Environmental Studies

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Environmental Studies crosses the boundaries of traditional disciplines in the natural sciences, social sciences, humanities, management, policy, design, and law. It challenges students to look at the relationship between humans and their environment from new perspectives. The Environmental Studies Program is dedicated to gaining greater understanding of the natural world from an ecological perspective; devising policies and behaviors that address contemporary environmental problems; and promoting a rethinking of basic cultural premises, ways of structuring knowledge, and the root metaphors of contemporary society.

The Environmental Studies Program offers two undergraduate majors (Environmental Studies and Environmental Science), three undergraduate minors (Environmental Studies,Environmental Humanities, and Food Studies), Master's and Doctoral degrees. It also houses several high-profile interdisciplinary centers, programs and initiatives including the Center for Environmental Futures, Tribal Climate Change Project, Environmental Leadership Program, Just Futures Institute for Racial and Climate Justice, and Climate Change and Indigenous Peoples Initiative.

Faculty

With 29 core faculty from three colleges and 17 different departments, the Environmental Studies Program is doing exciting boundary-breaking interdisciplinary research and teaching related to the environment. In addition, over 100 faculty from all UO colleges who have environmental expertise are affiliated with Environmental Studies as participating faculty. Profiles for core faculty and a list of participating faculty are on the Environmental Studies website.

Stacy Alaimo, professor (material ecocriticism, anthropocene feminisms, blue humanities).

Brendan J. M. Bohannan, professor (microbial ecology).

Peg Boulay, senior instructor II (environmental monitoring, wildlife conservation, outreach and education); co-director, environmental leadership.

Scott D. Bridgham, professor (ecosystem ecology, climate change).

Trudy Ann Cameron, professor (environmental economics).

Mark Carey, professor (glaciers, climate change, natural disasters); director, environmental studies program.

Lauren Hallett, assistant professor (plant community and restoration ecology).

Stephanie LeMenager, professor (American studies, environmental humanities).

Kathryn Lynch, senior instructor II (environmental education, environmental anthropology); co-director, environmental leadership.

Kathy Lynn, research associate (Tribal Climate Change Project).

Richard D. Margerum, associate professor (collaborative environmental management, conflict management in multistakeholder processes).

Galen Martin, senior instructor II (sustainable agriculture, food systems).

Patricia McDowell, professor (river management and restoration).

Krista McGuire, professor (microbial ecology, sustainable management).

Ronald Mitchell, professor (environmental politics, international relations), assistant director of environmental studies program.

Erin Moore, associate professor (life-cycle environmental impacts)

Nicolae Morar, associate professor (applied ethics, recent continental philosophy, philosophy of biology).

Barbara Muraca, assistant professor (human-nature relationships, ecosystem services valuation, sustainability theory).

Kari Norgaard, professor (environmental justice, climate-change denial), director of graduate studies.

Alexandra Rempel, assistant professor (environmental design, passive heating and cooling).

Joshua J. Roering, associate professor (geomorphology, landscape evolution modeling).

Kory Russel, assistant professor (sustainable design; water, public health, and environment).

Emily Scott, assistant professor (art and the public sphere, critical approaches to the built environment, visual cultures of nature).

Lucas Silva, assistant professor (terrestrial ecology, biogeochemistry, biogeography).

David Sutherland, associate professor (ice-ocean interaction, coastal and estuarine oceanography).

Sarah Wald, associate professor (race and ethnic studies, environmental humanities).

Peter A. Walker, professor (environmental politics, political ecology).

Marsha Weisiger, associate professor (environmental, Native American, American West).

Richard York, associate professor (assessing anthropogenic driving forces of global environmental change).

Emeritus

Alan Dickman, professor emeritus (forest ecology and management).

Matthew Dennis, professor (colonial and early national America, American cultural and environmental history, American Indian history).

