

Overview of the Proposed Major in Environmental Science and Policy

Our proposed curriculum combines existing courses from the natural and social sciences and engineering with four new courses that are explicitly integrative and developmental in nature.

The proposed major will consist of 14 courses. All majors will take:

- 4 integration courses (ENV 101; ENV 201/202; ENV 311, ENV 312);
- 3 introductory courses in the Natural Sciences (BIO, GEO, CHM) with 2 labs;
- 2 introductory courses in Social Sciences/Humanities (from different departments);
- 1 course in Statistics;
- 4 electives that create a coherent sequence with a clear environmental focus. No more than 1 elective can be at the 100-level and at least one must be at the 300-level;
- One semester of independent study (EVS 400) or credit toward an Honor's thesis may be substituted for 1 elective. Internships or study abroad experiences are strongly encouraged.

Integration Courses: Descriptions. These four courses form the intellectual and organizational core of the major. Each brings together frameworks, skills and information from the natural and social sciences in an explicitly integrative fashion to explore and analyze important environment-related topics at local, regional, national and global levels.

ENV 101 Environmental Perspectives

This course examines historical perspectives of how humans have changed the environment, particularly in the last century, and how the environment has shaped human societies. We will reflect on how ethics and differing worldviews influence environmental decisions and policies. Readings and discussions will center on seminal environmental writings, global movements, and national and international policies that have shaped how humans currently interact with and affect the natural world. {H/N/S} 4 credits.

ENV 201/202 Environmental Integration I: Collecting and Analyzing Information

While focusing on three environment-related topics, students will learn how to gather, analyze and present data using methods from the natural and social sciences. Data will be drawn from multiple sources, including laboratory experiments, fieldwork, archival sources, surveys, and interviews. Emphasis will be on quantitative analysis. Environmental topics will vary in scale from the local to the global. This course includes a required laboratory section. Pre-requisite: 1 semester of statistics. Enrollment limited to 18 {N/S} 5 credits.

ENV 311 Environmental Integration II: Interpreting and Communicating Information

This course focuses on the interpretation and communication of environmental issues and solutions from multi- and interdisciplinary perspectives. Using contemporaneous environmental topics as a foundation, this course introduces students to written, oral, visual, and quantitative communication for a variety of audiences and intents. Building on skills learned in ENV 201/202, students will develop the ability to interpret environmental information from multiple sources, to synthesize that information for their own understanding, and to communicate that knowledge in way that is appropriate to the particular objective and audience. A final project enables students to communicate an environmental issue of their own choosing to a diversity of audiences. Prerequisite: ENV 201/202. Enrollment limited to 25 {N/S} 4 credits.

ENV 312 Environmental Integration III: Sustainable Solutions

This course engages the class in a semester-long design and/or analysis project. Students will work in ad hoc teams using a variety of skills and knowledge to address a current issue or question related to environmental sustainability for our local community. The specific projects will vary from year to year. Students will gain direct experience with the range and complexity of activities required to address a real-world environmental

project. Student work will be assessed via progress reports (written and oral), reflective essays, and a final report. Prerequisite: ENV 101, Statistics, ENV 201/202, ENV 311. Enrollment limited to 16 {N/S} 4 credits.

Requirements for the Major:

<u># of courses</u>	<u>Course Type</u>	
1	ENV 101	Environmental Perspectives
1	ENV 201/202	Environmental Integration I: Collecting & Analyzing Information
3	Natural Sciences with 2 labs (1 from BIO, 1 from GEO, 1 from CHM)	
	BIO 154	Biodiversity, Ecology, & Conservation
	BIO 110	Conservation Biology
	CHM 108	Environmental Chemistry
	CHM 111 or 118	General Chemistry
	GEO 111	Introduction to Earth Processes and History
	GEO 108	Oceanography
	FYS 134	Geology in the Field
	GEO 104	Global Climate Change
	GEO 105	Natural Disasters
	GEO 106	Extraordinary Events
	GEO 109	The Environment
2	Social Sciences/Humanities (must be in different departments)	
	ANT 130	Intro. to Cultural Anthropology
	ANT 241	Anthropology of Development
	ECO 150	Intro. Microeconomics
	GOV 200	American Government
	GOV 207	Politics of Public Policy
	GOV 241	International Politics
	PHI 238	Environmental Ethics
	PPL 220	Public Policy Analysis
	SOC 101	Intro. to Sociology
1	Statistics	
1	ENV 311	Environmental Integration II: Interpreting and Communicating Information
1	ENV 312	Environmental Integration III: Sustainable Solutions
4	Electives are chosen in consultation with the student's major advisor to create a coherent sequence with a clear environmental focus; the focus may be specific to a discipline, topic, or location. No more than 1 elective can be at the 100-level; at least one must be at the 300-level. Electives 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 advisor. Electives can include, but are not limited to, the list below (see appendix).	

One semester of independent study (EVS 400) or credit toward an Honor's thesis may be substituted for one elective. Internships, study abroad, or Praxis experiences are encouraged.

Appendix. Examples of Electives for Proposed ES&P Major.

Chemistry

CHM 108	Environmental Chemistry
GEO 301	Aqueous Geochemistry
EGR 360	Chemical & Environmental Reaction Engineering

Ecology

BIO 103	Economic Botany: Plants and Human Affairs
BIO 110	Intro. Colloquia: Bacteria: The Good, The Bad, and The Absolutely Necessary
BIO 110	Intro. Colloquia: Island Biology
BIO 260	Invertebrate Diversity
BIO 264	Plant Systematics
BIO 266	Principles of Ecology and lab
BIO 272	Vertebrate Biology
BIO 268	Marine Ecology and lab
BIO 364	Plant Ecology and lab
BIO 368	Biogeography
BIO 390	Topics in Environmental Biology: Coral Reefs: Past, Present and Future

Geology

EVS/GEO 150	Modeling our World: An Introduction to Geographic Information Systems
GEO 301	Aqueous Geochemistry
GEO 309	Groundwater Geology
GEO 311	Environmental Geophysics
EGR 315	Ecohydrology

Environmental Social Sciences and Policy

ANT 230	Africa: Population, Health, and Environmental Issues
ANT 236	Economy, Ecology, and Society
ANT 241	Anthropology of Development
ECO 224	Environmental Economics
ECO 343	Seminar: The Economics of Global Climate Change
EGR 330	Engineering and Global Development
EGR 346	Hydrosystems Engineering
EGR 390	Seminar: Advanced Topics in Engineering: Technology Risk Assessment and Communication
FYS 147	The Science and Politics of Food, Water, and Energy
GOV 207	Politics of Public Policy
GOV 254	Politics of the Global Environment
GOV 306	Politics and the Environment
HST 299	Ecology and History in Africa
PHI 238	Environmental Ethics
PHY 100	Solar Energy and Sustainability
PPL 220	Public Policy Analysis
PPL 222	Colloquium: U.S. Environmental History and Policy
SOC 232	World Population
SOC 333	Seminar: Environment and Society
SPN 372	Topics in Latin American and Iberian Studies: Women, Environmental Justice and Social Action
SWG 230	Feminisms and the Fate of the Environment