Environmental Science and Policy

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Assistant Director
Joanne Benkley

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Jeffry Lee Ramsey, Associate Professor of Philosophy
Amy Larson Rhodes, Professor of Geosciences
Heather Rosenfeld, Lecturer of Environmental Science and Policy
Susan Stratton Sayre, Associate Professor of Economics
L. David Smith, Professor of Biological Sciences
Camille Washington-Ottombre, Associate Professor of Environmental Science and Policy

The Major

The environmental science and policy (ES&P) major is designed for students with interests in the environment and sustainability and a commitment to scientifically-based problem solving and policy analysis. The objectives of the major are to prepare students to transcend disciplinary boundaries, combine analytical and communication skills with a well-rounded understanding of the environment, and translate this knowledge into meaningful action and innovative solutions. Four integration courses form the intellectual and organizational core of the major. Each course brings together frameworks, proficiencies and knowledge from natural and social sciences in an explicitly integrative fashion to explore and analyze important environmental topics at local, regional, national and global levels. Additional foundational courses provide breadth in the natural and social sciences, humanities, and statistics, and introduce students to fundamental aspects of disciplines important to understanding human-environment interactions. Students gain depth of knowledge by choosing a coherent sequence of electives with a clear environmental focus. Students are strongly encouraged to engage in environmentally oriented internships, combining fundamental aspects of disciplines important to understanding human-environment interactions. Students gain depth of knowledge by choosing a coherent sequence of electives with a clear environmental focus. Students are strongly encouraged to engage in environmentally oriented internships, combining two courses from different areas in the natural sciences (BIO, CHM, GEO, PHY) and one from policy (SSHP) from different departments. A fifth course at any level in either the natural sciences or SSHP, or a quantitative/research methods course. The 2-credit stand-alone laboratories BIO 131 and GEO 102 may be used for the fifth course. A student cannot count two 100-level lecture courses in the same discipline toward the foundational requirement.

Requirements: The ES&P major requires 14 courses. These include the following:

• Four environmental integration courses (ENV 101, ENV 201/202, ENV 311, ENV 312)
• Five foundational courses:
  • Two courses from different areas in the natural sciences (BIO, CHM, GEO, PHY), one of which must be a lab course (see list)
  • Two courses in the category of social sciences, humanities and policy (SSHP) from different departments (see list)
• A fifth course at any level in either the natural sciences or SSHP, or a quantitative/research methods course. The 2-credit stand-alone laboratories BIO 131 and GEO 102 may be used for the fifth course. A student cannot count two 100-level lecture courses in the same discipline toward the foundational requirement.

Environmental Integration Courses

All majors must complete the four environmental integration courses:

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENV 101</td>
<td>Sustainability and Social-Ecological Systems</td>
</tr>
<tr>
<td>ENV 201</td>
<td>Researching Environmental Problems</td>
</tr>
<tr>
<td>ENV 202</td>
<td>Researching Environmental Problems Laboratory</td>
</tr>
<tr>
<td>ENV 311</td>
<td>Interpreting and Communicating Environmental Information</td>
</tr>
<tr>
<td>ENV 312</td>
<td>Sustainable Solutions</td>
</tr>
</tbody>
</table>

Foundational Courses

Natural Sciences

All majors must take one course in two of the following four natural science areas: biological sciences, chemistry, geosciences, or physics. One of these two courses must include a laboratory or field component (e.g., CHM 111, GEO 108), or be taken with an accompanying laboratory or field course (e.g., BIO 130 and BIO 131). Students with Advanced Placement credit (4 or 5) in an area may substitute an appropriate upper-level course in consultation with an ES&P adviser and in accordance with guidelines of the home department.

Natural Science Lab or Field Courses

<table>
<thead>
<tr>
<th>Course</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BIO 131</td>
<td>Research in Biodiversity, Ecology, and Conservation</td>
</tr>
<tr>
<td>CHM 111</td>
<td>Chemistry I: General Chemistry</td>
</tr>
<tr>
<td>CHM 118</td>
<td>Advanced General Chemistry</td>
</tr>
<tr>
<td>FYS 103</td>
<td>Geology in the Field</td>
</tr>
<tr>
<td>GEO 102</td>
<td>Exploring the Local Geologic Landscape</td>
</tr>
<tr>
<td>GEO 108</td>
<td>Oceanography: An Introduction to the Marine Environment</td>
</tr>
</tbody>
</table>
Natural Science Lecture Courses