- **Bachelor of Arts in Environmental Studies**
- **Bachelor of Arts in Environmental Science**
- **Bachelor of Science in Environmental Studies**
- **Bachelor of Science in Environmental Science**
- **Minor in Environmental Studies**
- **Minor in Environmental Humanities**
- **Minor in Food Studies**

The program offers two majors. The Environmental Studies major focuses on social sciences, policy studies, the humanities, and sustainable design and practice. It is designed for students who are interested in such areas as environmental policy, planning, ethics or philosophy, ecocriticism, environmental justice, sustainable development, international environmental issues, or social theory and the environment.

The Environmental Science major is designed for students who want to focus on scientific careers in conservation biology, climate science, pollution prevention and abatement, or ecosystem protection, restoration, and management.

You can obtain a bachelor of arts (BA) or a bachelor of science (BS) in both of these majors.

We also offer a minor in Environmental Studies, Environmental Humanities or Food Studies.

Both majors provide a broad, solid, interdisciplinary perspective on the relationship between humans and nature. Their goals are to develop awareness of environmental issues and to develop an understanding of the nature and scope of the forces underlying environmental problems, the various approaches used to bring environmental problems to the public's attention, and the methods and approaches used to solve these problems.

Majors gain an appreciation of the interdisciplinary nature of environmental studies, and they master content and skills associated with a number of different disciplines.

Majors and minors have considerable latitude in designing a course of study that combines theory and practice, invites active participation, and fits specific interests, needs, and aptitudes. The majors, which provide a well-rounded basic education, prepare students for entry-level positions in business, government, non-governmental and nonprofit organizations, and for a variety of graduate and professional degree programs. Students are encouraged to take advantage of career planning services offered by the University Career Center.

Students should plan their programs early in their undergraduate careers with the aid of a Tykeson advisor in the Scientific Discover and Sustainability (SDS) flight path. Majors are encouraged to consider completing a second major or a minor in a related field. Visit the Tykeson College and Career Advising (https://advising.uoregon.edu/tykeson/) homepage to find out how to schedule an appointment with an advisor.

Up-to-date information, major requirements sheets, and tip sheets are available in the program office and on the website.

Opportunities for Majors

The Environmental Studies Program offers many hands-on learning experiences for students to apply their academic learning while developing as professionals and scholars.

Environmental Leadership Program

The Environmental Leadership Program is an interdisciplinary community-based learning program. Student teams work with non-profit organizations, governmental agencies and businesses to address local environmental needs. Through unique and practical learning experiences, undergraduate students gain leadership, communication, collaboration and professional skills by engaging directly in applied problem-resolution while providing valuable assistance to our community partners. Depending on the project, students earn 4-8 credits that count towards the environmental studies and environmental science major requirements as well as the environmental studies minor.

Internships

By offering academic credit for environmentally focused work experience, the internship program allows students to connect their academic studies with practical applications. Potential internship sponsors include non-profit organizations, governmental agencies and businesses. Students are expected to be self-motivated and arrange their own positions in their areas of particular interest. However, if a student needs assistance finding an internship position, the internship coordinator can help identify potential opportunities related to the student's interests and professional goal. Students may take up to 12 credits of Internship: [Topic] (ENVS 404). To fulfill the practical learning experience requirement for the environmental studies and environmental science majors, students take 4 credits (which translates to 120 hours) of internship service.

Honors

Students majoring in Environmental Studies and Environmental Science are encouraged to participate in our honors program. Writing a senior thesis is good preparation for future professional positions and graduate studies. It provides an opportunity to develop your research and writing skills. Graduating with honors demonstrates a high level of initiative and ability to work independently. An honors thesis is a way to become an expert on a topic of interest and gain recognition for your outstanding academic work.

Students who want to graduate with honors in environmental studies or environmental science must have a 3.30 overall grade point average (GPA) and a 3.50 GPA in courses required for the major. Honors candidates complete a research-based thesis or creative project conducted under the direction of a faculty adviser. Due to the breadth of potential research topics, students can do original laboratory or field-based research, library-based research, or a terminal or creative project.

