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 faculty members and 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.

Faculty

Core faculty members listed in the faculty list have dedicated responsibilities in the program. Participating faculty members have demonstrated professional interests in environmental studies by researching environmental issues, teaching courses that meet program requirements, or participating in a variety of program activities on a voluntary basis. They are all available to advise students who are interested in environmental studies. More information about the faculty is available on the program website.

Resources

The program's resource center has a limited collection of books related to environmental topics. University of Oregon students and members of the faculty and staff may borrow items for up to two weeks.

Faculty

Brendan J. M. Bohannan, associate professor (microbial ecology). See **Biology**.

Peg Boulay, instructor (environmental monitoring, wildlife conservation, outreach and education); codirector, environmental leadership and advising. BS, 1989, Furman; MS, 1992, Florida. (2009)

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

Trudy Ann Cameron, Raymond F. Mikesell Professor of Environmental and Resource Economics (environmental economics). See **Economics**.

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

Alan Dickman, senior instructor with title of research associate professor. See **Biology**.

Kathryn A. Lynch, instructor (environmental leadership, tropical conservation, environmental education); codirector, environmental leadership and advising. BS, 1992, California, Davis; MA, 1995, PhD, 2001, Florida. (2005)

Richard D. Margerum, associate professor (collaborative environmental management, conflict management in multistakeholder processes). See **Planning, Public Policy and Management**.

Patricia F. McDowell, professor (river management and restoration). See **Geography**.

Ronald B. Mitchell, professor (environmental politics, international relations). See **Political Science**.

Brook Muller, associate professor (environmentally responsive architecture). See **Architecture**.

Kari Norgaard, associate professor (environment, climate-change denial). See **Sociology**.

Joshua J. Roering, associate professor (geomorphology, landscape evolution modeling). See **Geological Sciences**.

David Sutherland, assistant professor (ice-ocean interaction, coastal and estuarine oceanography). See **Geological Sciences.**

Ted Toadvine, associate professor (environmental ethics, ecophenomenology). See **Philosophy.**

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

Marsha Weisiger, Rocky and Julie Dixon Chair of U.S. Western History; associate professor (environmental, Native American, American West). See **History**.

Louise Westling, professor (ecocriticism, environmental humanities). See **English.**

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

The date in parentheses at the end of each entry is the first year on the University of Oregon faculty.

