Environmental Studies

Many of the most pressing challenges of the 21st Century are environmental ones. We must find ways to feed a growing human population while maintaining the natural life support system provided by the Earth’s ecosystems; to make built environments more efficient as urban areas continue to grow dramatically in size; and to meet the challenges posed by rising sea-level and increasing global temperatures. These challenges are complex, multifaceted and can best be solved with expertise from multiple, relevant disciplines. To prepare students to meet these challenges, the Institute at Brown for Environment and Society (IBES) offers two undergraduate degrees: an A.B. in Environmental Studies and a Sc.B. in Environmental Science. The two degrees vary primarily in the number of course requirements; the Sc.B. is a more in-depth treatment of a single field. Both degrees provide interdisciplinary exposure to the natural and social sciences, as well as public policy. Both degrees also develop depth in a primary field by requiring students to select one of four tracks of study. Concentrators might also consider pursuing the Engaged Scholars Program, which allows them to connect theory and practice and gain hands-on experience working with community partners.

Through a rigorous set of core courses, track requirements, and a course or project-based capstone experience, our students are primed to make meaningful contributions to environmental scholarship and outreach at local, national and global scales.

If you have administrative questions regarding theses concentrations or wish to be added to the email directory listing upcoming events, then please contact Jeanne Loewenstein (jeanne_loewenstein@brown.edu), the administrative manager.

Standard program in Environmental Studies and Environmental Science:

The Institute at Brown for Environment and Society administers two concentrations, one offering an A.B. degree in Environmental Studies (requires 14-15 courses) and the other a Sc.B. degree in Environmental Science (requires 19-20 courses). Below are a set of course offerings arranged into four tracks:

1. Air, Climate & Energy
2. Conservation Science & Policy
3. Environment & Inequality (New)
4. Land, Water & Food Security
5. Sustainability in Development

Requirements for the A.B. Degree

<table>
<thead>
<tr>
<th>Core Requirements</th>
<th>Track 1 - Air, Climate, and Energy</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENVS 0110</td>
<td>Climate: Select One</td>
</tr>
<tr>
<td>Principles of Economics</td>
<td>GEOL 1350  Weather and Climate</td>
</tr>
<tr>
<td>ENVS 0490</td>
<td>Physics:</td>
</tr>
<tr>
<td>Environmental Science in a Changing World</td>
<td>PHYS 1430  Principles of Planetary Climate</td>
</tr>
<tr>
<td>ENVS 0495</td>
<td>Energy Technology: Select One</td>
</tr>
<tr>
<td>Introduction to Environmental Social Science</td>
<td>ENGN 1930U  Renewable Energy Technologies</td>
</tr>
<tr>
<td>BIOL 0210</td>
<td>Policy: Select One</td>
</tr>
<tr>
<td>Diversity of Life</td>
<td>ENVS 1415  Power, Justice, and Climate Change</td>
</tr>
<tr>
<td>or GEOL 0240</td>
<td>ENVS 1575  Engaged Climate Policy at the UN Climate Change Talks</td>
</tr>
<tr>
<td>Methods - one course</td>
<td>ENVS 1615  Making Connections: The Environmental Policy Process</td>
</tr>
<tr>
<td>ENVS 1920</td>
<td>ENVS 1755  Globalization and the Environment</td>
</tr>
<tr>
<td>Methods for Interdisciplinary Environmental Research</td>
<td>ENVS 1925  Energy Policy and Politics</td>
</tr>
</tbody>
</table>

Electives - three courses

You may choose among any ENVS course, any course shown on one or more of the tracks, and any prerequisites listed for a required course.

Capstone - one or two courses

This requirement can be met with a two-semester thesis (ENVS 1970 & ENVS 1971), one-semester research project (ENVS 1970 or ENVS 1971), or an approved capstone course.