BIO 130  Biodiversity, Ecology and Conservation
CHM 108  Environmental Chemistry
ENV 108  Environmental Chemistry
GEO 101  Introduction to Earth Processes and History
GEO 104  Global Climate Change: Exploring the Past, the Present and Options for the Future
GEO 105  Natural Disasters: The Science Behind the Headlines
GEO 106  Extraordinary Events in the History of Earth, Life and Climate
PHY 110  Energy, Environment and Climate

Social Sciences, Humanities and Policy

All majors must take two courses from the social science, humanities and policy category listed below. The courses must be from different departments. Students with Advanced Placement credit (4 or 5) in an area may substitute an appropriate upper-level course in consultation with an ES&P adviser and in accordance with guidelines of the home department.

ANT 130  Introduction to Cultural Anthropology
ANT 224  Anthropos in the Anthropocene: Human-Environment Relations in a Time of Ecological Crisis
ECO 150  Introductory Microeconomics
ENG 118  Colloquium in Writing
  Writing About Science
  Water: Science and Politics
ENG 119  Writing Roundtable
  What's for Dinner? Writing About Food
  This Overheating World
ENG 135  Introduction to Writing Creative Nonfiction
  Writing About the Environment
  Writing About Place and Travel
FYS 101  The Lives of Animals: Literature and the Nonhuman
FYS 151  Our Mill River
FYS 163  Exploring Our National Parks
GOV 200  American Government
GOV 207  Politics of Public Policy
GOV 220  Introduction to Comparative Politics
GOV 241  International Politics
LAS 201  Colloquium in Latin American and Latino/a Studies
  Environmental Legacies and Ecological Futures of Latin America
  Climate and Conflict
LSS 255  Art and Ecology
PH 238  Environmental Ethics
PPL 220  Public Policy Analysis
RES 210  Environment and Ecology in Russian Culture
SOC 101  Introduction to Sociology
SWG 150  Introduction to the Study of Women and Gender

Statistics

All majors must take one course in statistics (ECO 220, GOV 203, MTH 220, PSY 201, SDS 201, SDS 220 or SOC 204). Students with Advanced Placement credit (4 or 5) in statistics may substitute an appropriate upper-level statistics course in consultation with an ES&P adviser and in accordance with guidelines of the home department.

Electives for the Environmental Focus

Majors should choose their elective courses in consultation with the major adviser to create a coherent sequence with a clear environmental focus; the focus may be specific to a discipline, topic or location. No more than one elective can be at the 100 level; at least one must be at the 300 level. Several colloquium and seminar courses have rotating themes; approval is granted for years when the focus is on environmental and sustainability topics. ENX 100 may not be used as an elective. Electives and the environmental focus can be identified at the time the major is declared but not later than the end of the add/drop period of the first semester of junior year. Subsequent changes require approval of the major adviser. Electives can include but are not limited to the following approved list. Other relevant courses offered at Smith, within the Five College Consortium, or in study-away programs may be used to satisfy the electives requirement of the major with consultation and approval of the major adviser. One semester of independent study (400) or credit toward an honors thesis (430d) may be substituted for one elective, but neither may count as the 300-level elective. 400 must be taken for 3 or 4 credits to be used as an elective. Internships, study-abroad or Praxis experiences are encouraged.

Natural Sciences

Biological Sciences

BIO 103  Economic Botany: Plants and Human Affairs
BIO 206  Plant Physiology
BIO 207  Plant Physiology Laboratory
BIO 260  Invertebrate Diversity
BIO 261  Invertebrate Diversity Laboratory
BIO 264  Plant Diversity and Evolution
BIO 265  Plant Diversity and Evolution Laboratory
BIO 266  Ecology: Principles and Applications
BIO 267  Ecology: Principles and Applications Laboratory
BIO 268  Marine Ecology
BIO 269  Marine Ecology Laboratory
BIO 272  Vertebrate Biology
BIO 273  Vertebrate Biology Laboratory
BIO 364  Plant Ecology
BIO 365  Plant Ecology Laboratory
BIO 366  Biogeography
BIO 390  Seminar: Topics in Environmental Biology
  Coral Reef Ecology and Conservation
  Investigations in Conservation Biology