Participating

Susan C. Anderson, German and Scandinavian

William S. Ayres, anthropology

Patrick J. Bartlein, geography

Carol Ann Bassett, journalism and communication

Carla Bengtson, art

Ann Bettman, landscape architecture

Aletta Biersack, anthropology

Thomas H. Bivins, journalism and communication

Christopher Bone, geography

John E. Bonine, law

Gregory D. Bothun, physics

William E. Bradshaw, biology

Yvonne A. Braun, women's and gender studies

G. Z. Brown, architecture

Mark Carey, honors college

George C. Carroll, biology

Katharine V. Cashman, geological sciences

Richard W. Castenholz, biology

Suzanne Clark, English

Shaul E. Cohen, geography

John S. Conery, computer and information science

William A. Cresko, biology

James R. Crosswhite, English

Edward B. Davis, Museum of Natural and Cultural History

Jerome Diethelm, landscape architecture

Rebecca J. Dorsey, geological science

Michael C. Dreiling, sociology

Jeffrey Edmundson, education studies

James R. Elliott, sociology

Richard B. Emlet, biology

Paul C. Engelking, chemistry and biochemistry

Arthur M. Farley, computer and information science

Mark Fonstad, geography

John B. Foster, sociology

John T. Gage, English

Daniel Gavin, geography

Daniel Goldrich, political science

Jessica L. Green, biology

Patricia A. Gwartney, sociology

William T. Harbaugh, economics

Susan W. Hardwick, geography

Jill A. Harrison, sociology

Kenneth I. Helphand, landscape architecture

Michael Hibbard, planning, public policy and management

Richard G. Hildreth, law

Derrick Hindery, international studies

Janet Hodder, Oregon Institute of Marine Biology

Garrett K. Hongo, creative writing

Samantha Hopkins, honors college

Carl J. Hosticka, planning, public policy and management

David Hulse, landscape architecture

James E. Hutchison, chemistry and biochemistry

Renee A. Irvin, planning, public policy and management

Colin Ives, art

Grant Jacobsen, planning, public policy and management

Bart Johnson, landscape architecture

Mark Johnson, philosophy

Lamia Karim, anthropology

Craig Kauffman, political science

Lauren J. Kessler, journalism and communication

Gyoung-Ah Lee, anthropology

Glen A. Love, English

Bonnie Mann, philosophy

W. Andrew Marcus, geography

Ralph Mastromonaco, economics

Theresa May, theater arts

Gregory McLauchlan, sociology

Jerry F. Medler, political science

Kate Meehan, geography

Robert Z. Melnick, landscape architecture

Debra L. Merskin, journalism and communication

Erin Moore, architecture

Geraldine Moreno Black, anthropology

Cassandra Moseley, Institute for a Sustainable Environment

Madonna L. Moss, anthropology

Alexander B. Murphy, geography

Lise Nelson, geography

Jeffrey Ostler, history

Robert G. Parker, planning, public policy and management

Max Nielsen-Pincus, Institute for a Sustainable Environment

Stephen E. Ponder, journalism and communication

Daniel A. Pope, history

Scott L. Pratt, philosophy

Mark H. Reed, geological sciences

Gregory J. Retallack, geological sciences

John S. Reynolds, architecture

Robert G. Ribe, landscape architecture

William Rossi, English

Bitty A. Roy, biology

Michael V. Russo, management

Gordon M. Sayre, English

Marc Schlossberg, planning, public policy and management

Alan Shanks, biology

Lynda P. Shapiro, biology

Paul Slovic, psychology

J. Josh Snodgrass, anthropology

Lawrence S. Sugiyama, anthropology

Kelly Sutherland, geological sciences

Richard P. Suttmeier, political science

Nora B. Terwilliger, biology

Roxi Thoren, landscape architecture

Joseph W. Thornton, biology

Nelson Ting, anthropology

Douglas R. Toomey, geological sciences

Daniel Udovic, biology

Peter Warnek, philosophy

Peter B. Wetherwax, biology

Ray J. Weldon, geological sciences

W. Ed Whitelaw, economics

A. Michelle Wood, biology

Mary C. Wood, law

Stephen R. Wooten, international studies

Yizhao Yang, planning, public policy and management

- **Bachelor of Arts in Environmental Studies**
- **Bachelor of Arts in Environmental Science**
- **Bachelor of Science in Environmental Studies**
- **Bachelor of Science in Environmental Science** (p. 5)
- **Minor in Environmental Studies**

Undergraduate Studies

The program offers undergraduate instruction through two majors, leading to a bachelor of arts (BA) or a bachelor of science (BS) degree. A minor in environmental studies is also offered.

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, nongovernmental 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 Career Center.

The environmental studies major focuses on social sciences, policy studies, the humanities, and sustainable design. It is designed for students who are interested in such areas as environmental policy, planning, ethics or philosophy, ecocriticism, ecofeminism, 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.

Students should plan their programs early in their undergraduate careers with the aid of an environmental studies academic advisor. Majors are urged to consider completing a second major or a minor in a related field. The program offers drop-in student advising in the main office.

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

Major Requirements

The environmental studies curriculum is designed to provide a solid foundation in the sciences, social sciences, and humanities; to build on these foundations in advanced course work in a variety of disciplines; to develop the skills necessary to study human-environment interactions; and to encourage participation in experiential learning activities that help students prepare for active participation in the work force and in local and global communities. Students should have a strong foundation in written and verbal skills.

Courses applied to the major, except environmental studies courses numbered 401 through 409, must be taken for letter grades and passed with grades of C– or better. As many as four upper-division courses may be used to fulfill requirements of another major. At least 24 credits must be taken at the University of Oregon.

Bachelor of Arts in Environmental Studies

Upper-division credit may be earned through course work or through a combination of course work and an honors thesis. Major requirements sheets containing detailed information about specific courses that meet the major requirements are available on the program website (http://

envs.uoregon.edu/undergrad/envsfocus) , in the program office, or from an environmental studies advisor.

Lower-Division Core Courses		
ENVS 201	Introduction to Environmental Studies: Social Sciences	4
ENVS 202	Introduction to Environmental Studies: Natural Sciences	4
ENVS 203	Introduction to Environmental Studies: Humanities	4
Lower-Division Mathematics and Science Courses		
MATH 111	College Algebra [1]	4
Approved statistics course		4
Approved introductory sequence in natural science		12
Course from different natural science sequence or from the list of approved science courses		4
Upper-Division Natural Science Courses		
Two upper-division natural science courses from the major requirements sheet		8
Upper-Division Social Science, Policy, Humanities, and Design Courses		
Social science core course		4
Policy core course		4
Humanities core course		4
Design core course		4
Six additional courses: three from one of the above areas; three from another		24
Environmental Issues Course		
ENVS 411	Environmental Issues: [Topic]	4
or ENVS 425	Environmental Education Theory and Practice	
or ENVS 427	Environmental and Ecological Monitoring	
Practical Learning Experience		
Choose from one of several approved practical learning experience options. These include internships, participation in the Environmental Leadership Program, research experiences with UO faculty members, honors thesis, courses at field stations, study abroad opportunities, or IE3 internships.		4
Total Credits		92