Honors students who are not enrolled in the Clark Honors College must earn 4 credits of Research: [Topic] (ENVS 401) and 4 credits of Thesis (ENVS 403) in environmental studies or another appropriate department. These credits count towards environmental studies and environmental science major requirements.

Environmental Careers

The environmental studies and environmental science majors provide a well-rounded basic education to prepare students for entry-level positions in business, government, or non-governmental organizations. Alumni work in diverse fields including conservation, climate policy, political action, land use planning, public and environmental health, pollution prevention and abatement, sustainable design, sustainable agriculture and food systems, environmental justice, green business, and ecosystem protection, restoration, and management. Many alumni continue their education through graduate programs.

Kindergarten through Secondary Teaching Careers

Students who complete a bachelor's degree with a major in environmental studies or environmental science are eligible to apply for the College of Education's fifth-year licensure program in middle-secondary teaching or the fifth-year licensure program to become an elementary teacher. More information is available from the department's undergraduate advisor; see also the College of Education (http://

catalog.uoregon.edu/archive/2022-2023/education/) section in this catalog.

Four-Year Degree Plan

The degree plan shown is only a sample of how students may complete their degrees in four years. There are alternative ways. Students should consult their advisor to determine the best path for them.

- Environmental Science **(**p. 3**)**
- **Environmental Studies**

Bachelor of Arts in Environmental Science (Life Science Focus)

Course	Title	Credits	Milestones
First Year			
Fall			
General-education course in arts and letters		4	
CH 221	General Chemistry I	4	
First term of first-year second-language sequence		4	
MATH 111	College Algebra	4	
	Credits	**16**	
Winter			
WR 121	College Composition I	4	
CH 222	General Chemistry II	4	
Second term of first-year second-language sequence		4	
MATH 112	Elementary Functions	4	
	Credits	**16**	
Spring			
ENVS 203	Introduction to Environmental Studies: Humanities	4	
CH 223	General Chemistry III	4	
Third term of first-year second-language sequence		4	
MATH 251 or MATH 246	Calculus I or Calculus for the Biological Sciences I	4	
	Credits	**16**	
	Total Credits	**48**	

Course	Title	Credits	Milestones
Second Year			
Fall			
First term of second-year second-language sequence		4	
MATH 252 or MATH 247	Calculus II or Calculus for the Biological Sciences II	4	
BI 211	General Biology I: Cells	4	
General-education course in social science		4	
	Credits	**16**	
Winter			
Second term of second-year second-language sequence		4	
ENVS 201	Introduction to Environmental Studies: Social Sciences	4	
BI 212	General Biology II: Organisms	4	
MATH 425	Statistical Methods I	4	
	Credits	**16**	
Spring			
Third term of second-year second-language sequence		4	
WR 122 or WR 123	College Composition II or College Composition III	4	
BI 213	General Biology III: Populations	4	
ERTH 305	Dinosaurs	4	
	Credits	**16**	
Summer			
ERTH 201	Dynamic Planet Earth	4	
ERTH 202	Earth's Surface and Environment	4	
ERTH 203	History of Life	4	
	Credits	**12**	
	Total Credits	**60**	

Course	Title	Credits	Milestones
Third Year			
Fall			
PHIL 340	Environmental Philosophy	4	
BI 370	Ecology	5	
General-education course in arts and letters		4	
Elective course		4	
	Credits	**17**	
Winter			
ANTH 362	Human Biological Variation	4	
BI 357	Marine Biology	4	
Elective courses		8	
	Credits	**16**	
Spring			
GEOG 341	Population and Environment	4	
ENVS 335	Allocating Scarce Environmental Resources	4	
Elective courses		8	
	Credits	**16**	
	Total Credits	**49**	

Course	Title	Credits	Milestones
Fourth Year			
Fall			
BI 380	Evolution	4	
Elective courses		8	
ENVS 477	Soil Science	4	
	Credits	**16**	
Winter			
ENVS 427	Environmental and Ecological Monitoring	4	
BI 471	Population Ecology	4	
Elective courses		8	
	Credits	**16**	
Spring			
ENVS 429	Environmental Leadership: [Topic]	4	
BI 448	Field Botany	4	