Chemistry

CHM 346  Environmental Analytical Chemistry
ENV 150  Mapping Our World: An Introduction to Geographic Information Systems
ENV 224  Anthropos in the Anthropocene: Human-Environment Relations in a Time of Ecological Crisis
ENV 229  Critical Cartography and Environmental Social Movements
ENV 323  Climate and Energy Policy
ENV 326  Seminar: Environmental Justice and Natural Resource Management
ENV 327  Environmental Justice in an Urbanizing World
ENV 333  Political Ecology of Animals
ENV 340  Climate Change: Making Social Change Happen
  A Calderwood Seminar in Public Writing
### Environmental Concentration

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENX 301</td>
<td>Environmental Concentration Capstone</td>
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</tbody>
</table>

### Geosciences

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
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</thead>
<tbody>
<tr>
<td>GEO 150</td>
<td>Mapping our World: An Introduction to Geographic Information Systems</td>
</tr>
<tr>
<td>GEO 231</td>
<td>Invertebrate Paleontology and the History of Life</td>
</tr>
<tr>
<td>GEO 232</td>
<td>Sedimentary Geology</td>
</tr>
<tr>
<td>GEO 251</td>
<td>Geomorphology</td>
</tr>
<tr>
<td>GEO 301</td>
<td>Aqueous Geochemistry</td>
</tr>
<tr>
<td>GEO 309</td>
<td>Groundwater Geology</td>
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</tbody>
</table>

### Physics and Engineering

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>EGR 312</td>
<td>Seminar: Atmospheric Processes</td>
</tr>
<tr>
<td>EGR 314</td>
<td>Seminar: Contaminants in Aquatic Systems</td>
</tr>
<tr>
<td>EGR 315</td>
<td>Seminar: Hydrology</td>
</tr>
<tr>
<td>EGR 325</td>
<td>Seminar: Electric Power Systems</td>
</tr>
<tr>
<td>EGR 326</td>
<td>Dynamic Systems and Introduction to Control Theory</td>
</tr>
<tr>
<td>EGR 346</td>
<td>Hydrosystems Engineering</td>
</tr>
<tr>
<td>EGR 388</td>
<td>Seminar: Photovoltaic and Fuel Cell System Design</td>
</tr>
<tr>
<td>EGR 390</td>
<td>Advanced Topics in Engineering</td>
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</tbody>
</table>