Track Specific Requirements

<table>
<thead>
<tr>
<th>Track 2 - Conservation Science and Policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ecology:</td>
</tr>
<tr>
<td>BIOL 0420  Principles of Ecology</td>
</tr>
<tr>
<td>Conservation:</td>
</tr>
<tr>
<td>BIOL 1470  Conservation Biology</td>
</tr>
<tr>
<td>Ecology &amp; Conservation Topics: Select One</td>
</tr>
<tr>
<td>BIOL 0455  Coastal Ecology and Conservation</td>
</tr>
<tr>
<td>BIOL 1450  Community Ecology</td>
</tr>
<tr>
<td>BIOL 1480  Terrestrial Biogeochemistry and the Functioning of Ecosystems</td>
</tr>
<tr>
<td>Policy:</td>
</tr>
<tr>
<td>ENVS 1415  Power, Justice, and Climate Change</td>
</tr>
<tr>
<td>ENVS 1575  Engaged Climate Policy at the UN Climate Change Talks</td>
</tr>
<tr>
<td>ENVS 1615  Making Connections: The Environmental Policy Process</td>
</tr>
<tr>
<td>ENVS 1755  Globalization and the Environment</td>
</tr>
<tr>
<td>ENVS 1925  Energy Policy and Politics</td>
</tr>
<tr>
<td>Statistics: Select One</td>
</tr>
<tr>
<td>APMA 0650  Essential Statistics</td>
</tr>
<tr>
<td>APMA 1650  Statistical Inference I</td>
</tr>
<tr>
<td>BIOL 0495  Statistical Analysis of Biological Data</td>
</tr>
<tr>
<td>ECON 1820  Introduction to Econometrics</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Track 3 – Environment and Inequality (New)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Track Intro Course:</td>
</tr>
<tr>
<td>ENVS 0705  - Equity and the Environment: Movements, Scholarship, Solutions</td>
</tr>
<tr>
<td>Race, Class, and Gender Inequality: Select One</td>
</tr>
<tr>
<td>AFR 0090  An Introduction to Africana Studies</td>
</tr>
<tr>
<td>AFR 0210  Afro Latin Americans and Blackness in the Americas</td>
</tr>
<tr>
<td>ECON 1370  Race and Inequality in the United States</td>
</tr>
<tr>
<td>ETHN 0500  Introduction to American/Ethnic Studies</td>
</tr>
<tr>
<td>ETHN 1039  History and Resistance in Representations of Native Peoples</td>
</tr>
<tr>
<td>GNSS 1600  Embodying Feminisms/Feminist Embodiments</td>
</tr>
<tr>
<td>HIST 1974J  Decolonizing Minds: A People's History of the World</td>
</tr>
</tbody>
</table>

Environmental Studies 1
### Track 4 - Land, Water & Food Security

**Climate:** Select One  
ENVS 1350 Weather and Climate  
ENVS 1430 Principles of Planetary Climate  

**Biology:** Select One  
BIOL 0210 Diversity of Life  
BIOL 0160 Plants, Food, and People  
BIOL 0420 Principles of Ecology  
BIOL 0430 The Evolution of Plant Diversity  
BIOL 0455 Coastal Ecology and Conservation  

**Environmental History:** Select One  
ANTH 0680 Anthropology of Food  
ENVS 1910 The Anthropocene: The Past and Present of Environmental Change  
HIST 1820A Environmental History  

**Policy:** Select One  
ENVS 1350 Environmental Economics and Policy  

**Tools:** Select One  
PHP 1700 Current Topics in Environmental Health  

**Additional Course Requirements:**
- Requirements total 14-15 credits.
- The ENVS 0490 core requirement can be waived for students with an AP exam score of 5 in Environmental Science.
- The core requirement of MATH 0100 can be waived for students with AP exam scores of 4 or 5 in both Microeconomics and Macroeconomics.
- Students pursuing the Sc.B. must take ECON 1620.

### Track 5 - Sustainability in Development

**Policy:** Select Two  
ENVS 1350 Environmental Economics and Policy  
ENVS 1575 Engaged Climate Policy at the UN Climate Change Talks  
ENVS 1615 Making Connections: The Environmental Policy Process  
POLS 1740 Politics of Food  

**Analysis Tools:** Select One  
ECON 1620 Introduction to Econometrics  
ANTH 1940 Ethnographic Research Methods  
EDUC 1100 Introduction to Qualitative Research Methods  
GEOL 1320 Introduction to Geographic Information Systems for Environmental Applications  
GEOL 1330 Global Environmental Remote Sensing  
SOC 1100 Introductory Statistics for Social Research  
SOC 1117 Focus Groups for Market and Social Research  
SOC 1340 Principles and Methods of Geographic Information Systems  
SOC 2610 Spatial Thinking in Social Science  

**Total Credits:** 14-15
Development: Select Three
FOCUS ONE - Environmental Inequality in Globalization and Development: Select Three

Advanced Climate: Select One
- GEOI 1510 Introduction to Atmospheric Dynamics
- GEOI 1520 Ocean Circulation and Climate

Thermal/Chem: Select One
- ENGI 0720 Thermodynamics
- GEOI 1370 Environmental Geochemistry

Track 2 - Conservation Science and Policy
Math: Select One
- MATH 0090 Introductory Calculus, Part I

Evolution: Select One
- BIOL 0480 Evolutionary Biology

Organismal Diversity: Select One
- BIOL 0410 Invertebrate Zoology
- BIOL 0940D Rhode Island Flora: Understanding and Documenting Local Plant Diversity

BIOL 1880 Comparative Biology of the Vertebrates

Env. Econ: Select One
- ENVS 1350 Environmental Economics and Policy

Tools: Select One
- GEOI 1320 Introduction to Geographic Information Systems for Environmental Applications
- GEOI 1330 Global Environmental Remote Sensing
- SOC 1340 Principles and Methods of Geographic Information Systems

Track 3 – Environment and Inequality (New)
Tools: Select One
- ANTH 1940 Ethnographic Research Methods
- ECON 1620 Introduction to Econometrics
- EDUC 1100 Introduction to Qualitative Research Methods
- GEOI 1320 Introduction to Geographic Information Systems for Environmental Applications
- GEOI 1330 Global Environmental Remote Sensing
- SOC 1100 Introductory Statistics for Social Research
- SOC 1117 Focus Groups for Market and Social Research
- SOC 1340 Principles and Methods of Geographic Information Systems
- SOC 2610 Spatial Thinking in Social Science