Elective courses		8
	Credits	**16**
	Total Credits	**48**

Bachelor of Science in Environmental Science (Life Science Focus)

Course	Title	Credits Milestones
First Year		
Fall		
ENVS 201	Introduction to Environmental Studies: Social Sciences	4
WR 121	College Composition I	4
General-education group-satisfying course		4
General-education course that also satisfies a international cultures multicultural requirement		4
	Credits	**16**
Winter		
WR 123	College Composition III	4
MATH 111	College Algebra	4
General-education courses		8
	Credits	**16**
Spring		
ENVS 203	Introduction to Environmental Studies: Humanities	4
MATH 112	Elementary Functions	4
General-education courses		8
	Credits	**16**
	Total Credits	**48**

Course	Title	Credits Milestones
Second Year		
Fall		
CH 221	General Chemistry I	4
ERTH 201	Dynamic Planet Earth	4
MATH 251	Calculus I	4
Multicultural course in international cultures		4
	Credits	**16**
Winter		
CH 222	General Chemistry II	4
ERTH 202	Earth's Surface and Environment	4
MATH 252	Calculus II	4
BI 211	General Biology I: Cells	4
	Credits	**16**
Spring		
General-education course		4
ERTH 203	History of Life	4
CH 223	General Chemistry III	4
BI 213	General Biology III: Populations	4
	Credits	**16**
	Total Credits	**48**

Course	Title	Credits Milestones
Third Year		
Fall		
MATH 111	College Algebra	4
ANTH 330	Hunters and Gatherers	4
GEOG 341	Population and Environment	4
General-educationcourse		4
	Credits	**16**
Winter		
ANTH 361	Human Evolution	4
ANTH 349	Origins of Art	4
BI 212	General Biology II: Organisms	4
ENVS 345	Environmental Ethics	4
	Credits	**16**
Spring		
ANTH 462	Primate Evolution	4
ARCH 430	Architectural Contexts: Place and Culture	4
MATH 243	Introduction to Methods of Probability and Statistics	4
	Credits	**12**
	Total Credits	**44**

Course	Title	Credits Milestones
Fourth Year		
Fall		
ENVS 404	Internship: [Topic]	4
Elective course		4
	Credits	**8**
Winter		
ENVS 411	Environmental Issues: [Topic] (Top Conservation Areas)	4
BI 307	Forest Biology	4
Elective course		4
	Credits	**12**
Spring		
ENVS 429	Environmental Leadership: [Topic]	4
BI 374	Conservation Biology	4
Elective course		4
	Credits	**12**
	Total Credits	**32**

Bachelor of Arts in Environmental Studies (Policy and Social Science Focus)

Course	Title	Credits Milestones
First Year		
Fall		
ENVS 201	Introduction to Environmental Studies: Social Sciences	4
WR 121	College Composition I	4
First term of first-year second-language sequence		4
General-education course		4
	Credits	**16**

Winter		
ENVS 202	Introduction to Environmental Studies: Natural Sciences	4
WR 122	College Composition II	4
Second term of first-year second-language sequence		4
General-education course		4
	Credits	**16**
Spring		
ENVS 203	Introduction to Environmental Studies: Humanities	4
Third term of first-year second-language sequence		4
MATH 111	College Algebra	4
General-education course that also satisfies international cultures multicultural requirement		4
	Credits	**16**
	Total Credits	**48**

Course	Title	Credits	Milestones
Second Year			
Fall			
First term of second-year second-language sequence		4	
ERTH 201	Dynamic Planet Earth	4	
SOC 312	Statistical Analysis in Sociology	4	
General-education course		4	
	Credits	**16**	
Winter			
Second term of second-year second-language sequence		4	
ERTH 202	Earth's Surface and Environment	4	
General-education course		4	
General-education course that also satisfies international cultures multicultural requirement		4	
	Credits	**16**	
Spring			
Third term of second-year second-language sequence			
ERTH 203	History of Life	4	
General-education courses		8	
	Credits	**12**	
	Total Credits	**44**	

