

ENVIRONMENTAL STUDIES (ENVS)

ENVS 10. Introduction to Environmental Science. 3 Units

General Education Area/Graduation Requirement: Life Forms (B2)

Course looks at the earth as an ecosystem composed of biological, chemical, and physical systems. Focus is on the interaction of these systems with each other and with human population, technology, and production. Students should acquire the fundamentals of a scientific understanding of the ecological implications of human activities. Specific topics treated within the context of ecosystem analysis include energy flows, nutrient cycles, pollution, resource use, climate changes, species diversity, and population dynamics.

ENVS 10H. Honors Environmental Science. 3 Units

General Education Area/Graduation Requirement: Life Forms (B2)

The earth as an ecosystem composed of biological, chemical, and physical systems. Focus is on the interaction of these systems with each other and with human population, technology, and production. Students should acquire the fundamentals of a scientific understanding of the ecological implications of human activities. Specific topics treated within the context of the ecosystem analysis include energy flows, nutrient cycles, pollution, resource use, climate change, species diversity, and population dynamics. Students read important original research on topics. All students participate in a semester long project that applies the principles of the course to a real environmental issue.

ENVS 11. Environmental Issues and Critical Thinking. 3 Units

General Education Area/Graduation Requirement: Critical Thinking (A3)

Examines Western cultural values and personal beliefs toward the environment. Teaches critical thinking skills to analyze issues to make informed choices that may impact the earth, its resources and their management as consumers, leaders, professionals and moral agents.

ENVS 21. First Year Seminar: Becoming an Educated Person. 3 Units

General Education Area/Graduation Requirement: Understanding Personal Development (E)

Introduction to the nature and possible meanings of higher education, and the functions and resources of the University. Designed to help students develop and exercise fundamental academic success strategies and to improve their basic learning skills. Provides students with the opportunity to interact with fellow classmates and the seminar leader to build a community of academic and personal support.

ENVS 110. Contemporary Environmental Issues. 3 Units

Examination of a variety of environmental issues with emphasis on the social aspects of the problems and solutions. The class is conducted primarily through discussion, with an unusually high degree of student responsibility. Group and individual projects are designed to involve students in community affairs as well as to give them an opportunity to develop a personal perspective on environmental issues.

ENVS 111. Environmental Ethics. 3 Units

Consideration of how human beings should act with regard to the non-human natural world in the context of complex societal needs. Students will use critical thinking skills to integrate insights from the sciences, social sciences, and humanities to make ethical decisions.

ENVS 112. International Environmental Problems. 3 Units

Prerequisite(s): GWAR certification before Fall 09; or WPJ score of 80+; or 3-unit placement in ENGL 109M or ENGL 109W; or 4-unit placement in ENGL 109M or ENGL 109W and co-enrollment in ENGL 109X; or WPJ score 70 or 71 and co-enrollment in ENGL 109X.

General Education Area/Graduation Requirement: Writing Intensive Graduation Requirement (WI)

Global perspective on current problems of environmental protection and resource use. Population growth, food production, industrialization, technology and cultural change are considered, with heavy emphasis on the social dynamics of environmental problems. A variety of political views is studied, and an attempt is made to develop a perspective useful to students in personal and political decisions.

ENVS 120. Quantitative Methods for Environmental Science. 3 Units

Prerequisite(s): Must be an ENVS major or minor; STAT 1 or instructor permission.

Research tools and methods used by environmental professionals including selected statistical procedures, data sources and presentation and interpretation of results. Students will become familiar with the wide range of equipment available to fit their special needs including the computer time-sharing system.

ENVS 121. Field Methods in Environmental Science. 2 Units

Prerequisite(s): Must be an ENVS major or minor

This field course includes the direct observation of human impact on specific environments and examples of mitigation strategies. Students will learn information gathering and data presentation methodologies useful in environmental impact assessment. Lecture three hours per week; one-day and weekend field trips will be arranged.

Note: Course also substitutes for ENVS 175.

Field trip(s) may be required.

ENVS 122. Environmental Impact Analysis: CEQA and NEPA. 3 Units

Review of legislative and judicial requirements for environmental impact analysis. Students will be asked to review actual project environmental impact reports, analyze the methods employed, understand the relationship of the report to the planning process, and prepare such a document.

Note: It is recommended that students complete ENVS 128 or have some actual experience with environmental impact documentation before taking this course.

ENVS 124. Social Justice in Interdisciplinary Perspective. 3 Units

Prerequisite(s): Sophomore standing or instructor permission.

Examines the nature and forms of social justice and injustice. Addresses key philosophical and theoretical models and debates over the meaning of social justice, using historical and contemporary examples to highlight important concepts and controversies. Faculty from different departments within SSIS, and occasionally from other colleges, will address how their discipline understands and analyzes issues of social justice. Students will be encouraged to critically assess the assumptions of various perspectives on social justice, and to address the relationship of academe and social activism in achieving social justice.