Race, Class and Gender Inequality: Select One
- ECON 1370 Race and Inequality in the United States
- ETHN 1039 History and Resistance in Representations of Native Peoples
- GNSS 1600 Embodying Feminisms/Feminist Embodiments
- HIST 1974J Decolonizing Minds: A People's History of the World
- SOC 1270 Race, Class, and Ethnicity in the Modern World
- SOC 1872C Race and Ethnic Relations, Identity, and Inequality

SELECT A FOCUS AREA (pick three courses from only one focus area)

FOCUS ONE - Environmental Inequality in Globalization and Development: Select Three

ANTH 0110 Anthropology and Global Social Problems: Environment, Development, and Governance
- ECON 1355 Environmental Issues in Development Economics
- ECON 1510 Economic Development
- ECON 1530 Health, Hunger and the Household in Developing Countries
- ENVS 1415 Power, Justice, and Climate Change
- HIST 0150D Refugees: A Twentieth-Century History
- PHP 1070 The Burden of Disease in Developing Countries
- POLS 1730 Politics of Globalization
- SOC 0150 Economic Development and Social Change

FOCUS TWO - Environmental Health and Inequality: Select Three
- AFRI 1060W Policy, Culture and Discourse that Shape Health and Access to Healthcare
- AMST 1700I Community Engagement with Health and the Environment
- ANTH 1310 International Health: Anthropological Perspectives
- BIOL 1820 Environmental Health and Disease
- HIST 1960Q Medicine and Public Health in Africa
- PHP 0320 Introduction to Public Health
- PHP 1070 The Burden of Disease in Developing Countries
- PHP 1700 Current Topics in Environmental Health
- PHP 1530 Case Studies in Public Health: The Role of Governments, Communities and Professions
- PHP 1920 Social Determinants of Health

FOCUS THREE - Environmental Inequalities in Food, Water, and Energy: Select Three
- ENVS 0710 Powering the Past: The History of Energy
- ENVS 1415 Power, Justice, and Climate Change
- ENVS 1555 Urban Agriculture: The Importance of Localized Food Systems
- ENVS 1580 Environmental Stewardship and Resilience in Urban Systems
- ENVS 1925 Energy Policy and Politics
- ETHN 1890M Treaty Rights and Food Fights: Eating Local in Indian Country
- PLCY 2555 Environmental Policy, From the Ground Up

Track 4 - Land, Water & Food Security
Math: Select One
- MATH 0090 Introductory Calculus, Part I

Chemistry: Select One
- CHEM 0330 Equilibrium, Rate and Structure

Earth/Life Systems: Select Three
- BIOL 1470 Conservation Biology
- BIOL 1475 Biogeography
- BIOL 1480 Terrestrial Biogeochemistry and the Functioning of Ecosystems
- GEOL 0240 Earth: Evolution of a Habitable Planet
- GEOL 1130 Ocean Biogeochemical Cycles
- GEOL 1310 Global Water Cycle
- GEOL 1370 Environmental Geochemistry
- GEOL 1510 Introduction to Atmospheric Dynamics
GEOL 1660 Instrumental Analysis with Environmental Applications

**Track 5 - Sustainability in Development**

Sociology and Politics: Select One

SOC 1870K Demographics and Development
POLS 0400 Introduction to International Politics
ENVS 1755 Globalization and the Environment

Critical Perspectives on Development: Select One

AMST 1700I Community Engagement with Health and the Environment
ANTH 0110 Anthropology and Global Social Problems: Environment, Development, and Governance
SOC 1871D Sophomore Seminar in Sociology of Development

Economic Perspectives: Select Two

ECON 1110 Intermediate Microeconomics
ECON 1340 Economics of Global Warming
ECON 1355 Environmental Issues in Development Economics
ECON 1510 Economic Development
ECON 1530 Health, Hunger and the Household in Developing Countries
ECON 1560 Economic Growth

Climate: Select One

GEOL 1350 Weather and Climate

Total Credits 19-20

1. The track requirement of MATH 0090 can be waived for students with an AP exam of 4 or 5 on Calc AB.
2. The ACE MATH 0090 and MATH 0100 track requirements can be waived for students with an AP exam score of 4 or 5 on Calc BC.

**Honors**

Students interested in graduating with honors in their concentration must complete a thesis determined to be of the highest quality and must have excelled in their coursework required for the concentration, which is defined here as receiving a grade of "A" in the majority of courses taken to fulfill the concentration. You can learn more by visiting the honors page (https://www.brown.edu/academics/institute-environment-society/education/undergraduate/honors) on the IBES website.
Font Notice

This document should contain certain fonts with restrictive licenses. For this draft, substitutions were made using less legally restrictive fonts. Specifically:

Helvetica was used instead of Arial.

The editor may contact Leepfrog for a draft with the correct fonts in place.