Course	Title	Credits	Milestones
Third Year			
Fall			
ANTH 170	Introduction to Human Origins	4	
GEOG 341	Population and Environment	4	
PS 477	International Environmental Politics	4	
General-education course		4	
	Credits	**16**	
Winter			
GEOG 321	Climatology	4	
LA 440	Introduction to Landscape Planning Analysis	4	
PHIL 340	Environmental Philosophy	4	
Course that satisfies minor requirements		4	
	Credits	**16**	
Spring			
ES 350	Native Americans and the Environment	4	
ERTH 304	The Fossil Record	4	
Course that satisfies minor requirements		4	
	Credits	**12**	
	Total Credits	**44**	

Course	Title	Credits	Milestones
Fourth Year			
Fall			
GLBL 425	Global Food Security	4	
Course that satisfies minor requirements		4	
	Credits	**8**	
Winter			
ENVS 411	Environmental Issues: [Topic] (Environmental Interpretation)	4	
GLBL 446	Development and Social Change in Latin America	4	
Course that satisfies minor requirements		4	
	Credits	**12**	
Spring			
EC 330	Urban and Regional Economic Problems	4	
ENVS 404	Internship: [Topic]	1-12	
Course that satisfies minor requirements		4	
	Credits	**9-20**	
	Total Credits	**29-40**	

Bachelor of Science in Environmental Studies (Humanities and Sustainable Design Focus)

Course	Title	Credits	Milestones
First Year			
Fall			
ENVS 201	Introduction to Environmental Studies: Social Sciences	4	
WR 121	College Composition I	4	
General-education course in arts and letters		4	
Multicultural course in international cultures		4	
	Credits	**16**	
Winter			
ENVS 202	Introduction to Environmental Studies: Natural Sciences	4	
WR 122	College Composition II	4	
General-education course in social science		4	
General-education course in arts and letters		4	
	Credits	**16**	
Spring			
ENVS 203	Introduction to Environmental Studies: Humanities	4	
MATH 111	College Algebra	4	

Multicultural course in identity, pluralism, and tolerance		4
General-education course in arts and letters		4
	Credits	**16**
	Total Credits	**48**

Course	Title	Credits Milestones
Second Year		
Fall		
CH 111	Introduction to Chemical Principles	4
MATH 112	Elementary Functions	4
GEOG 141	The Natural Environment	4
General-education course in social science		4
	Credits	**16**
Winter		
BI 211	General Biology I: Cells	4
General-education course in arts and letters		4
MATH 243	Introduction to Methods of Probability and Statistics	4
Elective course		4
	Credits	**16**
Spring		
BI 213	General Biology III: Populations	4
GEOG 341	Population and Environment	4
PS 367	Science and Politics of Climate Change	4
Elective course		4
	Credits	**16**
	Total Credits	**48**

Course	Title	Credits Milestones
Third Year		
Fall		
ENVS 345	Environmental Ethics	4
PPPM 445	Green Cities	4
BI 357	Marine Biology	4
Elective course		4
	Credits	**16**
Winter		
ENG 325	Literature of the Northwest	4
LA 390	Urban Farm	4
BI 307	Forest Biology	4
Elective course		4
	Credits	**16**
Spring		
HIST 378	American Environmental History to 1890	4
ENVS 467	Sustainable Agriculture	4
Elective courses		8
	Credits	**16**
	Total Credits	**48**

Course	Title	Credits Milestones
Fourth Year		
Fall		
ENVS 411	Environmental Issues: [Topic]	4
PHIL 309	Global Justice	4
Elective course		4
	Credits	**12**
Winter		
ARCH 436	Theory of Urban Design I	3
Elective courses		8
	Credits	**11**
Spring		
ENVS 404	Internship: [Topic]	4
Elective courses		8
	Credits	**12**
	Total Credits	**35**

- **Master of Arts**
- **Master of Science**
- **Doctor of Philosophy**
- **Graduate Certificate in Environmental Humanities**
- **Graduate Certificate in Food Studies**

Graduate Studies

The Environmental Studies Program offers graduate study leading to the degrees of master of arts (MA) or master of science (MS) in environmental studies, and an interdisciplinary doctor of philosophy (PhD) degree in environmental sciences, studies, and policy.