1 Recommended course; however, a university-level mathematics course numbered 100 or higher fulfills the requirement.

Bachelor of Science in Environmental Studies

Lower-Division Core Courses		
ENVS 201	Introduction to Environmental Studies: Social Sciences	4
ENVS 202	Introduction to Environmental Studies: Natural Sciences	4
ENVS 203	Introduction to Environmental Studies: Humanities	4
Lower-Division Mathematics and Science Courses		
MATH 111	College Algebra [1]	4
Approved statistics course		4
Approved introductory sequence in natural science		12
Course from different natural science sequence or from the list of approved science courses		4
Upper-Division Natural Science Courses		
Two upper-division natural science courses from the major requirements sheet		8
Upper-Division Social Science, Policy, Humanities, and Design Courses		
Social science core course		4
Policy core course		4
Humanities core course		4
Design core course		4
Six additional courses: three from one of the above areas; three from another		24
Environmental Issues Course		
ENVS 411	Environmental Issues: [Topic]	4
or ENVS 425	Environmental Education Theory and Practice	
or ENVS 427	Environmental and Ecological Monitoring	
Practical Learning Experience		
Choose from one of several approved practical learning experience options. These include internships, participation in the Environmental Leadership Program, research experiences with UO faculty members, honors thesis, courses at field stations, study abroad opportunities, or IE3 internships.		4
Total Credits		92

1 Recommended course; however, a university-level mathematics course numbered 100 or higher fulfills the requirement.

Bachelor of Arts in Environmental Science

The major requires a minimum of 112 credits including 60 upper-division credits. Upper-division credits may be earned through course work or through a combination of course work and an honors thesis. Sample course plans are available on the program's website. Major requirements sheets containing detailed information about specific courses that meet the major requirements are available in the program office, from an environmental science advisor, or on the program website (http://envs.uoregon.edu/undergrad/escifocus) .

Lower-Division Core Courses		
ENVS 201	Introduction to Environmental Studies: Social Sciences	4
ENVS 203	Introduction to Environmental Studies: Humanities	4
Mathematics and Statistics Courses		
MATH 246–247	Calculus for the Biological Sciences I-II	8
or MATH 251–252	Calculus I-II	
Approved statistics course		4
Approved course in analytical approaches		4
Lower-Division Introductory Science Sequences		
Two introductory sequences in focal area		24
Up to three approved introductory courses in nonfocal area [1]		12
Upper-Division Natural Science Courses		

Six upper-division natural science courses in focal area (life sciences or earth and physical sciences)		24
At least two upper-division courses in nonfocal area [1]		8
Upper-Division Social Science, Policy, Humanities, and Design Courses		
Three courses from the areas of social science, policy, humanities, or design (no more than one course per area)		12
Environmental Issues Course		
ENVS 411	Environmental Issues: [Topic]	4
or ENVS 425	Environmental Education Theory and Practice	
or ENVS 427	Environmental and Ecological Monitoring	
Practical Learning Experience		
Choose from one of several approved practical learning experience options. These include internships, participation in the Environmental Leadership Program, research experiences with UO faculty members, honors thesis, and courses at field stations.		4
Total Credits		112

[1] Five courses total are required for nonfocal area.

Bachelor of Science in Environmental Science

Lower-Division Core Courses		
ENVS 201	Introduction to Environmental Studies: Social Sciences	4
ENVS 203	Introduction to Environmental Studies: Humanities	4
Mathematics and Statistics Courses		
MATH 246–247	Calculus for the Biological Sciences I-II	8
or MATH 251–252	Calculus I-II	
Approved statistics course		4
Approved course in analytical approaches		4
Lower-Division Introductory Science Sequences		
Two introductory sequences in focal area		24
Up to three approved introductory courses in nonfocal area [1]		12
Upper-Division Natural Science Courses		
Six upper-division natural science courses in focal area (life sciences or earth and physical sciences)		24
At least two upper-division courses in nonfocal area [1]		8
Upper-Division Social Science, Policy, Humanities, and Design Courses		
Three courses from the areas of social science, policy, humanities, or design (no more than one course per area)		12
Environmental Issues Course		
ENVS 411	Environmental Issues: [Topic]	4
or ENVS 425	Environmental Education Theory and Practice	
or ENVS 427	Environmental and Ecological Monitoring	
Practical Learning Experience		
Choose from one of several approved practical learning experience options. These include internships, participation in the Environmental Leadership Program, research experiences with UO faculty members, honors thesis, and courses at field stations.		4
Total Credits		112

[1] Five courses total are required for nonfocal area.

