

Environmental Studies (ENVS)

ENVS 101. Introductory Seminar in Environmental Studies (with lab). 4 Hours.

This foundational seminar introduces students to interdisciplinary approaches in contemporary environmental issues. The seminar considers key environmental issues, bringing cultural, scientific, historical, political, social, and economic perspectives to bear on each. The course is arranged thematically, with units on topics such as tropical deforestation, global warming, energy use, and resource depletion. This course will also investigate local environmental issues, study relevant scientific findings, explore the interactions of human communities with non-human nature, and probe the ecological, cultural, and ethical implications of these interactions.

ENVS 150. Introduction to Earth System Science (with lab). 4 Hours.

Students will develop knowledge of Earth system components -- atmosphere, hydrosphere, lithosphere, biosphere, and exosphere -- with emphasis on their connections and interactions. They will use and integrate approaches of disciplinary sciences and mathematics to investigate physical and behavioral properties of Earth system components, as well as considering the human and social context (anthroposphere) in which environmental problems develop as the system is stressed. Students will develop skills in observation, investigation, analysis, team interaction and communication through field and laboratory experiences.

ENVS 151. Analyzing & Modeling Earth Systems (with lab). 4 Hours.

Students will build on knowledge of Earth systems acquired in ENVS 150 by continuing to focus on how different earth systems (lithosphere, hydrosphere, atmosphere, biosphere) interact to create the environments in which we live and the ways people affect and are affected by these environmental systems. This course will explore four contemporary environmental issues: Peak oil and the viability and sustainability of alternative energy solutions; surface water pollution and protection; causes and effects of climate change; and over population and the limits to growth. Students will also complete a team-based research project.

Prerequisite: ENVS 150 with a minimum grade of D.

ENVS 201. Introduction to Environmental Social Science. 3 Hours.

Environmental Social Science is an interdisciplinary and cross-cultural investigation into the impact of society on the environment and the environment's impact on society. The class will be organized around case studies from Asia, Oceania, Africa, Europe and the Americas. It will look at local, national and international environmental issues ranging from the ecological toll of regional industries and agricultural practices to the environmental costs of economic globalization, from water pollution and soil depletion in communities to global warming.

ENVS 202. Introduction to Environmental Humanities. 3 Hours.

This course is an introduction to the interdisciplinary study of environmental issues in the humanities, including philosophy, art history, literature, film, history and religion. Through the study of the ways in which the environment is represented in literature, art, and film, we will attempt to understand the central role that human environmental perceptions have played and continue to play in creation of both sustainable and unsustainable relations with nature.

ENVS 203. Introduction to Environmental Science (with lab). 4 Hours.

This course will be an introduction to the application of the scientific method to the study of the environment. It will focus on the interdependence of ecological systems, the sources of energy and cycles of resources in a variety of environments, and the forces affecting environmental change.

Prerequisite: ENVS 101 with a minimum grade of D.

ENVS 240. Quantitative Environmental Methods & Models (with lab). 4 Hours.

Students will develop quantitative and environmental literacy by analyzing real-world environmental situations and problems with the use of mathematics and statistics accessible to students with an intermediate algebra background. Students will learn how to use dynamic systems and geographical information systems to model and understand natural and social processes relevant to environmental issues and policy decisions.

Prerequisite: ENVS 101 with a minimum grade of D.

ENVS 280. Selected Topics in Environmental Studies. 1 to 4 Hours.

Selected topics in Environmental Studies at the introductory or intermediate level.

ENVS 326. Introduction to Environmental and Nature Writing. 3 Hours.

Serves as an introduction to the canon of American environmental/nature writing and will also develop in beginning students the practice of reflective writing. The course will introduce a familiarity with common themes, motifs, and characteristics of the genre. Readings will include short excerpts and a detailed study of a book-length work of environmental/nature writing.

Prerequisite: ENVS 101 with a minimum grade of D.

ENVS 327. Major Themes in Environmental Writing. 3 Hours.

This course examines major themes/metaphors (such as ecology, holiness, food chains etc.) in full texts from the important texts in the tradition of environmental writing.

ENVS 330. Art & Earth: Materials, Processes, and Perceptions (with lab). 4 Hours.

Students will learn about geological and botanical origins of art materials through lecture, experimentation, and field experiences. Perceptions of nature will be addressed through review of artistic works. Students will present an artistic work of their own in a public forum.

Prerequisite: ENVS 203 with a minimum grade of D.

ENVS 332. Hydrology & Water Resources (with lab). 4 Hours.

A survey of water resource sciences including introductions to surface water (hydrology), ground water (hydrogeology), aquatic chemistry, and fresh water ecology. Use of quantitative models to describe and predict surface and ground water flow. Field and laboratory investigation of water distribution and quality.

ENVS 333. Environmental Geology (with lab). 4 Hours.

The application of geological principles to understanding and solving problems associated with environment. Major environmental problems are associated with humankind's relationships with mineral and energy resources, water resources and geologic hazards. Laboratories will focus on small-scale research projects and field investigations.

Prerequisite: ENVS 203 with a minimum grade of D.

ENVS 336. Climate Change (with lab). 4 Hours.

Climate change examines the past, present, and future from an earth systems perspective. The scientific evidence of climate change will be examined along with dynamic models of climate systems. Scientific predictions of climate change will also be examined in addition to social, political, and economic perspectives on global warming.

ENVS 348. Developing the Capstone Proposal. 1 Hour.

A seminar course required of all Environmental Studies majors in either the fall or spring term of their junior year. Bi-weekly meetings will guide students through the process of exploring, focusing and defining their individual area of concentration and developing a detailed capstone proposal. The proposal will be for their capstone project to be conducted in ENVS 449. Proposal development will be a group process involving critical discussion and peer review. By the end of the seminar, each student will have a finished proposal.

ENVS 400. Regional Environmental Problems (with lab). 4 Hours.

An interdisciplinary elective in which advanced students blend knowledge and interest from their major fields with the methodology and perspectives of earth science to understand regional environmental systems and problems. The course is designed as a bridge between the cultures of the scientist and the humanist.

ENVS 449. Senior Capstone Project. 3 Hours.

This course will require students to complete a substantial project in Environmental Studies.

Prerequisite: ENVS 348 with a minimum grade of C.

ENVS 450. Environmental Studies Senior Seminar. 3 Hours.

The final course required for majors and minors will focus on a particular environmental problem or topic. Guest speakers will address facets of the assigned problem or topic over the course of the semester. The seminar will meet for discussion on days when speakers are not scheduled.

Prerequisite: ENVS 201 with a minimum grade of D and ENVS 202 with a minimum grade of D and ENVS 203 with a minimum grade of D and ENVS 449 with a minimum grade of D.

ENVS 480. Advanced Topics in Environmental Studies. 0 to 4 Hours.

Selected topics in Environmental Studies at an advanced level.