Students choose courses offered in appropriate disciplines to design a course plan based on individual goals and backgrounds.

Some financial support for graduate students in the Environmental Studies Program is available through graduate teaching fellowships. Support generally consists of a stipend, health insurance, and a tuition waiver.

Application instructions and materials are available on the program's website.

Application Deadline

Applicants for admission to the master's program must submit all necessary materials online by January 15. New students are accepted for fall term only.

Concurrent Master's Degrees Programs

Environmental studies students may obtain concurrent degrees in other disciplines. Applicants must apply separately to each program. For more information, contact the program office.

Courses

ENVS 196. Field Studies: [Topic]. 1-5 Credits.
Repeatable three times for a maximum of 20 credits.

ENVS 198. Laboratory Projects: [Topic]. 1-12 Credits.
Repeatable.

ENVS 199. Special Studies: [Topic]. 1-5 Credits.
Repeatable.

ENVS 201. Introduction to Environmental Studies: Social Sciences. 4 Credits.
Contributions of the social sciences to analysis of environmental problems. Topics include human population, the relationship between social institutions and environmental problems, and appropriate political, policy, and economic processes.

ENVS 202. Introduction to Environmental Studies: Natural Sciences. 4 Credits.
Contributions of the natural sciences to analysis of environmental problems. Topics include biological processes, ecological principles, chemical cycling, ecosystem characteristics, and natural system vulnerability and recovery.

ENVS 203. Introduction to Environmental Studies: Humanities. 4 Credits.
Contributions of the humanities and arts to understandings of the environment. Emphasis on diverse ways of thinking, writing, creating, and engaging in environmental discourse.

ENVS 225. Introduction to Food Studies. 4 Credits.
An exploration of the field of "food studies" and examination of the role of food in historical and contemporary life in the US and around the world.

ENVS 335. Allocating Scarce Environmental Resources. 4 Credits.
Considerations for the design of environmental and natural resources policies and regulations: balancing society's preferences and the costs of environmental protection and resource conservation.
Prereq: MATH 105 or higher.

ENVS 345. Environmental Ethics. 4 Credits.
Key concepts and various moral views surveyed; includes anthropocentrism, individualism, ecocentrism, deep ecology, and ecofeminism. Exploration includes case studies and theory.

ENVS 350. Ecological Footprint of Energy Generation. 4 Credits.
Detailed study of the ecological consequences of all forms of energy generation including fossil fuels and alternative energy sources. Open to environmental science, environmental studies, and planning, public policy and management majors only.
Prereq: ENVS 201, MATH 112.

ENVS 399. Special Studies: [Topic]. 1-5 Credits.
Repeatable.

ENVS 400M. Temporary Multilisted Course. 1-5 Credits.
Repeatable.

ENVS 401. Research: [Topic]. 1-12 Credits.
Repeatable.

ENVS 403. Thesis. 1-8 Credits.
Repeatable up to 5 times.

ENVS 404. Internship: [Topic]. 1-12 Credits.
Repeatable.
Prereq: Instructor's approval.

ENVS 405. Reading and Conference: [Topic]. 1-18 Credits.
Repeatable.

ENVS 406. Practicum: [Topic]. 1-12 Credits.
Repeatable.

ENVS 407. Seminar: [Topic]. 1-5 Credits.
Repeatable.

ENVS 408. Workshop: [Topic]. 1-8 Credits.
Repeatable.

ENVS 409. Terminal Project. 1-12 Credits.
Repeatable.

