inhabit? This course considers the relationship between utopian imaginations and the imaginations of the lands and peoples in the Western hemisphere. We will spend some time studying utopian theory, ancient proto-utopias, and utopias in Latin America, though our main focus will be on particular examples of utopianism in the U.S.A. We will attend to particular instances of utopian social dreaming that re-imagine time, space, environment, gender, family, education, and power. While the U.S.A. is the main focus of the class, students are encouraged to pursue and bring to class utopian perspectives from other parts of the Americas. Students are also strongly encouraged to take questions from class and engage utopian images not listed on this syllabus but pertinent to our classroom learning.

**Class Format:** seminar

**Requirements/Evaluation:** evaluation will be based on class participation, short weekly writing assignments, a 5-page midterm paper, and a 10- to 15-page final research paper examining an American utopia

**Prerequisites:** none

**Enrollment Limit:** 19

**Expected Class Size:** 12

**Distributional Requirements:** Division 2

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

*Not Offered Academic Year 2017*

SEM Instructor: Jacqueline Hidalgo

### **ENVI 228T(S) Water as a Scarce Resource (W)**

**Crosslistings:** ECON 228/ENVI 228

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

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Distributional Requirements:** Division 2, Writing Intensive

**Other Attributes:** AMST Space and Place Electives, ENVI Environmental Policy, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, POEC Comparative POEC/Public Policy Courses

*Spring 2017*

TUT Section: T1 TBA Instructor: Ralph Bradburd

### **ENVI 233 The Industrial Animal**

This class is inspired by a January 2015 New York Times exposé written by the food journalist Michael Moss. "At a remote research center on the Nebraska plains," he wrote, "scientists are using surgery and breeding techniques to re-engineer the farm animal to fit the needs of the 21st-century meat industry. The potential benefits are huge: animals that produce more offspring, yield more meat and cost less to raise. There are, however, some complications." There are always complications. In this class, we examine the historical development of the industrial animal. Exploring the physical, scientific, and political infrastructures that support American industrial meat production, we pay critical attention to the biological complications that have arisen in shaping animal life to fit the needs of the modern factory. We examine the methods—from synthetic vitamins and artificial light to antibiotics and artificial insemination—industrial producers use to overcome the obstacles of biology. Finally, we consider the industrialization of the meat animal in the context of the industrialization of feedstuff crops like corn and soy, changing US consumption patterns, local and national food politics, and the human labor that makes it all possible.

**Class Format:** lecture

**Requirements/Evaluation:** midterm and final exam; papers

**Prerequisites:** none

**Enrollment Preferences:** Environmental Policy & Environmental Science majors; Environmental Studies concentrators

**Enrollment Limit:** 16

**Expected Class Size:** 16

**Distributional Requirements:** Division 2

**Other Attributes:** ENVI Environmental Policy, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, PHLH Nutrition, Food Security+Environmental Health

*Not Offered Academic Year 2017*

LEC Instructor: Adam Romero

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

**Crosslistings:** ECON 204/ENVI 234

*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? When does globalization facilitate development? 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 this set of issues, as analyzed by economists.

**Class Format:** lecture/discussion

**Requirements/Evaluation:** short essays, mid-term examination, 15-page final 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 Preferences:** first-year and sophomore students

**Enrollment Limit:** 25

**Expected Class Size:** 25

**Distributional Requirements:** Division 2

**Other Attributes:** ENVI Environmental Policy, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, GBST African Studies Electives, GBST Economic Development Studies Electives, POEC Comparative POEC/Public Policy Courses

*Fall 2016*

LEC Section: 01 TR 11:20 AM 12:35 PM Instructor: Anand Swamy

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

**Crosslistings:** PSCI 235/ENVI 235

*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 Preferences:** first years and sophomores

**Enrollment Limit:** 19

**Expected Class Size:** 12

**Distributional Requirements:** Division 2, Writing Intensive

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

Spring 2017

SEM Section: 01 TF 01:10 PM 02:25 PM Instructor: Laura Ephraim

**ENVI 236 Demigods: Nature, Social Theory, and Visual Imagination in Art and Literature, Ancient to Modern**

**Crosslistings:** ARTH 236/CLAS 236/ENVI 236

**Secondary Crosslisting**

This course traces the obscure history of demigods (satyrs, centaurs, nymphs, Pan, etc.) from its origins in ancient Greek art and poetry until today. We pay special attention to three points: the relationship between the mythology of demigods and ancient political theory concerning primitive life; the relationship between the mythology and evolving conceptions of the environment, and the capacity of the visual arts to generate and transmit mythology that has a limited literary counterpart.

Individual demigods occasionally interact with gods or heroes, and end up in the pages of a book. But animal-human hybrids are usually envisioned en masse and exist primarily in visual art, where they thrive to this day. The interpretation of demigods has changed over time, keeping up with developments in ethics and evolving hierarchies of genre and taste. Demigods have been subordinated to the status of decoration, or banished altogether. In antiquity, they are hardly ornamental. Embodied in satyrs, nymphs, Pan, and the others is a collective vision of an alternate evolutionary trajectory and cultural history. In this parallel world, humans and animals not only talk to each other, they live similar lives, intermarry, and create new species. The distinction between nature and culture is not meaningful. Male and female are more or less equal. The industrial revolution never happens. How much of the ancient conceptual framework informing the representation of demigods survives along with the visual imagery? We will examine the origins and mythology of the demigods in works of ancient art, including sculpture and painted vases, such as the François vase and the Parthenon, and ancient texts, such as Hesiod's *Theogony* and Ovid's *Metamorphoses*. We will contextualize the representations within ancient intellectual history via texts ranging in genre from Old Comedy and political theory to theology, religious history, philosophy, and ethics (e. g., Aristophanes, Demokritos, and Lucretius). We will investigate the survival of the ancient myth of evolutionary alterity. This will include consideration of the imagery of fifteenth- and sixteenth-century Italian painters such as Piero di Cosimo, Dosso Dossi, and Titian, the reevaluation of nature by the Romantics, Nietzsches' *Birth of Tragedy* and twentieth-century artists such as Picasso. We will also explore the function of demigods in modern literature from C. S. Lewis and J. K. Rowling.

Students who have some knowledge of the history of art (e. g., ARTH 101-102) will be well prepared to take this course. But it is designed to be comprehensible and meaningful to students with no background in art history.

The requirements of the course include: attendance; preparing and answering questions for discussion; one midterm, one final exam, and one final paper.

**Class Format:** lecture

**Requirements/Evaluation:** attendance, participation, midterm exam, final exam, final short research paper

**Prerequisites:** none

**Enrollment Preferences:** Art-History majors, Classics majors, sophomores, lottery

**Enrollment Limit:** 40

**Expected Class Size:** 30

**Distributional Requirements:** Division 1

**Other Attributes:** ARTH pre-1600 Courses

Not Offered Academic Year 2017

LEC Instructor: Guy Hedreen

**ENVI 239 Introduction to Ecocriticism: North-South Dialogues on Nature and Culture (D)**

**Crosslistings:** ENVI 239/COMP 238

**Primary Crosslisting**

This course will introduce students to the study of the relationship between literature and the environment, often referred to as 'ecocriticism,' through careful examination of Jean de Léry's 1577 *History of a Voyage to the Land of Brazil* and related texts. Léry's fascinating account of a yearlong stay among the 'cannibals' of Brazil gets at many of the themes and debates taken up by ecocritics today: How do political, economic, religious and philosophical factors influence individual and collective conceptions of 'nature' and its value? How do acts of reading and writing inform (or deform) our understanding of the 'natural' world? What is the role of aesthetics in environmental politics, and how can unspoken assumptions about race, gender, and cultural difference influence representations of global environmental issues like deforestation and global warming? Envi 239/Comp 238 fulfills the goals of the Exploring Diversity Initiative by contextualizing current questions of international environmental policy within the long history of colonialism, challenging students to think about cultural diversity as well as economic inequality as relevant to contemporary debates about the value and distribution of natural resources. In addition to Léry's *History*, we will also read landmarks of ecocritical theory by scholars including Lawrence Buell, William Cronon, Candace Slater and Jorge Marcone, as well as more recent literary interventions into environmental issues in the Americas.