### Social Sciences, Humanities and Policy

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMS 229</td>
<td>Native New England</td>
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<tr>
<td>AMS 245</td>
<td>Feminist and Indigenous Science Studies</td>
</tr>
<tr>
<td>ANT 224</td>
<td>Anthropos in the Anthropocene: Human-Environment Relations in a Time of Ecological Crisis</td>
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<tr>
<td>ANT 226</td>
<td>Archaeology of Food</td>
</tr>
<tr>
<td>ANT 229</td>
<td>Africa and the Environment</td>
</tr>
<tr>
<td>ANT 317</td>
<td>Seminar: The Anthropology of Landscape – Space, Place, Nature</td>
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<tr>
<td>ARH 291</td>
<td>Topics in Art History</td>
</tr>
<tr>
<td>ARS 153</td>
<td>Drawing Social Justice</td>
</tr>
<tr>
<td>ARS 280</td>
<td>Introduction to Architectural Design Studio: Analog Processes - Ground</td>
</tr>
<tr>
<td>ARS 389</td>
<td>Broad-Scale Design and Planning Studio</td>
</tr>
<tr>
<td>DAN 171</td>
<td>Dance History: Political Bodies From the Stage to the Page</td>
</tr>
<tr>
<td>DAN 339</td>
<td>Movement Ecology and Performance in the Smith Landscape</td>
</tr>
<tr>
<td>ECO 224</td>
<td>Environmental Economics</td>
</tr>
<tr>
<td>ECO 271</td>
<td>The Economics of Climate Change</td>
</tr>
<tr>
<td>ECO 324</td>
<td>Seminar: Economies of the Environment and Natural Resources</td>
</tr>
<tr>
<td>ENG 100</td>
<td>Nature’s Nation?: American Literature of the Environment</td>
</tr>
<tr>
<td>ENG 119</td>
<td>Writing Roundtable</td>
</tr>
<tr>
<td>ENG 135</td>
<td>Introduction to Writing Creative Nonfiction</td>
</tr>
<tr>
<td>ENG 237</td>
<td>Environmental Poetry and Ecological Thought</td>
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<tr>
<td>ENG 290</td>
<td>Crafting Creative Nonfiction</td>
</tr>
<tr>
<td>ENG 291</td>
<td>Lakes Writing Workshop</td>
</tr>
<tr>
<td>ENG 365</td>
<td>Race and Environment</td>
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<tr>
<td>ENV 275</td>
<td>Decoding the Experts: Modeling the Impact of Climate Change</td>
</tr>
<tr>
<td>ENV 113</td>
<td>Colloquium: Organic, Mechanical and Digital Environments</td>
</tr>
<tr>
<td>ENV 218</td>
<td>Environmental Policy</td>
</tr>
<tr>
<td>ENV 323</td>
<td>Climate and Energy Policy</td>
</tr>
<tr>
<td>ENV 326</td>
<td>Seminar: Environmental Justice and Natural Resource Management</td>
</tr>
<tr>
<td>FYS 122</td>
<td>Eden and Other Gardens</td>
</tr>
<tr>
<td>FYS 141</td>
<td>Reading, Writing and Placemaking: Landscape Studies</td>
</tr>
<tr>
<td>FYS 155</td>
<td>Housing In/Justice and Tiny House Dreams</td>
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<tr>
<td>FYS 190</td>
<td>Borders, Identity, and Justice</td>
</tr>
<tr>
<td>GER 250</td>
<td>Advanced Intermediate German: Environmental Culture</td>
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<tr>
<td>GOV 239</td>
<td>Social Justice Movements in Latin America</td>
</tr>
<tr>
<td>GOV 242</td>
<td>International Political Economy</td>
</tr>
<tr>
<td>GOV 254</td>
<td>Colloquium: Politics of the Global Environment</td>
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<tr>
<td>GOV 347</td>
<td>Seminar in International Politics and Comparative Politics</td>
</tr>
<tr>
<td>ITL 205</td>
<td>Savoring Italy: Recipes and Thoughts on Italian Cuisine and Culture</td>
</tr>
<tr>
<td>JUD 229</td>
<td>Judaism and Environmentalalism</td>
</tr>
<tr>
<td>LAS 201</td>
<td>Colloquium in Latin American and Latino/a Studies</td>
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<tr>
<td>LAS 301</td>
<td>Seminar: Topics in Latin American and Latino/a Studies</td>
</tr>
<tr>
<td>LSS 230</td>
<td>Urban Landscapes</td>
</tr>
<tr>
<td>LSS 250</td>
<td>Studio: Landscape and Narrative</td>
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<tr>
<td>LSS 255</td>
<td>Art and Ecology</td>
</tr>
<tr>
<td>LSS 300</td>
<td>Rethinking Landscape</td>
</tr>
<tr>
<td>LSS 315</td>
<td>Seminar: Urban Ecological Design</td>
</tr>
<tr>
<td>MUS 258</td>
<td>Performing Culture</td>
</tr>
<tr>
<td>PHI 221</td>
<td>Ethics and Society</td>
</tr>
<tr>
<td>PHI 224</td>
<td>Philosophy and History of Scientific Thought</td>
</tr>
<tr>
<td>PHI 238</td>
<td>Environmental Ethics</td>
</tr>
<tr>
<td>PHI 304</td>
<td>Seminar in Applied Ethics</td>
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<tr>
<td>PSY 268</td>
<td>The Human Side of Climate Change</td>
</tr>
<tr>
<td>REL 305</td>
<td>Advanced Topics in Religion</td>
</tr>
<tr>
<td>RES 210</td>
<td>Violence, Non-violence and Revolution</td>
</tr>
<tr>
<td>SOC 230</td>
<td>Environment and Ecology in Russian Culture</td>
</tr>
<tr>
<td>SOC 232</td>
<td>World Population</td>
</tr>
<tr>
<td>SOC 233</td>
<td>Sociology of Climate Change</td>
</tr>
<tr>
<td>SOC 333</td>
<td>Seminar: Social Justice, the Environment and the Corporation</td>
</tr>
<tr>
<td>SPN 230</td>
<td>Latin American and Peninsular Culture and Society</td>
</tr>
<tr>
<td>SWG 227</td>
<td>Feminist and Queer Disability Studies</td>
</tr>
<tr>
<td>SWG 321</td>
<td>Marxist Feminism</td>
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<tr>
<td>WLT 340</td>
<td>Narrating the Anthropocene</td>
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</tbody>
</table>

### Special Studies

<table>
<thead>
<tr>
<th>Code</th>
<th>Course Name</th>
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</thead>
<tbody>
<tr>
<td>ENV 400</td>
<td>Special Studies</td>
</tr>
</tbody>
</table>

Admission by permission of the instructor. Special Studies are open to qualified juniors and seniors and, in appropriate cases, to sophomores. Students are encouraged to contact the instructor in advance of the semester they intend to take this course. Credits: 1–4

**Members of the department**

Normally offered both fall and spring semesters
Honors

Students with a strong academic background who wish to conduct independent and original work on an environmental topic are encouraged to pursue an honors project. Interested students should contact potential honors advisers by the beginning of February in the spring semester of their junior year.

Please consult the director of honors for specific requirements and application procedures.

Director: Andrew Berke

ENV 430D Honors Project

Full-year course, 4 credits each semester. Offered every year. Please consult the director of honors for specific requirements and application procedures.

Credits: 8

Normally offered both fall and spring semesters

Study Abroad

Students may elect to take courses for the major outside Smith College by participating in an environmentally oriented, off-campus program. Relevant Smith-approved programs include but are not limited to Arava Institute for Environmental Studies, Danish Institute for Study Abroad, Duke University's Organization for Tropical Studies, Frontiers Abroad Earth Systems New Zealand, the School for Field Studies, the School for International Training, SEA Semester, and the Maritime Studies Program of Williams College and Mystic Seaport. Courses from other study-away programs may also be eligible for credit with approval of the major adviser. Study-away courses will generally count as 200-level electives, but specific courses in specific programs may be authorized to count as 300-level electives with preapproval of the major adviser.

Study Abroad Adviser: Your major adviser for environmental science and policy

The Minor

Advisers: Advisers for the major also serve as advisers for the minor

The minor consists of six courses chosen with the guidance and approval of an ES&P adviser. Interested students are urged to meet with the chair, assistant director or ES&P adviser early in their academic planning.

Requirements: Six courses: ENV 101; two courses from the natural science category (must be in different areas); one course from the social science, humanities and policy category; and two electives in consultation with the minor adviser. For three of the six courses, two must be 200 level or higher; the third should normally be above the 100 level. EGR 315 and GEO 301 may be used to fulfill a natural science requirement in either of two categories (see list below). EGR 100 has several rotating themes and may count toward the minor when the focus is on energy, natural resources or sustainability. ENX 100 may not be used as an elective; ENV 201/202 and ENV 311 may count as electives toward the minor but do not fulfill either the natural science or the social science, humanities and policy requirements. We recommend taking a course in geographic information systems (ENV 150/GEO 150) as an elective. Appropriate Smith courses not listed below, Five College courses, or courses taken at other institutions and through summer and semester-away programs may be counted toward the minor with preapproval of the adviser. Students must satisfy the prerequisites for all courses included in their minor program. No more than three of the six courses may be taken at other institutions. No more than one course may be taken S/U; ENV 101 may not be taken S/U.

Natural Sciences

All minors must take one course in the following four natural science areas:

Biological Sciences

BIO 130  Biodiversity, Ecology and Conservation
BIO 266  Ecology: Principles and Applications
BIO 267  Ecology: Principles and Applications Laboratory
BIO 268  Marine Ecology
BIO 269  Marine Ecology Laboratory
BIO 364  Plant Ecology
BIO 365  Plant Ecology Laboratory
BIO 390  Seminar: Topics in Environmental Biology
Coral Reef Ecology and Conservation
Investigations in Conservation Biology

Chemistry

CHM 108  Environmental Chemistry
CHM 346  Environmental Analytical Chemistry
ENV 108  Environmental Chemistry
GEO 301  Aqueous Geochemistry

Geosciences

GEO 101  Introduction to Earth Processes and History
GEO 104  Global Climate Change:
Exploring the Past, the Present and Options for the Future
GEO 105  Natural Disasters: The Science Behind the Headlines
GEO 106  Extraordinary Events in the History of Earth, Life and Climate
GEO 108  Oceanography: An Introduction to the Marine Environment
GEO 301  Aqueous Geochemistry
GEO 309  Groundwater Geology

Physics and Engineering

EGR 100  Engineering for Everyone
How We Engineer the Environment
Sustainable Water Resources
Energy and the Environment
EGR 312  Seminar: Atmospheric Processes
EGR 315  Seminar: Ecostudies
PHY 110  Energy, Environment and Climate

Social Sciences, Humanities and Policy

All minors must take one course in the social sciences, humanities and policy area:

ANT 224  Anthropos in the Anthropocene:
Human-Environment Relations in a Time of Ecological Crisis
ANT 229  Africa and the Environment
ECO 224  Environmental Economics
ECO 271  The Economics of Climate Change
ENV 224  Anthropos in the Anthropocene:
Human-Environment Relations in a Time of Ecological Crisis
ENV 229  Critical Cartography and Environmental Social Movements
ENV 275  Decoding the Experts: Modeling the Impact of Climate Change
ENV 313  Political Ecology of Animals
ENV 323  Climate and Energy Policy
ENV 326  Seminar: Environmental Justice and Natural Resource Management
ENV 327  Environmental Justice in an Urbanizing World
GOV 207  Politics of Public Policy
Courses

ENV 101 Sustainability and Social-Ecological Systems
We have entered a new geological epoch, the Anthropocene, characterized by the accelerating impact of human activities on the Earth’s ecosystems. All over the globe, humans have transformed the environment and have sometimes created catastrophic dynamics within social-ecological systems. Scientists have studied these phenomena for decades, alerting both the general public and policy-makers of the consequences of our actions. However, despite convincing evidence of environmental degradation, humans continue to radically transform their environment. This course explores this puzzle and asks how we can remodel our social-ecological systems to build a more sustainable and resilient future. [H] [N] [S] Credits: 4
Members of the department
Fall, Spring

ENS 108/CHM 108 Environmental Chemistry
Offered as CHM 108 and ENV 108. An introduction to environmental chemistry, applying chemical concepts to topics such as acid rain, greenhouse gases, air quality, pesticides and waste treatment. Chemical concepts are developed as needed. [N] Credits: 4
Members of the department
Fall, Spring

ENV 113 Colloquium: Organic, Mechanical and Digital Environments
Beginning in the late 20th century, human organization and experience has increasingly been influenced by digital forms of communication, production and integration with the environment. This is an environmental, technological, social landscape that will likely dominate the rest of our lives, but how can we responsibly accept or use it without putting it in context with other forms of technology and communities? We will examine life and our relationship to nature in organic, mechanical and digital societies in order to understand the following: 1) How we may be different types of people as a result of our technology, and 2) How technological change can be linked to social transformations. Because technology and its effects on society are multifaceted, we will draw from several disciplines. Sources from historians, anthropologists, sociologists, philosophers, political scientists and ecologists will be used to reconstruct these worlds and place our own in clearer context. Enrollment limited to 18. [S] Credits: 4
Yancey Orr
Fall, Spring, Variable

ENV 150/ GEO 150 Mapping our World: An Introduction to Geographic Information Systems
Offered as GEO 150 and ENV 150. A geographic information system (GIS) enables data and maps to be overlain, queried and visualized in order to solve problems in many diverse fields. This course provides an introduction to the fundamental elements of GIS and applies the analysis of spatial data to issues in geoscience, environmental science and public policy. Students gain expertise in ArcGIS—the industry standard GIS software—and online mapping platforms, and carry out semester-long projects in partnership with local conservation organizations. Enrollment limited to 20. [N] Credits: 4
John Loveless
Fall

ENV 201 Researching Environmental Problems
While focusing on topical environmental issues, students learn how to gather, analyze and present data using methods from the natural and social sciences. Data are drawn from multiple sources, including laboratory experiments, fieldwork, databases, archival sources, surveys and interviews. Emphasis is on quantitative analysis. Environmental topics vary in scale from the local to the global. Corequisite: ENV 202. Prerequisite: ENV 101. Enrollment limited to 18. [N] [S] Credits: 4
Members of the department
Fall, Spring

ENV 202 Researching Environmental Problems Laboratory
In this laboratory complement to 201, students use a variety of methods to gather and analyze different types of environmental data (quantitative, qualitative, spatial). Corequisite: ENV 201. Prerequisite: ENV 101. Enrollment limited to 18. [N] [S] Credits: 1
Members of the department
Fall, Spring