ENVS 410. Experimental Course: [Topic]. 1-5 Credits.
Repeatable.

ENVS 411. Environmental Issues: [Topic]. 4 Credits.
In depth examination of a particular environmental topic such as global warming, ecosystem restoration, energy alternatives, geothermal development, public lands management, or environmental literature. Repeatable twice when topic changes for maximum of 12 credits.
Prereq: junior or senior standing.

ENVS 425. Environmental Education Theory and Practice. 4 Credits.
Learning theories, environmental literacy, and the planning, implementation, and evaluation of environmental education programs. Development of teaching materials in collaboration with a community partner for group project.
Prereq: instructor's approval.

ENVS 427. Environmental and Ecological Monitoring. 4 Credits.
Theory, design, and practice of monitoring sampling mapping, field techniques, data collection, management, analysis and presentation methods, local case studies.

ENVS 429. Environmental Leadership: [Topic]. 1-4 Credits.
Partnering with governmental agencies, nonprofit organizations, public schools and local businesses, students develop service learning projects. Repeatable twice for a maximum of 12 credits when topic changes.
Prereq: instructor's approval.

ENVS 429L. Environmental Leadership: [Topic]. 4 Credits.
Partnering with governmental agencies, nonprofit organizations, public schools and local businesses, students develop service learning projects. Repeatable twice for a maximum of 12 credits when topic changes.

ENVS 435. Environmental Justice. 4 Credits.
Environmental justice and its impact on current decisions. Focus on civil rights law, perception of risk, and relation of sustainability and equity.
Prereq: ENVS 201.

ENVS 450. Political Ecology. 4 Credits.
Examines how social relations and economic, social, and cultural control of natural resources shape human interactions with the environment. Theory and case studies.
Prereq: ENVS 201.

ENVS 455. Sustainability. 4 Credits.
Examines the evolution of the concept of sustainability and its complex and sometimes problematic uses among scholars, policymakers, environmentalists, and businesses.
Pre- or coreq: ENVS 201; junior or senior standing.

ENVS 459. Water, Public Health, and the Environment. 4 Credits.
Water, Public Health, and the Environment examines the provision of water and sanitation services around the world with a particular focus on its impacts for public health and the environment in low- and middle-income communities.

ENVS 465. Wetland Ecology and Management. 4 Credits.
Examines management, law, and policies related to wetlands in an ecological framework; includes wetland type definitions, classification, distribution, formation and development, and restoration.
Prereq: BI 307 or BI 370 or GEOG 360.

ENVS 467. Sustainable Agriculture. 4 Credits.
Examines sustainability issues in agricultural production and current food systems. Focuses on environmental aspects of seed, water, soil, energy, and pest management.
Prereq: ENVS 201 or ENVS 202.

ENVS 477. Soil Science. 4 Credits.
Chemical and physical characteristics and classification of soils, field soil identification, soil degradation.
Prereq: CH 111 or CH 221 or CH 224H.

ENVS 493M. Passive Cooling. 4 Credits.
Conceptual and quantitative investigations of passive cooling design and performance, including precedents, shading, natural ventilation, evaporative cooling, use of thermal mass, radiant cooling assisted by cold night skies, and control scheduling, supported by field investigations and introductory energy modeling. Multilisted with ARCH 493M.
Prereq: ARCH 491.

ENVS 494M. Passive Heating. 4 Credits.
Conceptual and quantitative investigations of passive solar heating design and performance, including precedents, solar resource evaluation, glazing selection and orientation, thermal mass materials and positioning, movable insulation, and control scheduling, supported by solar site surveys and modeling in EnergyPlus. Multilisted with ARCH 494M.
Prereq: ARCH 491.

ENVS 500M. Temporary Multilisted Course. 1-5 Credits.
Repeatable.

ENVS 503. Thesis. 1-16 Credits.
Repeatable up to eight times.

ENVS 507. Seminar: [Topic]. 1-5 Credits.
Repeatable.