**Class Format:** lecture/discussion

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

**Prerequisites:** none

**Enrollment Preferences:** majors in Environmental Policy, Environmental Science and Comparative Literature majors, Environmental Studies concentrators; other students interested are welcome

**Enrollment Limit:** 20

**Expected Class Size:** 15

**Dept. Notes:** satisfies the "Humanities, Arts and Social Sciences" requirement for the Environmental Studies concentration and theory/methods requirement for the "Society & Culture" track of the Environmental Policy major

**Distributional Requirements:** Division 1, Exploring Diversity

**Other Attributes:** AMST Space and Place Electives, ENVI Humanities, Arts + Social Science Electives, ENVP SC Theory/Method Courses, LATS Countries of Origin + Transnationalism Elect

*Not Offered Academic Year 2017*

LEC Instructor: Jennifer French

### **ENVI 244T(F) Environmental Ethics (W)**

**Crosslistings:** ENVI 244/PHIL 244

*Primary Crosslisting*

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

**Class Format:** tutorial

**Requirements/Evaluation:** 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 Preferences:** declared and prospective Environmental Studies majors and concentrators

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Dept. Notes:** meets Value Theory requirement only if registration is under PHIL

**Distributional Requirements:** Division 2, Writing Intensive

**Other Attributes:** ENVI Humanities, Arts + Social Science Electives, ENVP PTL Theory/Method Courses, ENVP PE-A Group Electives, ENVP PE-B Group Electives, ENVP SC-A Group Electives, ENVP SC-B Group Electives, EVST Culture/Humanities, PHIL Contemporary Value Theory Courses, SCST Elective Courses

*Fall 2016*

TUT Section: T1 TBA Instructor: Julie Pedroni

### **ENVI 247(S) Religion, Environment, and the American West (D)**

**Crosslistings:** REL 247/LATS 247/AMST 247/ENVI 247

*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 "sacrosapes" of the American West. Historian Patricia Limerick regards this region as an extraordinary site of convergence and one of "the greatest meeting places on the planet." The region is a site of cultural complexity where Penitentes maintained a sacred order, Pentecostals attracted a global audience, Native Americans forged legal/protected definitions of "religion," and Asian immigrants built the first Buddhist and Sikh temples. Until recently, standard surveys of religious history in North America have devoted minimal attention to the distinctive role of religion in the American West. They have focused on religious history in the flow of events westward from the Plymouth Rock landing and Puritan establishment while generally overlooking the Pueblo Revolt in modern-day New Mexico which occurred in that same century and marked the temporary suspension of Spanish encroachment. How do scholars of religion and history account for these renditions between the past and present? Most mainstream religious histories treat religious experience and identity in the U.S. West as additive rather than complementary to or constitutive of its mainstream narratives. Contemporary historians of religion note the need for new "sights," "cites," and "sites" in order to deconstruct and reconstruct this incomplete meta-narrative, taking into account such factors as migration, gender, region, and the environment. In this EDI course we will use tools of critical theory and historicism to examine this region, compare religious cultures, and interrogate ways in which religious practices (de)construct notions of race.

**Class Format:** lecture/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

course is part of the 2016-17 Climate Change Initiative

**Prerequisites:** none

**Enrollment Preferences:** none

**Enrollment Limit:** 25

**Dept. Notes:** religion: Elective Course

**Distributional Requirements:** Division 2, Exploring Diversity

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

*Spring 2017*

LEC Section: 01 TBA Instructor: Lloyd Barba

### **ENVI 248T(S) "Our response will define our future": Climate Change Policy Analysis (W)**

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

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Distributional Requirements:** Division 2, Writing Intensive

**Other Attributes:** ENVI Environmental Policy, ENVP PTL Theory/Method Courses, ENVP PE-A Group Electives

*Spring 2017*

TUT Section: T1 TBA Instructor: Pia Kohler

### **ENVI 258(S) Coastal Processes and Geomorphology**

**Crosslistings:** GEOS 258/ENVI 258/MAST 258

*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. Helping these growing populations to 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 an all-expenses-paid Spring Break field trip to the Outer Banks in North Carolina to collect oceanographic and geomorphologic data in conjunction with researchers at the U.S. Army Corps of Engineers Field Research Facility. Labs in the course will focus on analysis of the data collected during the field trip, and data collected previously at the Facility.

**Class Format:** lecture; will likely be a combination of lectures and discussions

**Requirements/Evaluation:** problem sets/lab reports, two short tests, 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 permission of instructor

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Distributional Requirements:** Division 3

*Spring 2017*

LEC Section: 01 MWF 08:30 AM 09:45 AM Instructor: Alex Apotsos

### **ENVI 260(F) The Whale**

**Crosslistings:** ENVI 260/ANTH 260

*Primary Crosslisting*

Between the 1950s and 1970s, public attitudes toward whales and dolphins underwent a remarkable transformation. Once the target of a rapacious global industry, whales now (mostly) enjoy protection from commercial exploitation and occupy the position of global environmental icon. A key figure in the industrial revolution as well as in the emergence of environmental consciousness in North America, whales provide a touchstone for examining the environmental imaginations of diverse peoples and institutions across time and space. This course traces the history of the human-whale relationship from the eighteenth century onward in North America and concludes with an in-depth discussion of whales' current place in the law, culture, and politics of a globalizing world.

**Class Format:** seminar

**Requirements/Evaluation:** several shorter writing assignments and a final project

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

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

**Enrollment Limit:** 19

**Expected Class Size:** 19

**Distributional Requirements:** Division 2

**Other Attributes:** ENVI Humanities, Arts + Social Science Electives, ENVI Environmental Policy, ENVP PTL Theory/Method Courses, ENVP PE-B Group Electives, ENVP SC-B Group Electives

Fall 2016

SEM Section: 01 TR 08:30 AM 09:45 AM Instructor: Les Beldo

### **ENVI 261(S) Animal Biocapital and the Politics of Meat**

**Crosslistings:** ENVI 261/ANTH 261

*Primary Crosslisting*

What does it mean to "produce" animal flesh? To "invent" an organism? To patent life? It has been just 40 years since a contributor to the journal *Hog Farm Management* famously declared that farmers should "forget the pig is an animal," and "treat him just like a machine in a factory." In that time, challenging questions over the legal and ethical status of farmed and laboratory animals have only grown more urgent and complex, as courts in the U.S. multiply the rights of firms to alter and patent living organisms, and accelerating biotechnologies expand the ways in which capital and biology intersect. This course examines the culture and politics of industrial animal husbandry and the production of animal biocapital. We will explore the legal structures that enable (and occasionally limit) the ownership of life, and we will seek alternative views on the human-animal relationships that remain (for now) at the center of the factory farm. Contemporary and historical accounts of the industrial hog and broiler chicken industries will serve as primary case studies, along with recent developments in industrial aquaculture and military bioengineering.

**Class Format:** seminar

**Requirements/Evaluation:** several shorter writing assignments and a final project

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

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

**Enrollment Limit:** 19

**Expected Class Size:** 19

**Distributional Requirements:** Division 2

**Other Attributes:** ENVI Humanities, Arts + Social Science Electives, ENVI Environmental Policy, ENVP PE-A Group Electives, ENVP PE-B Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives

Spring 2017

SEM Section: 01 TR 11:20 AM 12:35 PM Instructor: Les Beldo

### **ENVI 273 Politics without Humans?**

**Crosslistings:** PSCI 273/ENVI 273

*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

**Distributional Requirements:** Division 2

**Other Attributes:** AMST Critical and Cultural Theory Electives, ENVI Environmental Policy, ENVP PTL-A Group Electives, ENVP SC-B Group Electives, PSCI Political Theory Courses

Not Offered Academic Year 2017

LEC Instructor: Laura Ephraim

### **ENVI 283 Dirty Politics: Regulating Hazardous Chemicals and Wastes**

**Crosslistings:** ENVI 283/PSCI 283

*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 Europe's precautionary safe use law, citizen science initiatives and consumer-driven certification schemes.

**Class Format:** seminar

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

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

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

**Enrollment Limit:** 19

**Expected Class Size:** 15

**Dept. Notes:** satisfies the "Environmental Policy" requirement for the Environmental Policy major and the environmental studies concentration

**Distributional Requirements:** Division 2

**Other Attributes:** AMST Space and Place Electives, ENVI Environmental Policy, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, EVST Social Science/Policy, PHLH Nutrition, Food Security+Environmental Health, POEC Comparative POEC/Public Policy Courses, PSCI Research Courses

*Not Offered Academic Year 2017*

SEM Instructor: Pia Kohler

### **ENVI 285 Writing About Science and Nature (W)**

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 Preferences:** Environmental Studies majors and concentrators

**Enrollment Limit:** 15

**Expected Class Size:** 15

**Distributional Requirements:** Division 1, Writing Intensive

**Other Attributes:** ENVI Humanities, Arts + Social Science Electives, ENVP SC-B Group Electives, SCST Related Courses

*Not Offered Academic Year 2017*

SEM Instructor: Elizabeth Kolbert

### **ENVI 287 The Dynamics of Globalization: Society, Religion and the Environment (D)**

**Crosslistings:** REL 287/ENVI 287

*Secondary Crosslisting*

This course offers a theoretical reflection on the social, cultural and environmental dynamics of globalization and their consequences for the nature and place of religion. Rather than argue for or against globalization, we first examine the nature of this new configuration and its relation to (post)modernity, asking questions such as: What are the cultural and social dynamics of globalization? What are the effects on the nature of the state and the political practices that take place in the global world? What are its environmental consequences? We then shift to examining the role of religion, arguing that its renewed relevance is a function of the socio-cultural transformations that globalization brings about, particularly the loss of community and the increasing atomization of individuals. We conclude by examining some of the perspectives created by the new religious expressions that attempt to respond to this situation, from personal spiritual quests as manifested in interest in Buddhism, ecology or mountain climbing, to various forms of fundamentalism, such as Evangelicalism, the fastest growing religious movement in the Americas, and the most radical forms of Islamicism. Reading list: Harvey, *The Condition of Postmodernity*; Castells, *The Rise of the Network Society*; Bauman, *Globalization*; Kivisto, *Multiculturalism in a Global Society*; Casanova, *Public Religions in the Modern World*; Ortner, *Life and Death on Mt. Everest*; Matthews, *Global Cultural/Individual Identity*; Shuck, *Mark of the Beast*; Roy, *Globalized Islam*.

**Requirements/Evaluation:** a class presentation and a research paper (15 pages)

**Prerequisites:** none

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

**Enrollment Limit:** 22

**Expected Class Size:** 22

**Distributional Requirements:** Division 2, Exploring Diversity

**Other Attributes:** ENVI Humanities, Arts + Social Science Electives, ENVP SC-B Group Electives, GBST Economic Development Studies Electives

*Not Offered Academic Year 2017*

LEC Instructor: Georges Dreyfus

### **ENVI 291 Religion and the American Environmental Imagination (W)**

**Crosslistings:** ENVI 291/REL 291/SOC 291

*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. Drawing widely on both religious studies and the environmental humanities, we will examine the works of famous environmental thinkers such as Henry

David Thoreau and Wendell Berry, as well as a number of lesser-known writers from non-Christian backgrounds. We will read these writers alongside recent scholarship on religion and ecology to understand how they were influenced by social and environmental trends such as urbanization, industrialization, immigration, and globalization. We will also ask how religion has intersected with gender, race, class, and ethnicity to shape environmental politics in the twenty-first century, with particular emphasis on agrarianism, wilderness preservation, and climate justice.

**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 Preferences:** Environmental Studies majors and concentrators

**Enrollment Limit:** 19

**Expected Class Size:** 19

**Distributional Requirements:** Division 2, Writing Intensive

**Other Attributes:** AMST Space and Place Electives, ENVI Humanities, Arts + Social Science Electives, ENVP SC-B Group Electives

*Not Offered Academic Year 2017*

SEM Instructor: Nicolas Howe

### **ENVI 302(F) Practicum: Environmental Planning Workshop**

**Crosslistings:** ENVI 302/AMST 302/ENVI 411

#### *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 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 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 Preferences:** Environmental Studies majors, Environmental Policy majors, Environmental Science majors and Environmental Studies concentrators

**Enrollment Limit:** 16

**Expected Class Size:** 16

**Dept. Notes:** required course for students wishing to complete the majors in Environmental Studies, Environmental Policy, Environmental Science and the Environmental Studies concentration

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

**Distributional Requirements:** Non-divisional

**Other Attributes:** AMST Space and Place Electives, ENVI Core Courses, ENVP Core Courses, ENVS Core Courses, EXPE Experiential Education Courses, SCST Related Courses

*Fall 2016*

SEM Section: 01 TR 11:20 AM 12:35 PM Instructor: Sarah Gardner

LAB Section: 02 T 01:00 PM 04:00 PM Instructor: Sarah Gardner

LAB Section: 03 R 01:00 PM 04:00 PM Instructor: Sarah Gardner

### **ENVI 303(F,S) Cultures of Climate Change (W)**

**Crosslistings:** ENVI 303/SOC 303

#### *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 Preferences:** Environmental Policy & Environmental Science majors and Environmental Studies concentrators first; Anthropology and Sociology majors second

**Enrollment Limit:** 19

**Expected Class Size:** 19

**Distributional Requirements:** Division 2, Writing Intensive

**Other Attributes:** ENVI Humanities, Arts + Social Science Electives, ENVP PTL Theory/Method Courses, ENVP SC-A Group Electives, ENVP SC-B Group Electives, SCST Related Courses

*Fall 2016*

SEM Section: 01 W 01:10 PM 03:50 PM Instructor: Nicolas Howe

*Spring 2017*

SEM Section: 01 Cancelled

### **ENVI 306 A History of an African City**

**Crosslistings:** HIST 307/AFR 313/ENVI 306

*Secondary Crosslisting*

The city of Nairobi was founded solely to serve the needs of white colonials and settlers. Fifty years later—in the 1960s—it had become dominated by Africans and is now, in the 21st Century, a major global city with over 4 million people. This course will trace the history of Nairobi from the 19th century to the present.