ENV 207 Introduction to Environmental History
This course offers an introduction to the methods and key debates in environmental history, the history of the relationship between humanity and the “rest of nature,” including climate, water, soils, landscapes, plants, animals, microbes, and others. “What is environmental history?” is in fact easier to answer than “What isn't environmental history?” Since the 1970s, environmental historians have used an environmental lens to examine topics like politics, economy, religion, gender, race, migration, art, music, literature, and culture. In addition to typical archives of texts and other historical remnants created by people, environmental historians also avail themselves to “natural” archives, including the ice core, tree-ring, and lake sediment samples collected by climate scientists. Topics in this course will include historical conceptions of nature and the natural world, human settlement, human/animal relations, disaster, agrarian development, the adoption of carbon energy, social movements centered on the environment and environmentalism, and discussions of the Anthropocene. (E) [H] Credits: 4
Matthew Ghazarian
Fall, Spring, Variable

ENV 218 Colloquium: Environmental Policy
Why has the U.S. Congress failed to address so many environmental issues since the heyday of the 1970s? What can the current administration do on climate and environmental justice without Congress? Where is environmental policy being made if not in Congress? This course explores the political, economic, legal, ethical, and institutional dimensions of the environmental policy making process. The focus is on understanding policy-making systems at a range of scales and how to influence and improve them. Prerequisite: ENV 101 or instructor permission. Enrollment limited to 20. (E) [S] Credits: 4
Alexander Richard Barron
Annually, Spring
ENV 224/ANT 224 Anthropos in the Anthropocene: Human-Environment Relations in a Time of Ecological Crisis
Offered as ANT 224 and ENV 224. Anthropology seeks to understand human life in all its complexity, but what constitutes the human is far from straightforward. This course examines the changing ways that Anthropos is being understood in an era of rapid global climate change and our planet’s sixth mass extinction event, both driven by human activities. We review perspectives on the relationship between humans and their environment from various cultural perspectives, considering how they engage notions of race, class, and gender, and what they imply for nature conservation. Topics include modernity, pets, cyborgs, kinship, symbiosis, extinction, species invasions, settler colonialism, and the Anthropocene concept. Enrollment limited to 30. [S] Credits: 4
Heather Rosenfeld
Spring

ENV 229 Colloquium: Critical Cartography and Environmental Social Movements
How do maps lie? Do maps describe or create spaces and places? How does the design of a map impact its message? And how does all of this matter for environmental social movements? This course is a practice-based investigation of questions such as these, through bringing the insights of critical cartography to bear on environmental social movements. Students will come out of the course with a map portfolio, improved skills in cartography, and a deeper sense of how maps have been used to not only describe but also influence environmental issues. Prerequisite: ENV 150 or GEO 150. (E) Credits: 4
Heather Rosenfeld
Spring

ENV 311 Interpreting and Communicating Environmental Information
This course focuses on the interpretation and communication of environmental issues and solutions from multi- and interdisciplinary perspectives. Using contemporary environmental topics as a foundation, this course emphasizes careful assessment of both message and audience to design effective communication strategies for complex topics. Students develop the ability to read, interpret, and critique environmental research from a variety of disciplines; to consider the needs and motivation of their audience; to develop evidence-based arguments tailored to a particular audience; and to articulate those arguments clearly and concisely. Prerequisite: one semester of statistics. ENV 101 and ENV 201/202 are strongly recommended. Enrollment limited to 18. [N] [S] Credits: 4
Members of the department
Fall

ENV 312 Seminar: Sustainable Solutions
This course is designed to develop a student’s abilities as an environmental problem solver through practice. The problems come in two forms: a campus or local problem related to environmental sustainability or resilience, and the problem of what to do with one’s life. To address each, students engage in a semester-long group project that addresses a real-world environmental issue or question (projects vary from year to year) and a more individualized examination of the student’s own values, career aspirations and skills. Student work is assessed via progress reports, exercises, class participation, an oral presentation and a final written report. Prerequisites: ENV 101, ENV 201/202 and a statistics course. Corequisite: ENV 311. Enrollment limited to 12. Juniors and seniors only. Instructor permission required. [N] [S] Credits: 4
Members of the department
Fall, Spring

ENV 313 Seminar: Political Ecology of Animals
Natural, wild, domestic – where are the boundaries? Should we care more about “charismatic megafauna” than bugs? How are race, gender, and class implicated in animal agriculture? This course interrogates the relationship between nonhuman animals, humans, and our shared environment. The first half introduces ways of thinking about and studying animals and society. The second half is thematic, exploring ways of conceptualizing and relating to nonhuman animals, including pets, pests, wildlife, and agricultural commodities/food. We will also explore what happens when animals switch categories, as in rewilding endeavors and animal sanctuaries. Enrollment limited to 12. Juniors and seniors only. Instructor permission required. (E) Credits: 4
Heather Rosenfeld
Spring

