ENVIRONMENTAL STUDIES

Director: James Proctor
Administrative Specialist: Laura Mundt

Environmental studies situates environmental problems and solutions in a scholarly context, working alongside other academic disciplines to build a more livable world. The field crosses traditional disciplinary boundaries, as a deeper understanding of environmental problems and solutions requires attention to a wide range of concepts and analytical methods that span the sciences and humanities. Our students master contemporary scholarship on environmental problems and solutions, develop cutting-edge computer and analytical skills, and demonstrate leadership in applying relevant scholarship and skills toward the environmental issues of today and tomorrow.

The educational objective of the Environmental Studies Program is to provide resources and cultivate an atmosphere whereby students (1) appreciate the intellectual and practical complexities of environmental problems and solutions, (2) master key concepts and methods of environmental analysis drawn from, and integrating, a broad range of disciplines, and (3) fuse this background knowledge and analytical ability with leadership and communication skills to successfully devise and implement creative, academically grounded solutions to environmental problems.

The Environmental Studies Program benefits from the participation of many departments in the College of Arts and Sciences, as well as the law school (https://law.lclark.edu/) and Graduate School of Education and Counseling (http://lclark.edu/graduate/). We offer students opportunities for environmental research, internships, and engagement on campus, in nearby locations such as Tryon Creek State Park (http://oregonstateparks.org/park_144.php) and the Portland (http://portlandoregon.gov) metropolitan area, in the greater Pacific Northwest (http://en.wikipedia.org/wiki/Pacific_Northwest/), and throughout the world in conjunction with Lewis & Clark's Overseas and Off-Campus Programs (https://docs.lclark.edu/undergraduate/overseas/). The Environmental Studies Program thus combines intellectual rigor and breadth with practical experience in a vibrant, transdisciplinary field of scholarly inquiry.

A major in environmental studies is appropriate for students who desire future employment in the environmental arena and/or want a broad, systematic liberal arts background to support further scholarly study in related natural science, social science, and humanities fields.

The Major Program

The major includes core courses in environmental studies and breadth courses in the natural sciences, social sciences, and humanities.

Core courses are designed to weave together concepts and skills drawn from breadth course fields, in order to build an intellectually coherent understanding of environmental problems and solutions. The core sequence starts with a broad introductory course followed by development of quantitative and qualitative analytical skills and advanced treatment of environmental theory. It culminates in a senior capstone representing original scholarly research on a topic of practical relevance. An additional core course builds communication, cultural competency, and other skills toward successful public engagement.

Breadth courses in fields including biology, chemistry, English, geology, economics, sociology and anthropology, international affairs, history, philosophy, and religious studies provide important discipline-specific tools for environmental analysis.

Majors receive faculty guidance toward areas of interest relevant to their academic and professional goals, and are encouraged to pursue overseas study, ideally related to these areas of interest, during their third year.

Major Requirements

A minimum of 46 semester credits, including the following:

Core Requirements

- ENVS 160 Introduction to Environmental Studies
- ENVS 220 Environmental Analysis
- ENVS 295 Environmental Engagement
- ENVS 350 Environmental Theory
- ENVS 400 Senior Seminar

Other Requirements

- ECON 260 Environmental and Natural Resource Economics
- One social science breadth elective chosen from the list below.
- Two natural science breadth electives chosen from the list below. The courses must be taken from different departments.
- Two arts and humanities breadth electives chosen from the list below. The courses must be taken from different departments.

All Lewis & Clark courses intended to fulfill environmental studies major requirements must be taken for a letter grade, with the exception of ENVS 244 Practicum.

Although not required for the major, all environmental studies majors are strongly urged to complete MATH 131 Calculus I.

Minor Requirements

A minimum of 25 semester credits (six courses), distributed as follows:

- ENVS 160 Introduction to Environmental Studies
- ENVS 220 Environmental Analysis
- ENVS 295 Environmental Engagement
- One social science breadth course chosen from the list below.
- One natural science breadth elective chosen from the list below.
- One arts and humanities breadth course chosen from the list below.

All Lewis & Clark courses intended to fulfill environmental studies minor requirements must be taken for a letter grade.

Social Science Breadth Electives

- ECON 260 Environmental and Natural Resource Economics (required for major/elective for minor)
- ENVS 460 Topics in Environmental Law and Policy
- IA 257 Global Resource Dilemmas
- IA 340 International Political Economy
### Natural Science Breadth Electives

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<tr>
<th>Course</th>
<th>Title</th>
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<tbody>
<tr>
<td>BIO 201</td>
<td>Biological Core Concepts: Systems</td>
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<tr>
<td>CHEM 100</td>
<td>Perspectives in Environmental Chemistry</td>
</tr>
<tr>
<td>CHEM 110</td>
<td>General Chemistry I</td>
</tr>
<tr>
<td>GEOL 150</td>
<td>Environmental Geology</td>
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<tr>
<td>GEOL 170</td>
<td>Climate Science</td>
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### Arts and Humanities Breadth Electives

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<tr>
<td>ENG 276</td>
<td>Animals and Animal Rights in Literature</td>
</tr>
<tr>
<td>HIST 239</td>
<td>Constructing the American Landscape</td>
</tr>
<tr>
<td>HIST 261</td>
<td>Global Environmental History</td>
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<tr>
<td>HIST 388</td>
<td>What's for Dinner</td>
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<tr>
<td>PHIL 215</td>
<td>Philosophy and the Environment</td>
</tr>
<tr>
<td>RELS 102</td>
<td>Food and Religion in America</td>
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### Honors

Students who distinguish themselves academically with a GPA of 3.500 in the major may qualify for honors in environmental studies. Honors candidates work on research-based capstone projects as a part of ENVS 400 Senior Seminar, offered annually in spring semester. Based on the quality of their drafts (thesis or non-thesis outcomes), typically submitted halfway through the semester, select students will be invited to give an oral presentation and defense to ENVS faculty, who will then recommend final editing and make a determination for honors. Honors in environmental studies thus recognizes overall academic performance, distinguished scholarly quality and creativity in the senior capstone project, and a convincing oral defense.

### Faculty

- **Barbara A. Balko.** Associate professor of chemistry, chair of the Department of Chemistry. Physical chemistry. PhD 1991 University of California at Berkeley. AB 1984 Bryn Mawr College.
- **Elizabeth A. Bennett.** Joseph M. Ha Associate Professor of International Affairs, director of the Political Economy Program (Fall). International political economy; global social movements, voluntary social/environmental regulation, international development global governance. PhD 2014, AM 2010 Brown University. MALD 2008 Fletcher School, Tufts University. BA 2002 Hope College.
- **Anne K. Bentley.** Associate professor of chemistry. General, inorganic, and materials chemistry; nanotechnology. PhD 2005 University of Wisconsin at Madison. BA 1997 Oberlin College.
- **Greta J. Binford.** Professor of biology, chair of the Department of Biology. Invertebrate zoology, biodiversity, evolution of spider venoms. PhD 2000 University of Arizona. MS 1993 University of Utah. BA 1990 Miami University.
- **Moriah Bellenger Bostian.** Associate professor of economics, chair of the Department of Economics. Environmental and resource economics, econometrics. PhD 2010 Oregon State University. MS 2005 Auburn University. BS 2003 Florida State University.
- **Maryann Bylander.** Associate professor of sociology. Development and globalization, migration, rural livelihoods, microfinance/credit, environment, gender, qualitative and quantitative research methods. PhD 2012, MA 2006 University of Texas at Austin. BA 2003 Rice University.
- **Julio C. de Paula.** Professor of chemistry. Physical chemistry, biophysical chemistry, nanotechnology. PhD 1987 Yale University. BA 1982 Rutgers University.
- **Bob Mandel.** Professor of international affairs, chair of the Department of International Affairs. Conflict and security, global resource issues, transnational studies, psychological aspects of international affairs, research methods, international relations theory. PhD 1976, MPhil 1975, MA 1974 Yale University. AB 1972 Brown University.
- **Bruce M. Podobnik.** Associate professor of sociology. Environmental sociology, social theory, mixed methods, the sociocultural dimensions of activism, the social roots of happiness. PhD 2000, MA 1994 Johns Hopkins University. BA 1991 University of California at Santa Cruz.

Daniel J. Rohlf. Associate professor of law. Environmental law, conservation of biological diversity. JD Stanford University. BA Colorado College.


Courses

ENVS 160 Introduction to Environmental Studies
Content: Scholarly perspectives on environmental problems and solutions, integrating concepts and analytical skills drawn from the natural sciences, social sciences, and humanities. Foundation for all subsequent courses in the environmental studies major. Lectures, faculty and guest presentations, regular online assignments, individual and group research projects.
Prerequisites: None.
Restrictions: Enrollment limited to first- and second-year students.
Usually offered: Annually, fall and spring semester.
Semester credits: 4.

ENVS 200 Situating the Global Environment
Content: Introduction to situated perspective on environmental problems and solutions, including a range of international and overseas program-specific cases. Development of Web-based social learning skills to document and share situated research. Regular reading and summary discussions, lectures, fieldwork, online synthesis postings, and final report. Taught in conjunction with an ENVS summer overseas program.
Prerequisites: ENVS 160.
Restrictions: Sophomore standing and acceptance into an overseas program required.
Usually offered: Annually, summer only.
Semester credits: 4.