We will focus on the city's political and economic development, its racial conflicts, as well as the daily experience of various groups of city dwellers. We will also look at the growth of the city's physical infrastructure—its transportation, housing, trade, and labor networks. Students will also get a chance to read about the various artistic movements in Nairobi, focusing especially on music, theater, and street performances.

**Class Format:** lecture

**Requirements/Evaluation:** two 7-page papers and one 12- to 15-page paper

**Prerequisites:** none

**Enrollment Preferences:** seniors; History majors

**Enrollment Limit:** 25

**Expected Class Size:** 25

**Distributional Requirements:** Division 2

**Other Attributes:** GBST African Studies Electives, GBST Urbanizing World Electives, HIST Group A Electives - Africa

*Not Offered Academic Year 2017*

LEC Instructor: Kenda Mutongi

### **ENVI 307(F) Environmental Law**

**Crosslistings:** ENVI 307/PSCI 317

*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

**Dept. Notes:** required course for students wishing to complete the major in Environmental Policy; satisfies the "Environmental Policy" requirement for the Environmental Studies concentration

**Distributional Requirements:** Division 2

**Other Attributes:** AMST Space and Place Electives, ENVI Environmental Policy, ENVP Core Courses, JLST Enactment/Applications in Institutions, MAST Interdepartmental Electives, POEC U.S. Political Economy + Public Policy Course, SCST Elective Courses

*Fall 2016*

LEC Section: 01 MR 01:10 PM 02:25 PM Instructor: David Cassuto

### **ENVI 309(F) Environmental Politics and Policy (W)**

**Crosslistings:** ENVI 309/HSCI 309/SCST 309/PSCI 301

*Primary Crosslisting*

This course will provide an overview of environmental policy-making, with an emphasis on the ways in which policies are developed and implemented at the local, state and national level. 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. Following an examination of different models of environmental policy-making, this course will focus on several case studies, including on the management of public lands, air and water pollution, climate change and endangered species protection.

**Class Format:** seminar

**Requirements/Evaluation:** evaluation is based on several shorter writing assignments, a semester-long research project, and participation

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

**Enrollment Preferences:** Environmental Policy & Environmental Science majors & Environmental Studies concentrators; but other students interested in public policy are welcome

**Enrollment Limit:** 19

**Expected Class Size:** 19

**Dept. Notes:** required course for the Environmental Policy major and the Environmental Studies concentration

**Distributional Requirements:** Division 2, Writing Intensive

**Other Attributes:** ENVI Environmental Policy, ENVP PTL Theory/Method Courses, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, POEC Comparative POEC/Public Policy Courses

*Fall 2016*

SEM Section: 01 MR 02:35 PM 03:50 PM Instructor: Pia Kohler

### **ENVI 311 History of the Chemical Revolution in US Agriculture**

Where do fertilizers, pesticides, and other agricultural chemicals come from? How are they made and why are they used? Why does the United States use so much more than other countries? This class examines the development of US agriculture through a lens of the chemical revolution. We begin with a study of the intensive growth of the US chemical industry and US agriculture during and after WWI, situating their growth within an era of chronic farm surplus. We then turn to the dramatic increases in chemical consumption among all branches of agriculture following WWII, paying particular attention to the relationships between seed technology, chemical warfare, mechanization, labor, government institutions, and petroleum-based organic chemicals. We conclude by turning our historical understanding of US agrochemical development toward the current state of US agriculture and examine the rationales and policies that support the ongoing consumption of industrial chemicals across the entire US agricultural complex.

**Class Format:** lecture

**Requirements/Evaluation:** midterm and final exams; papers

**Prerequisites:** ENVI 101

**Enrollment Preferences:** Environmental Policy and Environmental Science majors; Environmental Studies concentrators

**Enrollment Limit:** 16

**Expected Class Size:** 16

**Distributional Requirements:** Division 2

**Other Attributes:** ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives

*Not Offered Academic Year 2017*

LEC Instructor: Adam Romero

### **ENVI 312(F) Communities and Ecosystems (Q)**

**Crosslistings:** BIOL 302/ENVI 312

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

**Enrollment Limit:** 28

**Expected Class Size:** 24

**Dept. Notes:** satisfies the distribution requirement in the Biology major

**Distributional Requirements:** Division 3, Quantitative/Formal Reasoning

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-A Electives, EVST Living Systems Courses, EXPE Experiential Education Courses

*Fall 2016*

LEC Section: 01 TR 09:55 AM 11:10 AM Instructor: Manuel Morales

### **ENVI 313(S) Chicago**

**Crosslistings:** LATS 312/AMST 312/ENVI 313

*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 of 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 (12-15 pages)

**Prerequisites:** none

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

**Enrollment Limit:** 20

**Expected Class Size:** 15

**Distributional Requirements:** Division 2

**Other Attributes:** AMST Comp Studies in Race, Ethnicity, Diaspora, AMST Space and Place Electives, ENVI Humanities, Arts + Social Science Electives, ENVP SC-B Group Electives, GBST Urbanizing World Electives, LATS Core Electives

*Spring 2017*

LEC Section: 01 MW 07:00 PM 08:15 PM Instructor: Merida Rúa

### **ENVI 318(F) California: Myths, Peoples, Places (W)**

**Crosslistings:** LATS 318/AMST 318/REL 318/COMP 328/ENVI 318

*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 Preferences:** none

**Enrollment Limit:** 19

**Expected Class Size:** 15

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

**Distributional Requirements:** Division 2, Writing Intensive

**Other Attributes:** AMST Comp Studies in Race, Ethnicity, Diaspora, AMST Space and Place Electives, ENVI Humanities, Arts + Social Science Electives, ENVP SC-B Group Electives, LATS Core Electives

*Fall 2016*

SEM Section: 01 TR 09:55 AM 11:10 AM Instructor: Jacqueline Hidalgo

### **ENVI 322(F) Trash**

**Crosslistings:** ANTH 322/ENVI 322/GBST 322

*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 the Middle East, South Asia and the United States. Third, we will read ethnographies of sanitation labor and social hierarchy with the same regional focus - work on Cairo, Dhaka, and New York, respectively. 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 Preferences:** seniors and juniors

**Enrollment Limit:** 30

**Expected Class Size:** 20

**Distributional Requirements:** Division 2

*Fall 2016*

LEC Section: 01 MR 02:35 PM 03:50 PM Instructor: Joel Lee

### **ENVI 328 Global Environmental Politics (W)**

**Crosslistings:** ENVI 328/PSCI 328

*Primary Crosslisting*

In the last two weeks of our Fall 2015 semester, world leaders will gather in Paris with the aim of finalizing an arduously negotiated global agreement on climate change. This new treaty will determine whether we, as a global community, can still be on track to avoid catastrophic climate change. In the first ten weeks of this writing-intensive course, we will turn to a broad array of case studies to examine how, by whom, and to what effect global environmental governance is shaped and implemented. Case studies will build on original documents, scholarship from a variety of disciplines, and class visits by practitioners and negotiators and will include chemicals management, atmospheric pollution, species protection, transboundary movement of genetically modified organisms, forest management, and environmental rights. By building on the last four decades of international efforts to regulate the environmental commons, we will develop research projects to complete as we engage in a "virtual field-trip" to the Paris Climate Summit in the last two weeks of the semester.

**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; not available for the fifth course option

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

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

**Enrollment Limit:** 19

**Expected Class Size:** 15

**Dept. Notes:** satisfies the "Environmental Policy" requirement for the Environmental Policy major and the Environmental Studies concentration

**Distributional Requirements:** Division 2, Writing Intensive

**Other Attributes:** ENVI Environmental Policy, ENVP PTL Theory/Method Courses, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, JLST Interdepartmental Electives, POEC International Political Economy Courses, PSCI Research Courses

*Not Offered Academic Year 2017*

SEM Instructor: Pia Kohler

### **ENVI 340(S) Climate Change Law**

**Crosslistings:** ENVI 340/PSCI 343

*Primary Crosslisting*

Climate change is an inescapable component not just of environmental law and policy but of *all* law and *all* policy (as well as everything else). This course looks at mechanisms for mitigating as well as adapting to climate change from both the international and domestic legal perspectives. We will study the role of treaties, national legislation and regulation, sub-national responses, and the ongoing role of litigation. And we will examine the role of the lawyer and the legal community in addressing climate change.

**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

**Dept. Notes:** required course for students wishing to complete the major in Environmental Policy; satisfies the "Environmental Policy" requirement for the Environmental Studies concentration

**Distributional Requirements:** Division 2

**Other Attributes:** AMST Space and Place Electives, ENVI Environmental Policy, JLST Interdepartmental Electives, JLST Enactment/Applications in Institutions, MAST Interdepartmental Electives, POEC U.S. Political Economy + Public Policy Course, SCST Elective Courses

*Spring 2017*

SEM Section: 01 M 07:00 PM 09:40 PM Instructor: David Cassuto

### **ENVI 341(S) Toxicology and Cancer**

**Crosslistings:** CHEM 341/ENVI 341

*Secondary Crosslisting*

What is a poison and what makes it poisonous? Paracelsus 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

**Dept. Notes:** required for the Chemistry track through the Environmental Science major and satisfies the Natural World requirement for the Environmental studies concentration

**Distributional Requirements:** Division 3

**Other Attributes:** BIMO Interdepartmental Electives, ENVI Natural World Electives, ENVS Group EB-A Electives, ENVS Group EC-B Electives, PHLH Biomedical Determinants of Health

*Spring 2017*

LEC Section: 01 MWF 11:00 AM 12:15 PM Instructor: David Richardson

### **ENVI 346(F) Environmental Psychology**

**Crosslistings:** PSYC 346/ENVI 346

*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 Preferences:** Psychology majors and Environmental Studies concentrators

**Enrollment Limit:** 16

**Expected Class Size:** 16

**Distributional Requirements:** Division 2

**Other Attributes:** AMST Space and Place Electives, ENVI Humanities, Arts + Social Science Electives, ENVP SC-B Group Electives, PSYC Area 4 - Social Psychology

*Fall 2016*

SEM Section: 01 TF 01:10 PM 02:25 PM Instructor: Kenneth Savitsky

### **ENVI 351(F,S) Marine Policy**

**Crosslistings:** MAST 351/ENVI 351/PSCI 319

*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

**Dept. Notes:** satisfies the Environmental Policy requirement for the Environmental Policy major and the Environmental studies concentration

**Distributional Requirements:** Division 2

**Other Attributes:** ENVI Environmental Policy, ENVP PTL Theory/Method Courses, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, EXPE Experiential Education Courses, POEC International Political Economy Courses

*Fall 2016*

LEC Section: 01 TBA Instructor: Catherine Hall

*Spring 2017*

LEC Section: 01 TBA Instructor: Catherine Hall

### **ENVI 364(S) Instrumental Methods of Analysis**

**Crosslistings:** CHEM 364/ENVI 364

*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, problem sets, oral presentation and discussion of selected topics, laboratory work, and an independent project

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

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

**Enrollment Limit:** 18

**Expected Class Size:** 8

**Distributional Requirements:** Division 3

**Other Attributes:** BIMO Interdepartmental Electives, ENVI Natural World Electives, ENVS Group EB-A Electives, ENVS Methods Courses, MTSC Related Courses

*Spring 2017*

LEC Section: 01 TR 08:30 AM 09:45 AM Instructor: Patrick Barber

LAB Section: 02 T 01:00 PM 05:00 PM Instructor: Patrick Barber

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

**Crosslistings:** SOC 368/ENVI 368

*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 Preferences:** Anthropology and Sociology majors

**Enrollment Limit:** 20

**Expected Class Size:** 20

**Distributional Requirements:** Division 2

**Other Attributes:** ENVI Humanities, Arts + Social Science Electives, ENVP SC-B Group Electives, FMST Related Courses, HSCI Interdepartmental Electives, SCST Elective Courses

*Fall 2016*

SEM Section: 01 MR 01:10 PM 02:25 PM Instructor: James Nolan

### **ENVI 376(S) Economics of Environmental Behavior (Q)**

**Crosslistings:** ECON 477/ENVI 376

*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 programs, and boycotts and divestment.

**Class Format:** seminar

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

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

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

**Enrollment Preferences:** senior Economics majors

**Enrollment Limit:** 19

**Expected Class Size:** 15

**Distributional Requirements:** Division 2, Quantitative/Formal Reasoning

**Other Attributes:** ENVI Environmental Policy, ENVP PTL Theory/Method Courses, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, POEC Comparative POEC/Public Policy Courses

*Spring 2017*

SEM Section: 01 MWF 08:30 AM 09:45 AM Instructor: Sarah Jacobson

### **ENVI 386 Environmental and Natural Resource Policy (Q)**

**Crosslistings:** ECON 386/ENVI 386/ECON 518

*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 Preferences:** senior Economic majors and CDE fellows

**Enrollment Limit:** 25

**Expected Class Size:** 20

**Dept. Notes:** this course satisfies the Environmental Policy requirement for the Environmental Policy major and the Environmental studies concentration

**Distributional Requirements:** Division 2, Quantitative/Formal Reasoning

**Other Attributes:** ENVI Environmental Policy, ENVP PTL Theory/Method Courses, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, MAST Interdepartmental Electives, POEC Comparative POEC/Public Policy Courses

*Not Offered Academic Year 2017*

SEM

### **ENVI 387(S) Economics of Climate Change (Q)**

**Crosslistings:** ECON 387/ECON 522/ENVI 387

*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 wealthy and poor countries. Next we will study adaptation, including capital investments and behavioral changes, and insurance. 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? (Probably not zero.) Why have countries had such a hard time agreeing on GHG emissions reductions, and how might we overcome such difficulties? In considering policy, we will employ not only theoretical predictions, but also the growing body of evidence from attempts to regulate GHGs. Examples include 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. Finally, 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:** weekly problem sets, one or two midterms, final exam

**Prerequisites:** ECON 251, familiarity with statistics

**Enrollment Preferences:** senior Economic majors and CDE fellows

**Enrollment Limit:** 30

**Expected Class Size:** 25

**Distributional Requirements:** Division 2, Quantitative/Formal Reasoning

**Other Attributes:** ENVI Environmental Policy, ENVP PTL Theory/Method Courses, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, MAST Interdepartmental Electives, POEC Comparative POEC/Public Policy Courses

*Spring 2017*

### **ENVI 388 Urbanization and Development**

**Crosslistings:** ECON 388/ECON 517/ENVI 388

*Secondary Crosslisting*

At current rates of growth, the combined population of urban areas in developing countries will double in the next 30 years. The land area devoted to urban use is expected to double even more quickly. The costs of providing housing and infrastructure to accommodate this growth are enormous, but the costs of failing to accommodate urban development may be even larger. The decisions made in response to these challenges will affect the economic performance of these countries and the health and welfare of the urban residents. By affecting global patterns of energy use, these decisions will have broader impacts on the entire planet. This course will focus on these challenges. What are the economic forces that drive the process of urbanization, and how does the level of urbanization affect economic development? How are policies towards housing, transportation, public finance and development affected by urbanization? What policy choices are available, and which are most likely to succeed in dealing with the challenges of urban growth?