ENVS 508. Workshop: [Topic]. 1-8 Credits.
Repeatable.

ENVS 510. Experimental Course: [Topic]. 1-5 Credits.
Repeatable.

ENVS 525. Environmental Education Theory and Practice. 4 Credits.
Learning theories, environmental literacy, and the planning, implementation, and evaluation of environmental education programs. Development of teaching materials in collaboration with a community partner for group project.

ENVS 535. Environmental Justice. 4 Credits.
Environmental justice and its impact on current decisions. Focus on civil rights law, perception of risk, and relation of sustainability and equity.

ENVS 550. Political Ecology. 4 Credits.
Examines how social relations and economic, social, and cultural control of natural resources shape human interactions with the environment. Theory and case studies.

ENVS 555. Sustainability. 4 Credits.
Examines the evolution of the concept of sustainability and its complex and sometimes problematic uses among scholars, policymakers, environmentalists, and businesses.

ENVS 559. Water, Public Health, and the Environment. 4 Credits.
Water, Public Health, and the Environment examines the provision of water and sanitation services around the world with a particular focus on its impacts for public health and the environment in low- and middle-income communities.

ENVS 565. Wetland Ecology and Management. 4 Credits.
Examines management, law, and policies related to wetlands in an ecological framework; includes wetland type definitions, classification, distribution, formation and development, and restoration.

ENVS 567. Sustainable Agriculture. 4 Credits.
Examines sustainability issues in agricultural production and current food systems. Focuses on environmental aspects of seed, water, soil, energy, and pest management.

ENVS 577. Soil Science. 4 Credits.
Chemical and physical characteristics and classification of soils, field soil identification, soil degradation.

ENVS 593M. Passive Cooling. 4 Credits.
Conceptual and quantitative investigations of passive cooling design and performance, including precedents, shading, natural ventilation, evaporative cooling, use of thermal mass, radiant cooling assisted by cold night skies, and control scheduling, supported by field investigations and introductory energy modeling. Multilisted with ARCH 593M.
Prereq: ARCH 591.

ENVS 594M. Passive Heating. 4 Credits.
Conceptual and quantitative investigations of passive solar heating design and performance, including precedents, solar resource evaluation, glazing selection and orientation, thermal mass materials and positioning, movable insulation, and control scheduling, supported by solar site surveys and modeling in EnergyPlus. Multilisted with ARCH 594M.
Prereq: ARCH 591

ENVS 601. Research: [Topic]. 1-16 Credits.
Repeatable.

ENVS 602. Supervised College Teaching. 1-5 Credits.
Repeatable.

ENVS 603. Dissertation. 1-16 Credits.
Repeatable.

ENVS 604. Internship: [Topic]. 1-5 Credits.
Repeatable for maximum of 10 credits.

ENVS 605. Reading and Conference: [Topic]. 1-16 Credits.
Repeatable.

ENVS 606. Field Studies: [Topic]. 1-16 Credits.
Repeatable nine times.

ENVS 607. Seminar: [Topic]. 1-5 Credits.
Repeatable.

ENVS 608. Workshop: [Topic]. 1-16 Credits.
Repeatable.

ENVS 609. Terminal Project. 1-16 Credits.
Repeatable up to eight times.

ENVS 610. Experimental Course: [Topic]. 1-5 Credits.
Repeatable. A recent topic is Interdisciplinary Capstone Project.

ENVS 631. Environmental Studies Theory and Practice. 4 Credits.
Introduction to various disciplinary perspectives that contribute to environmental studies, including their research methods, vocabularies, and core concepts.

ENVS 632. Environmental Studies Research Methodology. 2 Credits.
Identifying a clear and concise research problem, developing methodology to address that problem, and the process of developing a thorough knowledge of relevant literature.

ENVS 633. Environmental Studies Thesis Development. 3 Credits.
Interdisciplinary readings in environmental studies focused on topics chosen by each student in consultation with instructor. Preparation for presentations at the Joint Campus Conference.