ENVS 220 Environmental Analysis
Content: Development of research and analytical skills in environmental studies as preparation for upper-division work by majors and minors. Emphasis on formulation, practice, and communication of research. Skills span full range of allied fields, including descriptive and inferential statistics, geographic information systems, survey and interview techniques, qualitative data analysis, and bibliographic research. Lectures, individual and small-group assignments, and course project. Accompanying lab provides opportunity for students to build analytical skills via real-world research.
Prerequisites: ENVS 160. Enrollment preference given to departmental majors fulfilling degree requirements.
Corequisites: ENVS 220L.
Restrictions: Sophomore standing required.
Usually offered: Annually, spring semester.
Semester credits: 5.

ENVS 244 Practicum
Content: Nonclassroom learning experience combining theoretical concepts and skills learned in the classroom with practical work in an on-campus or off-campus setting. Additional readings and written assignments required. Arrangements for the practicum should be made during the semester prior to enrollment. May be repeated for credit.
Prerequisites: ENVS 160.
Restrictions: Sophomore standing and consent required.
Usually offered: Annually, fall and spring semester.
Semester credits: 1-4.

ENVS 295 Environmental Engagement
Content: Faculty-directed student engagement, connecting environmental scholarship to people in a variety of settings. Identification and finalization of engagement opportunities; development of communication, cultural competency, and related skills; reflection on engagement experiences; and authoring and sharing of outcomes. Engagement projects build on partnerships with Portland-area organizations.
Prerequisites: ENVS 160.
Restrictions: Sophomore standing required.
Usually offered: Annually, spring semester.
Semester credits: 4.

ENVS 311 (Un)Natural Disasters
Content: Causes and consequences of "natural disasters" (earthquakes, volcanic eruptions, landslides, tornadoes, hurricanes, fires, tsunamis), with a focus on the interplay between the human and physical landscapes that make these events so deadly and imbued with diverse meanings. Perspectives drawn from the humanities, social sciences, and natural sciences to examine both historical events whose consequences have played out and recent dramas whose aftereffects are still unfolding. Contrast of impacts and perceptions of these events with select examples of anthropogenic disasters (Chernobyl, Bhopal, Deepwater Horizon); anticipation of future natural disasters and consideration of the science of living with risk. Projects emphasize local and regional issues.
Prerequisites: ENVS 220. GEOL 150 or GEOL 170.
Restrictions: Sophomore standing required.
Usually offered: Annually, fall and spring semester.
Semester credits: 4.

ENVS 350 Environmental Theory
Content: Advanced exploration of major theoretical assumptions underlying environmental studies, including the nature of environment, environmental knowledge (including role of sciences and humanities), and environmental problems and solutions. Intensive reading and writing, class discussions, and project-based application of theory to contemporary topics.
Prerequisites: ENVS 160, ENVS 220.
Restrictions: Senior standing required. Declared ENVS major.
Usually offered: Annually, fall semester.
Semester credits: 4.

ENVS 400 Senior Seminar
Content: An advanced, integrative keystone seminar involving primary research for all senior environmental studies majors. Research capstones (theses or alternative outcomes) are based on each student's areas of interest within the major and include both oral and written components. Students should have completed all other environmental studies core courses prior to taking this course.
Prerequisites: ENVS 350.
Restrictions: Senior standing required.
Usually offered: Annually, spring semester.
Semester credits: 4.
ENVS 460 Topics in Environmental Law and Policy
Content: Introduction to issues in environmental law and policy. Taught by environmental and natural resources law faculty of Lewis Clark Law School, the course covers major areas in environmental law. Topics vary and may include water law, the Endangered Species Act, hazardous waste law, environmental justice, environmental law enforcement, the World Trade Organization, public lands law, the Clean Air Act, and the National Environmental Policy Act. Panels discuss careers in law and study of law. A unique opportunity for students interested in careers in environmental law and policy.
Prerequisites: ENVS 160.
Restrictions: Junior standing required.
Usually offered: Alternate Years, fall semester.
Semester credits: 4.

ENVS 490 Topics in Environmental Studies
Content: Application of concepts and skills from ENVS 160 and ENVS 220 to the understanding of specific environmental issues. Potential topics include biodiversity, climate change, energy, environmental justice, international agreements, land use, natural resource depletion, pollution, sustainability, transportation, and urban sprawl. May be taken twice for credit with change of topic.
Prerequisites: ENVS 160 and ENVS 220.
Restrictions: Sophomore standing required.
Usually offered: Alternate Years, fall and spring semester.
Semester credits: 4.

ENVS 499 Independent Study
Content: Opportunity for the well-prepared student to design and pursue a substantive course of independent learning on an advanced level. Details determined by the student and the supervising instructor. Students should have completed ENVS 160 and ENVS 220 prior to taking this course. May be repeated for credit.
Prerequisites: ENVS 160. ENVS 220.
Restrictions: Sophomore standing and consent required.
Usually offered: Annually, fall and spring semester.
Semester credits: 1-4.