**Class Format:** lecture/discussion

**Requirements/Evaluation:** a midterm and a final exam, plus a paper that evaluates specific problems, policy alternatives, and provides some analysis of relevant data

**Prerequisites:** ECON 251 plus POEC 253, ECON 255, 502 or 503; undergraduate enrollment limited and requires instructor's permission

**Expected Class Size:** 20

**Distributional Requirements:** Division 2

**Other Attributes:** AMST Space and Place Electives, ENVI Environmental Policy, GBST Urbanizing World Electives, POEC Comparative POEC/Public Policy Courses

*Not Offered Academic Year 2017*

LEC Instructor: Stephen Sheppard

### **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

**Distributional Requirements:** Non-divisional

*Fall 2016*

IND Section: 01 TBA Instructor: Ralph Bradburd

### **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

**Distributional Requirements:** Non-divisional

*Spring 2017*

IND Section: 01 TBA Instructor: Ralph Bradburd

### **ENVI 402(S) Senior Seminar: Perspectives on Environmental Studies**

**Crosslistings:** ENVI 402/MAST 402

*Primary Crosslisting*

The Environmental Studies and Maritime Studies programs provide students with an opportunity to explore the myriad ways in which humans interact with diverse environments at scales ranging from local to global. As the capstone course for Environmental Studies and Maritime Studies, this seminar will bring together students who will have specialized in the humanities, social studies and/or the sciences and will provide an opportunity for exchange across these disciplinary streams. Readings and discussion will be organized around the common theme of climate change. 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 302 or MAST 351 Maritime Policy or permission of instructor

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

**Enrollment Limit:** 20

**Expected Class Size:** 19

**Dept. Notes:** required course for students wishing to complete the Environmental Policy & Environmental Science majors and the Environmental Studies or the Maritime Studies concentrations

**Distribution Notes:** no division 1, 2 or 3 credit

**Distributional Requirements:** Non-divisional

**Other Attributes:** ENVI Core Courses, ENVP Core Courses, ENVS Core Courses, SCST Elective Courses

*Spring 2017*

SEM Section: 01 MR 01:10 PM 02:25 PM Instructor: Pia Kohler

### **ENVI 405 Geochemistry: Understanding Earth's Environment**

**Crosslistings:** GEOS 405/ENVI 405

#### *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, 303 or 311; or permission of instructor

**Enrollment Preferences:** senior Geosciences majors

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Distributional Requirements:** Division 3

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-B Electives, ENVS Group EG-C Electives

*Not Offered Academic Year 2017*

SEM Instructor: Mea Cook

### **ENVI 411(F) Practicum: Environmental Planning Workshop**

**Crosslistings:** ENVI 302/AMST 302/ENVI 411

#### *Secondary 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 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 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 Preferences:** Environmental Studies majors, Environmental Policy majors, Environmental Science majors and Environmental Studies concentrators

**Enrollment Limit:** 16

**Expected Class Size:** 16

**Dept. Notes:** required course for students wishing to complete the majors in Environmental Studies, Environmental Policy, Environmental Science and the Environmental Studies concentration

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

**Distributional Requirements:** Non-divisional

**Other Attributes:** AMST Space and Place Electives, ENVI Core Courses, ENVP Core Courses, ENVS Core Courses, EXPE Experiential Education Courses, SCST Related Courses

*Fall 2016*

SEM Section: 01 TR 11:20 AM 12:35 PM Instructor: Sarah Gardner

LAB Section: 02 T 01:00 PM 04:00 PM Instructor: Sarah Gardner

LAB Section: 03 R 01:00 PM 04:00 PM Instructor: Sarah Gardner

**ENVI 412 Practicum: Environmental Science and Policy**

This interdisciplinary seminar will examine the science and policy of global climate change. Over the course of the seminar, students will examine the production of global knowledge about climate change as well as examine the variety of policy responses being deployed at the global scale. Students will undertake sustained projects in small teams over the course of the semester.

**Class Format:** seminar discussion/project lab

**Requirements/Evaluation:** participation, class presentations, group project with individual component

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

**Prerequisites:** ENVI 101 and ENVI 102

**Enrollment Preferences:** seniors majoring or concentrating in environmental studies, juniors majoring/concentrating in environmental studies may be admitted with instructor permission

**Enrollment Limit:** 16

**Expected Class Size:** 16

**Distributional Requirements:** Non-divisional

*Not Offered Academic Year 2017*

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

**Crosslistings:** ARTH 419/AFR 419/ENVI 419

*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. This course fulfills EDI requirements through its exploration of the effects of globalization and modernization on the African natural environment, and its engagement with diverse cultural legacies, socio-political systems, and economic realities on the continent as contributors to art-making strategies deployed by contemporary African environmental artists. Students will also explore the ways in which African artists have internalized the various conditions and situations of their contexts as individuals defined by gender, sexual orientation, religious affiliation, etc. as well as members of distinctive cultures and communities.

**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 Preferences:** seniors and majors

**Enrollment Limit:** 19

**Expected Class Size:** 19

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

**Distributional Requirements:** Division 1, Exploring Diversity, Writing Intensive

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

*Not Offered Academic Year 2017*

SEM Instructor: Michelle Apotsos

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

**Crosslistings:** ARTH 420/ENVI 420/GBST 420/EXPR 420

*Secondary Crosslisting*

What does it mean to create a sustainable built environment? What do such environments look like? Do they look the same for different people across different times and spaces? This course takes these questions as starting points in exploring the concept of architectural sustainability, defined as "minimizing the negative impact of built form on the surrounding landscape," and how this concept can be interpreted not only from an environmental point of view, but from cultural, political, and social perspectives as well. Over the course of the class, students will explore different conceptualizations of sustainability and how these conceptualizations take form in built environments in response to the cultural identities, political agendas, social norms, gender roles, and religious values circulating in

society at any given moment. In recognizing the relationship between the way things are constructed (technique of assembly, technology, materials, process) and the deeper meanings behind the structural languages deployed, students will come to understand sustainability as a fundamentally context-specific ideal, and its manifestation within the architectural environment as a mode of producing dialogues about the anticipated futures of both cultural and architectural worlds.

**Class Format:** seminar

**Requirements/Evaluation:** response papers on class readings (2 pages), leading class discussions, 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 Preferences:** Art History majors, Environmental Studies majors

**Enrollment Limit:** 19

**Expected Class Size:** 19

**Materials/Lab Fee:** \$100

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

**Distributional Requirements:** Division 1, Writing Intensive

*Fall 2016*

SEM Section: 01 M 01:10 PM 03:50 PM Instructor: Michelle Apotsos

### **ENVI 422(F) Ecology of Sustainable Agriculture**

**Crosslistings:** BIOL 422/ENVI 422

*Secondary Crosslisting*

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 Preferences:** open to juniors and seniors

**Enrollment Limit:** 16

**Expected Class Size:** 12

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

**Distributional Requirements:** Division 3

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-A Electives, PHLH Nutrition, Food Security+Environmental Health

*Fall 2016*

SEM Section: 01 MWF 08:30 AM 09:45 AM Instructor: Henry Art

### **ENVI 424T Conservation Biology (W)**

**Crosslistings:** BIOL 424/ENVI 424

*Secondary Crosslisting*

This tutorial examines the application of population genetics, population ecology, community ecology, and systematic to the conservation of biological diversity. While the focus of this tutorial is on biological rather than social, legal, or political issues underlying conservation decisions, the context is to develop science-based recommendations that can inform policy. Topics include extinction, the genetics of small populations, habitat fragmentation, the impact of invasive species, restoration ecology, design of reserves and conservation strategies.