Options for Majors

Environmental Leadership Program

Through the Environmental Leadership Program, students team up with local businesses, nonprofit organizations, and government agencies to work on environmental projects. Students learn professional research, writing, and presentation skills as they develop a network of professional relationships in the region. Participants make a two- or three-term commitment, for which they earn 8–12 upper-division credits. These credits satisfy upper-division requirements for the environmental studies and environmental science majors.

Internships

By offering academic credit for environmentally focused work experience, the internship program allows students to connect their academic studies with practical applications. Internship positions must involve significant work with an environmental focus. Potential internship sponsors include public interest nonprofits, government agencies, and private corporations. 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 appropriate position program, the internship coordinator can help identify potential opportunities. Students may take 18 credits of Field Studies: [Topic] (ENVS 196), Internship: [Topic] (ENVS 404), or both. To fulfill the practical learning experience requirement, students take 4 credits (which translates to 120 hours) of internship service.

Honors

Students who want to graduate with honors in environmental science or environmental studies must have a 3.30 overall grade point average (GPA) and a 3.50 GPA in courses required for the major. Honors candidates must also complete a research-based thesis or creative project under the direction of a faculty advisor. Students preparing to graduate with honors should notify their advisor no later than the first term of their senior year.

Honors students who are not enrolled in the Clark Honors College must earn 8 credits of Research: [Topic] (ENVS 401), Thesis (ENVS 403), or both in environmental studies or another appropriate department. These credits must be distributed over at least two terms. Environmental science majors may substitute these credits for one upper-division natural science elective, environmental studies majors for one upper-division social science or humanities elective. This can also count for the practical learning experience requirement.

Environmental Studies Minor

The interdisciplinary minor in environmental studies includes three lower-division courses and five upper-division elective courses for a minimum of 32 credits. Courses applied to the minor must be taken for letter grades and passed with grades of C– or better. At least 16 of the 40 credits must be taken at the University of Oregon. No more than 8 upper-division credits from the major may be applied to minor requirements. With

the advisor's consent, an environmental issues course and a practical learning experience may be substituted for one of the elective courses. Students may also submit a petition to their advisor to substitute one upper-division course for one of the required lower-division courses.

Required Courses		
ENVS 201	Introduction to Environmental Studies: Social Sciences	4
ENVS 202	Introduction to Environmental Studies: Natural Sciences	4
ENVS 203	Introduction to Environmental Studies: Humanities	4
Advanced Course Requirements		
One upper-division natural science course from the major requirements sheet		4
Four electives from areas of social science, policy, humanities or design		16
Total Credits		32

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/2014-2015/education) section in this catalog.

- **Master of Arts**
- **Master of Science**
- **Doctor of Philosophy**

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.

Master of Arts Degree in Environmental Studies

Environmental studies graduate core sequence [1]	9
Concentration area course work [2]	24
Electives	12
Thesis or terminal project [3]	12
Total Credits	57

1. First year.
2. Graduate-level courses related to environmental studies in each of two 12-credit concentration areas.
3. Public defense or presentation required.
4. The master of arts degree requires demonstrated proficiency in a second language.

Master of Science Degree in Environmental Studies

Environmental studies graduate core sequence [1]	9
Concentration area course work [2]	24
Electives	12
Thesis or terminal project [3]	12
Total Credits	57

1. First year.
2. Graduate-level courses related to environmental studies in each of two 12-credit concentration areas.
3. Public defense or presentation required.
4. The master of arts degree requires demonstrated proficiency in a second language.

Concurrent Master's Degree 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.

Doctor of Philosophy Degree in Environmental Sciences, Studies, and Policy

The interdisciplinary PhD degree is offered by the Environmental Studies Program under the umbrella of the Joint-Campus Graduate Program in Environmental Sciences, Studies, and Policy, established by Oregon State University, Portland State University, and the University of Oregon.

The environmental sciences, studies, and policy program takes four or more years of study after earning the master's degree.

Admissions Procedure

Admission to the PhD program must be granted by the Environmental Studies Program and approved by the focal department—another University of Oregon academic unit, chosen by the applicant, that offers a PhD degree. Applications are reviewed independently by the admissions committee in the Environmental Studies Program and in the focal department. Both committees must approve the application before the applicant can be accepted into the program. The online application

must be completed and submitted by December 1 for the following fall admission.

Doctor of Philosophy Degree Requirements

Focal department course work [1]		NaN
Environmental studies course work [2]		32
Focal department assessment of competence [3]		
Interdisciplinary assessment of competence [3]		
ENVS 603	Dissertation	18

1. