

ENVIRONMENTAL SCIENCE AND POLICY

ENV 101 Sustainability and Social-Ecological Systems (4 Credits)

Earth has 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 our social-ecological systems can be remodeled to build a more sustainable and resilient future. Enrollment limited to 37. {H}{N}{S}

Fall, Spring

ENV 108/ CHM 108 Environmental Chemistry (4 Credits)

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}

Spring

ENV 113 Colloquium: Organic, Mechanical and Digital Environments (4 Credits)

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}

Fall, Spring, Variable

ENV 150/ GEO 150 Mapping our World: An Introduction to Geographic Information Systems (4 Credits)

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 campus offices or local conservation organizations. Enrollment limited to 20. {N}

Fall

ENV 201 Researching Environmental Problems (4 Credits)

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}

Fall, Spring

ENV 202 Researching Environmental Problems Laboratory (1 Credit)

In this laboratory complement to ENV 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}

Fall, Spring

ENV 207 Introduction to Environmental History (4 Credits)

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.” Since the 1970s, environmental historians have used an environmental lens to examine 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. Discussions in this course 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 the Anthropocene. (E) {H}

Fall, Spring, Variable

ENV 215 Introduction to Environmental Policy Analysis (4 Credits)

How is actionable advice to decision makers about how to address environmental challenges best provided? What makes a policy effective or desirable? How are policy analysis documents best evaluated? This course introduces the frameworks and methodologies of environmental policy analysis. Working from a step-by-step approach to policy analysis, students practice defining problems, identifying policy alternatives, selecting appropriate evaluation criteria and producing well-supported policy recommendations. The course explores the strengths and limitation of this “rational” model of policy analysis as well as commonly used evaluation techniques including cost-benefit and cost-effectiveness analysis, environmental impact analysis and environmental justice analysis. {S}

Fall, Spring, Alternate Years

ENV 218 Colloquium: Environmental Policy (4 Credits)

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 equivalent. Enrollment limited to 20. (E) {S}

Spring, Annually

ENV 221 Colloquium: Native American and Indigenous Studies and the Environment (4 Credits)

The approximately six hundred federally recognized American Indian tribes in the United States are among the thousands of contemporary Indigenous groups in the world. Such a diversity of human culture, experience and history provides a unique vantage point for studying how people are connected to the environment. By surveying how indigenous people shape and are shaped by the environment on several continents, with a focus on North America, students will gain a greater understanding of the variation and importance of human environmental relationships. Perspectives from Indigenous studies, history, philosophy, ecology, biology and anthropology will be some of the disciplines used in the course. Enrollment limited to 30. {H}{S}

Fall, Spring, Annually

ENV 224/ ANT 224 Anthropos in the Anthropocene: Human-Environment Relations in a Time of Ecological Crisis (4 Credits)

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}

Fall, Spring, Variable

ENV 225 Colloquium: Ecofeminism (4 Credits)

What is the relationship between gender, feminism and the environment? Ecofeminism unites scholars and activists who have asserted that environmentalism is a feminist issue, that nature is gendered or that gender liberation and environmental liberation are linked. This course introduces students to the theory and practice of ecofeminism from the late twentieth century to the present. While this course is titled "Ecofeminism," some would consider it more apt to use a lens of "ecofeminisms," foregrounding the considerable variation in theories, assumptions and activist movements. Recognizing this variation, students study debates within ecofeminism and define ecofeminism expansively. Enrollment limited to 25. {E}

Fall, Spring, Variable

ENV 229 Colloquium: Critical Cartography and Environmental Social Movements (4 Credits)

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 develop a map portfolio, improved skills in cartography and a deeper sense of how maps have been used to describe and influence environmental issues. Prerequisite: ENV 150/ GEO 150. {E}

Spring

ENV 311 Interpreting and Communicating Environmental Information (4 Credits)

This course focuses on the interpretation and communication of environmental issues and solutions from multi- and interdisciplinary perspectives. Using contemporary environmental issues as a foundation, this course emphasizes careful assessment of both message and audience to design effective communication strategies for complex issues. 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/ENV 202 are strongly recommended. Enrollment limited to 18. Instructor permission required. {N}{S}

Fall, Spring

ENV 312 Seminar: Sustainable Solutions (4 Credits)

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/ ENV 202, a statistics course and ENV 311 (may be taken concurrently). Enrollment limited to 16. Juniors and seniors only. Instructor permission required. {N}{S}

Fall, Spring

ENV 323 Seminar: Climate and Energy Policy (4 Credits)

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}

Fall, Spring, Annually

ENV 326 Seminar: Environmental Justice and Natural Resource Management (4 Credits)

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}

Fall, Spring, Annually

ENV 327 Seminar: Environmental Justice & Decolonial Aspirations in an Urbanizing World (4 Credits)

This course explores global environmental justice and decolonial planning issues, debates and policies in the context of an urbanizing world marked by race, gender, nationality, ethnicity, caste, class and other lines of difference. The course draws from scholarship in urban studies, anthropology, sociology, geography and other related fields to develop an appreciation of global environmental injustices. With particular attention to decolonial planning approaches, students learn about efforts to redress environmental injustices, whether through formal planning and policies, social movements, community organizing or everyday environmentalism. The course covers environmental issues at multiple scales from around the world and explores the interrelatedness of themes. Prerequisite: ENV 101. Priority given to ENV majors. Enrollment limited to 12. Juniors and seniors only. Instructor permission required.

Spring

ENV 331 Seminar: Famine-A Global Political Ecology (4 Credits)

This course examines cases of famine from across the globe. Although famine has long been conceived as arising from "natural" disasters like drought and pest infestations, recent work has suggested that human action may be more at play. This course examines historical cases of famine to evaluate its causes and the 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, students evaluate claims about famine's human and/or natural provenance and 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? Enrollment limited to 12. Juniors and seniors only. Instructor permission required. (E) {H}

Spring, Variable

ENV 400 Special Studies (1-4 Credits)

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.

Fall, Spring

ENV 430D Honors Project (4 Credits)

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

Fall, Spring