Format; tutorial/field trip, one to three hours per week. Requirements: evaluation will be based on 5 writing assignments, tutorial presentation, performance in the role of paper critic, and course participation.

**Class Format:** tutorial/field trip, one to three hours per week

**Requirements/Evaluation:** based on 5 writing assignments, tutorial presentation, performance in the role of paper critic, & course participation

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

**Prerequisites:** BIOL/ENVI 203 or BIOL 302 or 305 or permission of instructor; open to juniors and seniors

**Enrollment Preferences:** Biology majors who have not taken a 400-level course; then to senior Environmental Studies majors or concentrators

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Dept. Notes:** satisfies the distribution requirement in the Biology major

**Distributional Requirements:** Division 3, Writing Intensive

**Other Attributes:** ENVI Natural World Electives

Not Offered Academic Year 2017

TUT Instructor: Joan Edwards

### **ENVI 478(F) Cold War Landscapes**

**Crosslistings:** HIST 478/ENVI 478/AMST 478

*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

**Enrollment Preferences:** History, Environmental Policy, and Environmental Science majors if over-enrolled

**Enrollment Limit:** 10

**Expected Class Size:** 15

**Distributional Requirements:** Division 2

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

*Fall 2016*

SEM Section: 01 W 01:10 PM 03:50 PM Instructor: Karen Merrill

### **ENVI 491T The Suburbs (W)**

**Crosslistings:** HIST 491/ENVI 491/AMST 490

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

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Distributional Requirements:** Division 2, Writing Intensive

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

*Not Offered Academic Year 2017*

TUT Instructor: Karen 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

**Distributional Requirements:** Non-divisional

*Fall 2016*

HON Section: 01 TBA Instructor: Ralph Bradburd

**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

**Distributional Requirements:** Non-divisional

*Spring 2017*

HON Section: 01 TBA Instructor: Ralph Bradburd

**ENVP 493(F) Senior Thesis: Environmental Policy**

**Class Format:** independent thesis

**Distributional Requirements:** Division 2

*Fall 2016*

HON Section: 01 TBA Instructor: Ralph Bradburd

**ENVP 494(S) Senior Thesis: Environmental Policy**

**Class Format:** independent thesis

**Distributional Requirements:** Division 2

*Spring 2017*

HON Section: 01 TBA Instructor: Ralph Bradburd

**ENVS 493(F) Senior Thesis: Environmental Science**

**Class Format:** independent thesis

**Distributional Requirements:** Division 3

*Fall 2016*

HON Section: 01 TBA Instructor: Ralph Bradburd

**ENVS 494(S) Senior Thesis: Environmental Science**

**Class Format:** independent thesis

**Distributional Requirements:** Division 3

*Spring 2017*

HON Section: 01 TBA Instructor: Ralph Bradburd

**COURSES IN MARITIME STUDIES****MAST 104(S) Oceanography**

**Crosslistings:** GEOS 104/ENVI 104/MAST 104

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

**Prerequisites:** none

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

**Enrollment Limit:** 48

**Expected Class Size:** 48

**Distributional Requirements:** Division 3

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-B Electives, ENVS Group EG-A Electives, EXPE Experiential Education Courses

*Spring 2017*

LEC Section: 01 MWF 09:00 AM 09:50 AM Instructor: Mea Cook

LAB Section: 02 M 01:00 PM 03:00 PM Instructor: Mea Cook

LAB Section: 03 W 01:00 PM 03:00 PM Instructor: Mea Cook

### **MAST 211(F,S) Oceanographic Processes**

**Crosslistings:** MAST 211/GEOS 210

#### *Primary Crosslisting*

This course examines ocean and coastal environmental science issues including carbon dioxide and the ocean's role in climate, El Niño and other ocean-atmosphere oscillations that influence our weather, coastal erosion and other hazards, coastal pollution, and fisheries. The focus is on controlling processes with regional comparisons. Blue water oceanography is conducted in the Atlantic and comparative coastal oceanography includes trips to southern New England shores, and the West and Gulf coasts of the US as part of the Williams-Mystic program.

**Class Format:** lecture/laboratory, including coastal and near-shore field trips, 11 days offshore, and a laboratory or field research project

**Requirements/Evaluation:** two tests, a research project, and a presentation

**Extra Info:** offered only at Mystic Seaport

**Distributional Requirements:** Division 3

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-B Electives, ENVS Group EG-C Electives, EVST Living Systems Courses, EXPE Experiential Education Courses

*Fall 2016*

LEC Section: 01 TBA Instructor: Lisa Gilbert

*Spring 2017*

LEC Section: 01 TBA Instructor: Lisa Gilbert

### **MAST 226T The Oceans and Climate (W)**

**Crosslistings:** GEOS 226/ENVI 226/MAST 226

#### *Secondary Crosslisting*

The oceans are a fundamental part of Earth's climate system. Ocean currents redistribute heat and water vapor around the globe, controlling temperature and precipitation patterns. Marine phytoplankton blooms and air-sea gas exchange modulate the atmospheric carbon dioxide concentration. The dynamic interaction of the atmosphere and the sea surface results in multi-year climate variations such as the El Niño-Southern Oscillation. This course will examine gradual and abrupt climate shifts from Earth's history and the ocean's role in driving, amplifying or dampening the changes, the ocean's response to anthropogenic greenhouse gas emissions, and the projected impacts of continued emissions and climate change on the ocean in the coming decades and millennia. We will analyze articles from the scientific literature that lay out the theory on the ocean's influence on climate, reconstruct past climate and ocean changes, test the mechanisms responsible for those changes, and with that knowledge, project the consequences of continued anthropogenic greenhouse gas emissions. Topics may include the climate effects of opening and closing seaways with plate tectonics, ocean feedbacks that amplify the intensity of ice ages, the instability of ocean circulation during ice-sheet retreat, the evolution of the El Niño-Southern Oscillation with changing carbon dioxide through the geologic past and the next century, ocean heat and carbon dioxide uptake during the last century and into the future, and the impact on sea level, seafloor methane reservoirs, ocean acidification, oxygenation and marine ecosystems.

**Class Format:** tutorial

**Requirements/Evaluation:** each student will write five 5-page position papers; evaluation based on the critical analysis of reading from the scientific literature through writing and discussion

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

**Prerequisites:** GEOS 104, GEOS 210 or permission of instructor

**Enrollment Preferences:** sophomores and juniors

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Distributional Requirements:** Division 3, Writing Intensive

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-B Electives, ENVS Group EG-B Electives, ENVS Group EG-C Electives, MAST Interdepartmental Electives, SCST Related Courses

*Not Offered Academic Year 2017*

TUT Instructor: Mea Cook

### **MAST 231(F,S) Literature of the Sea (W)**

**Crosslistings:** MAST 231/ENGL 231

#### *Primary Crosslisting*

Taking advantage of our maritime museum, coastal setting, and three field seminars, we study canonical and lesser-known novelists, short-story writers, dramatists, and poets who set their works in the watery world, often in the exact places where we travel as a class. We read, for example—depending on fall or spring semester—Ernest Hemingway when sailing on the Straits of Florida, John Steinbeck when exploring Cannery Row on Monterey Bay, and Mark Twain on a steamboat on the Mississippi. We read Kate Chopin on the sands of the Gulf of Mexico, Rudyard Kipling out on Georges Bank, and Herman Melville's masterpiece *Moby-Dick* aboard Mystic Seaport's historic whaleship, the *Charles W. Morgan*, a vessel nearly identical to the vessel he climbed aboard at age twenty-one. In the classroom we examine these works through a mixture of lecture, small-group discussion, and writing. To further appreciation and analysis, this interdisciplinary course uses students' emerging knowledge of maritime history and marine science.