ENV 323 Seminar: Climate and Energy Policy
This course examines climate change and energy policy from several perspectives including scientific, economic, equity, political and practical considerations. We examine sources and trends of greenhouse gas emissions and climate impacts and then focus on a specific sector (e.g., electric power) to consider existing policies, market structures and the spectrum of approaches to reduce emissions. Students work in small groups on projects in an active policy area and prepare a briefing and memo. Prerequisite: ENV 101 or permission of the instructor. Enrollment limited to 12. Juniors and seniors only. Instructor permission required. [N] [S] Credits: 4
Alexander Richard Barron
Annually, Fall, Spring

ENV 326 Seminar: Environmental Justice and Natural Resource Management
This course will examine the connections between natural resource management and environmental justice in the US and the Global South. We will study the benefits and limits of traditional top-down approaches to the management of forests, land, fisheries, biodiversity, underground resources, water, food, and genomes in different parts of the world. By discussing case studies of environmental justice issues from tar sands mining in Alberta to the impact of biofuels and GMOs on local populations in Mexico, students will question and rethink the management of natural resources. Enrollment limited to 12. Juniors and seniors only. Instructor permission required. [S] Credits: 4
Camille Washington-Ottombre
Annually, Fall, Spring

ENV 327 Seminar: Environmental Justice in an Urbanizing World
This course will explore global environmental justice issues, debates, and policies in the context of an urbanizing world marked by race, gender, nationality, ethnicity, caste, class, and other lines of difference. We will draw from scholarship in urban studies, anthropology, sociology, geography, and other related fields to develop an appreciation of global environmental injustices and efforts to redress these injustices, whether through formal planning and policies, social movements, community organizing, or everyday environmentalism. We will cover environmental issues at multiple scales from around the world and explore the interrelatedness of themes. Prerequisite: ENV 101. Enrollment limited to 12. Juniors and seniors only. Instructor permission required. Credits: 4
Efadul Huq
Spring

ENV 331 Seminar: Famine-A Global Political Ecology
This course examines cases of famine from across the globe. Although famine has long been conceived of as arising from “natural” disasters like drought and pest infestations, recent work has suggested that human action may be more at play than had once been thought. In this course, we examine historical cases of famine to evaluate its causes and responses to it across different parts of the world. How did different societies conceive of and respond to ecological forces, and how did ecological forces change different societies? In examining several cases, we will have the opportunity to evaluate claims about famine’s
human and/or natural provenance, as well as ideas about famine's relationship to empire-building and state-making. To what extent have waves of hunger and starvation helped to secure the division between the Global South and Global North? To work through these questions, we will have a combination of lectures, discussions, and group work. Enrollment limited to 12. Juniors and seniors only. Instructor permission required. (E) {H} Credits: 4
Matthew Ghazarian
Spring, Variable

ENV 340 Seminar: Climate Change: Making Social Change Happen - A Calderwood Seminar in Public Writing
Stop stressing about climate change and learn how to write to make social change happen. This Calderwood Seminar challenges advanced students in an intimate workshop setting to grow as writers and agents of change. We will investigate the coessential relationships between climate change and social change, and explore how writing can open the way towards a more sustainable and just society. Throughout the semester, students will build a writing portfolio that might comprise a policy brief, a blog post, an interview-based profile of a climate activist, and a newspaper op-ed. Classes will include collaborative editing workshops, guest lectures, and other activities to build a strong writing foundation to implement social change. This course may be taken in place of the required environmental integration course ENV 311. Enrollment limited to 12. Juniors and seniors only. Instructor permission required. (N) {S} Credits: 4
Camille Washington-Ottombre
Fall, Spring, Variable

ENV 400 Special Studies
Admission by permission of the instructor. Special Studies are open to qualified juniors and seniors and, in appropriate cases, to sophomores. Students are encouraged to contact the instructor in advance of the semester they intend to take this course. Credits: 4
Fall, Spring

ENV 430D Honors Project
Full-year course, 4 credits each semester. Offered every year. Please consult the director of honors for specific requirements and application procedures. Credits: 4
Fall, Spring