Cross listed as ANTH 130, ID 124, ETHN 124, FACS 124 and SOC 124.

Only one may be counted for credit.

- ENVS 128. Environment and the Law. 3 Units**
Introduction to environmental law, including: the evolution of environmental legislation, environmental issues in the court system, environmental regulation and administrative law, and environmental torts. Emphasis is on understanding legal process and the special challenges environmental problems present to the legal system.
Cross Listed: GOVT 128; only one may be counted for credit.
- ENVS 130. Environmental Toxicology. 3 Units**
Prerequisite(s): CHEM 6A or instructor permission.
Focuses on the aspects of toxicology which enable us to study and explore environmental issues concerning human and ecosystem health. It will explore the impact of human activity since World War II in contributing to human disease and ecosystem disruption. Risk perception and communication as it concerns environmental toxicology will also be discussed.
- ENVS 135. California Water and Society. 3 Units**
Prerequisite(s): ENVS 120 or instructor permission
This course provides the historical, scientific, legal, institutional, and economic background needed to understand the social and ecological challenges of providing water for California's growing population, agricultural economy, and other uses- all of which are made more complex by climate change. We will look at past and current debates around cases ranging from local issues on the American River to statewide issues that converge in the Sacramento-San Joaquin Delta. Both physical and social science research skills will be developed.
- ENVS 138. Introduction to Environmental Sociology. 3 Units**
The study of human society, the natural environment, and their mutual interactions. Examines environmental sociology at several levels, from the micro level of individual communities to the meso level of government policies to macro theoretical considerations. Analyzes environmental issues in a global context also included.
Cross Listed: SOC 138.
- ENVS 140. Energy, Society, and the Environment. 3 Units**
Prerequisite(s): Upper division standing
This course covers the concepts and tools necessary to understand society's diverse technology and policy choices around energy production and use. Students will apply both quantitative and qualitative methods to analyze opportunities and impacts of energy systems with consideration for environmental sustainability, international development, and social equity. We will consider a range of energy technologies, their historical trajectories, current drivers, and prospects for addressing energy challenges at different scales, from households to the global climate.
- ENVS 144. Sustainability in the Tropics. 3 Units**
Examines environmental issues specific to the tropics, where 40% of the global population now lives and the bulk of future population growth will occur. Emphasis is placed on the uniqueness of tropical ecosystems in terms of climatic, geologic, pedological, and biological diversity; traditional, colonial, and modern industrial agricultural and forest management systems; and sociocultural and political aspects of environmental issues.
- ENVS 147. Urban Agriculture and Aquaponics. 3 Units**
This course uses campus initiatives in food and bio-waste recycling, combined with vermiculture and aquaponics, to address larger topics in urban food production. This subject has significance for addressing concerns about food access, security, quality, and even local economic development. The course will include hands-on activities on campus, projects with local urban agriculture organizations, and reports connecting the specifics of the course with core questions in environmental science and policy
- ENVS 149. Agroecology. 3 Units**
Ecological aspects of the production of food and fiber, with emphasis on the sustainability and adequacy of the global food supply to meet the needs of a growing, urbanized population. Covers topics basic to all agricultural systems - soil development, fertility, irrigation, nutrient cycles, crop selection - while contrasting methods developed for large-scale industrial food production with traditional and/or organic farming methods.
Note: Required field trips.

Field trip(s) may be required.
- ENVS 151. Restoration Ecology. 3 Units**
Overview of concepts and practices in restoration ecology, emphasizing the application of ecological principles to restoration design, implementation, and monitoring. Major course topics will include historical ecology, soils and hydrology, plant and animal ecology, exotic species, endangered species concerns, mitigation, monitoring, planning, and assessment as they apply in a restoration context. Students will work in local restoration projects; field trips required.
Field trip(s) may be required.
- ENVS 158. Wetlands Ecology. 3 Units**
Introduces and discusses characteristics of wetland systems; principles of wetland ecology; functions of wetlands; and regulations and permitting process regarding development near and within wetlands. Appropriate for students planning careers in natural resource management. Though not a substitute for professional training in wetlands delineation and functional assessment, students will gain a basis for such assessments. Familiarity with basic principles of chemistry, physics, and biology recommended.
Note: Field trips required.

Field trip(s) may be required.
- ENVS 163. Ethnoecology. 3 Units**
Prerequisite(s): Instructor permission.
Evaluates sustainable management of ecosystems by local indigenous people, using traditional resource management, traditional ecological knowledge and Western science. Familiarizes students with the fields of ethnobiology, ethnoecology, and historical ecology. Students learn about the relationship between people and plants, with a focus on how traditional plant knowledge reflects and is reflected by environmental perceptions.
- ENVS 165. American Environmental History. 3 Units**
General Education Area/Graduation Requirement: GE AREA D
Traces the development of the changing relationship between human society and the natural environment. Focuses on changing attitudes and behaviors toward the environment from the pre-colonial era through the present. Also examines the relationship between industrialization and the technological revolution and nature and examine past and present conservation and environmental movements.
Cross Listed: HIST 165; only one may be counted for credit.

<p>ENVS 171. Environmental Politics and Policy. 3 Units Prerequisite(s): instructor permission. Politics of human interaction with land, air and water. Political analysis of agenda setting, policy formation and administration (national, state and local) of environmental programs. Focus on contemporary issues such as energy alternatives, management of toxics, land development, and pollution control. Course also substitutes for ENVS 128. Cross Listed: GOVT 171; only one may be counted for credit.</p>	<p>ENVS 195M. Mini Internship. 1 Unit This introductory work experience is designed for sophomores and juniors. The student must complete 45 hours of environmentally related work in a volunteer position with an environmental organization or participation in an environmentally focused event. Supervision is provided by the faculty instructor and responsible officials in the work situation. Note: Open to majors only, subject to instructor permission.</p>
<p>ENVS 175. Aquatic Pollution Assessment. 3 Units Prerequisite(s): BIO 160, CHEM 1A or concurrent enrollment; or instructor permission. Examines both the negative and positive impacts that anthropogenic effects have on groundwater, streams, and lakes by utilizing the application of field sampling techniques and laboratory analysis currently used to assess pollution impacts. Introduces the interrelationships among plants, animals and environmental factors within polluted aquatic ecosystems. Emphasizes laboratory and field procedures used in strategies taken to assess and manage these impacts. Note: Course also substitutes for ENVS 121. Cross Listed: BIO 175; only one may be counted for credit.</p>	<p>Credit/No Credit ENVS 196G. Youth Recreation in Camp Settings. 3 Units This course examines camp programs in a wide variety of settings, for a variety of populations. Topics cover camp theories, camp management, risk-management, activity planning, inclusive programming, and staff training. Includes an emphasis on leadership, supervision, and organizational development of camp programs. Course uses lecture, field experiences, guest speakers, and service learning.</p>
<p>ENVS 186B. Ecological and Environmental Issues Seminar. 1 Unit Prerequisite(s): BIO 10 or both BIO 1 and BIO 2. Series of at least 10 seminars in ecological and environmental issues. Topics with each seminar will vary each semester. Note: May be repeated for credit. No more than one unit of ENVS 186B may be counted toward the upper division major requirement. Cross Listed: BIO 186B; only one may be counted for credit.</p>	<p>ENVS 199. Special Problems. 1 - 3 Units Individual projects or directed reading. Note: Open only to students who are competent to carry on individual work. Admission requires permission of the Director and the faculty member who will direct the work.</p>
<p>Credit/No Credit</p>	<p>Credit/No Credit</p>
<p>ENVS 187. Environmental Studies Seminar. 1 Unit Students will participate in the semester-long University seminar and will be exposed to a variety of environmental issues and topics presented by speakers from CSUS, the USGS, government and professional organizations, among many others. Topics include issues such as climate change, water use and conversation, environmental sustainability, environmental policy and decision-making, and many important regional issues. Credit/No Credit</p>	<p>ENVS 295. Practicum. 2 - 6 Units Prerequisite(s): Permission of faculty advisor and director. Graduate internship experiences in practical setting. Note: Open only to graduate students specializing in environmental studies.</p>
<p>Credit/No Credit</p>	<p>Credit/No Credit</p>
<p>ENVS 190. Senior Thesis. 3 Units Prerequisite(s): Instructor permission and completion of all lower and upper division Environmental Studies courses. Explores an environmental problem or issue in great depth. It includes a detailed review of the scientific literature, synthesis, and integration of information from the literature, and evaluation of the information leading to conclusions and recommendations that address the problem or issue. Thesis subjects are chosen by the student, and can be from a myriad perspectives addressed in the Environmental Studies curriculum including scientific, social, political, economic, and cultural issues.</p>	<p>ENVS 296. Experimental Offerings in Environmental Studies. 1 - 3 Units Prerequisite(s): Instructor permission. Courses offered on an experimental basis.</p>
<p>ENVS 195. Environmental Studies Internship. 3 Units Supervised work experience in an approved legislative or administrative office at some level of local, state or federal government, or in a public or private organization that is concerned with the environment. Supervision is provided by the faculty instructor and responsible officials in the work situation. Note: Open to majors only, subject to instructor permission.</p>	<p>ENVS 299. Special Problems: Individual Study. 1 - 3 Units Individual projects or directed reading. Note: Departmental petition required.</p>
<p>Credit/No Credit</p>	<p>Credit/No Credit</p>