**Class Format:** small group tutorials with weekly lectures, including coastal and near-shore field trips and ten days at sea

**Requirements/Evaluation:** regular papers, class participation, journal-writing, and a final paper

**Extra Info:** offered only at Mystic Seaport

**Distributional Requirements:** Division 1, Writing Intensive

**Other Attributes:** AMST Arts in Context Electives, ENVI Humanities, Arts + Social Science Electives, ENVP SC-B Group Electives

*Fall 2016*

LEC Section: 01 TBA Instructor: Mary Bercaw Edwards

*Spring 2017*

LEC Section: 01 TBA Instructor: Mary Bercaw Edwards

### **MAST 258(S) Coastal Processes and Geomorphology**

**Crosslistings:** GEOS 258/ENVI 258/MAST 258

*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. Helping these growing populations to 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 an all-expenses-paid Spring Break field trip to the Outer Banks in North Carolina to collect oceanographic and geomorphologic data in conjunction with researchers at the U.S. Army Corps of Engineers Field Research Facility. Labs in the course will focus on analysis of the data collected during the field trip, and data collected previously at the Facility.

**Class Format:** lecture; will likely be a combination of lectures and discussions

**Requirements/Evaluation:** problem sets/lab reports, two short tests, 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 permission of instructor

**Enrollment Limit:** 10

**Expected Class Size:** 10

**Distributional Requirements:** Division 3

*Spring 2017*

LEC Section: 01 MWF 08:30 AM 09:45 AM Instructor: Alex Apotsos

### **MAST 311(F,S) Marine Ecology**

**Crosslistings:** MAST 311/BIOL 231

*Primary Crosslisting*

Using the principles of evolutionary biology and experimental ecology, this course examines the processes that control the diversity, abundance and distribution of marine organisms. Major marine communities, including estuaries, the rocky shore, sandy beaches, salt marshes, coral reefs, and the deep sea are discussed in detail.

**Class Format:** lecture/laboratory, including coastal and near-shore field trips, 10 days offshore, and a laboratory or field research project

**Requirements/Evaluation:** two tests, a research project, and a presentation

**Extra Info:** offered only at Mystic Seaport

**Prerequisites:** BIOL 101 or GEOS/MAST 104, or permission of instructor

**Distributional Requirements:** Division 3

**Other Attributes:** ENVI Natural World Electives, ENVS Group EB-A Electives, EVST Living Systems Courses, EXPE Experiential Education Courses

*Fall 2016*

LEC Section: 01 TBA Instructor: Michael Nishizaki

*Spring 2017*

LEC Section: 01 TBA Instructor: Michael Nishizaki

### **MAST 351(F,S) Marine Policy**

**Crosslistings:** MAST 351/ENVI 351/PSCI 319

*Primary 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

**Dept. Notes:** satisfies the Environmental Policy requirement for the Environmental Policy major and the Environmental studies concentration

**Distributional Requirements:** Division 2

**Other Attributes:** ENVI Environmental Policy, ENVP PTL Theory/Method Courses, ENVP PE-A Group Electives, ENVP PTL-A Group Electives, ENVP SC-A Group Electives, EXPE Experiential Education Courses, POEC International Political Economy Courses

*Fall 2016*

LEC Section: 01 TBA Instructor: Catherine Hall

*Spring 2017*

LEC Section: 01 TBA Instructor: Catherine Hall

### **MAST 352(F,S) Americans and the Maritime Environment (W)**

**Crosslistings:** MAST 352/HIST 352

*Primary Crosslisting*

This course examines the impact of the maritime environment (both salt water and fresh) on human affairs from the age of European expansion to the opening decades of the 21st century. Taught using the collections of Mystic Seaport Museum and on several distant field seminars, Americans and the Maritime Environment examines en situ such things as race, gender, revolution, and humankind's changing relationship with the world's oceans. Readings in primary sources and secondary works on the social, economic, and technological implications of maritime activities culminate in an original research paper.

**Class Format:** lecture/discussion, including coastal and near-shore field trips, 10 days offshore, and an independent, primary source research project

**Requirements/Evaluation:** two papers, and short presentation, and final exam. Student papers will be a 5-page minimum and a 15-page minimum essay; the 15-page paper will be critiqued in three steps, as a proposal, a draft, and a final paper, with attention to reasoning and style

**Extra Info:** offered only at Mystic Seaport

**Prerequisites:** BIOL 101 or GEOS/MAST 104, or permission of instructor

**Distributional Requirements:** Division 2, Writing Intensive

**Other Attributes:** AMST Space and Place Electives, ENVI Humanities, Arts + Social Science Electives, ENVP SC-B Group Electives, EXPE Experiential Education Courses, HIST Group F Electives - U.S. + Canada, HIST Group P Electives - Premodern

*Fall 2016*

LEC Section: 01 TBA Instructor: Glenn Gordinier

*Spring 2017*

LEC Section: 01 TBA Instructor: Glenn Gordinier

### **MAST 397(F) Independent Study: Maritime Studies**

Maritime Studies independent study.

**Class Format:** independent study

**Distributional Requirements:** Non-divisional

*Fall 2016*

IND Section: 01 TBA Instructor: Ronadh Cox

### **MAST 398(S) Independent Study: Maritime Studies**

Maritime Studies independent study.

**Class Format:** independent study

**Distributional Requirements:** Non-divisional

*Spring 2017*

IND Section: 01 TBA Instructor: Ronadh Cox

### **MAST 402(S) Senior Seminar: Perspectives on Environmental Studies**

**Crosslistings:** ENVI 402/MAST 402

*Secondary Crosslisting*

The Environmental Studies and Maritime Studies programs provide students with an opportunity to explore the myriad ways in which humans interact with diverse environments at scales ranging from local to global. As the capstone course for Environmental Studies and Maritime Studies, this seminar will bring together students who will have specialized in the humanities, social studies and/or the sciences and will provide an opportunity for exchange across these disciplinary streams. Readings and discussion will be organized around the common theme of climate change. 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 302 or MAST 351 Maritime Policy or permission of instructor

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

**Enrollment Limit:** 20

**Expected Class Size:** 19

**Dept. Notes:** required course for students wishing to complete the Environmental Policy & Environmental Science majors and the Environmental Studies or the Maritime Studies concentrations

**Distribution Notes:** no division 1, 2 or 3 credit

**Distributional Requirements:** Non-divisional

**Other Attributes:** ENVI Core Courses, ENVP Core Courses, ENVS Core Courses, SCST Elective Courses

*Spring 2017*

SEM Section: 01 MR 01:10 PM 02:25 PM Instructor: Pia Kohler

**MAST 493(F) Senior Thesis: Maritime Studies**

Maritime Studies senior thesis.

**Class Format:** independent study

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

**Distributional Requirements:** Non-divisional

*Fall 2016*

HON Section: 01 TBA Instructor: Ronadh Cox

**MAST 494(S) Senior Thesis: Maritime Studies**

Maritime Studies senior thesis.

**Class Format:** independent study

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

**Distributional Requirements:** Non-divisional

*Spring 2017*

HON Section: 01 TBA Instructor: Ronadh Cox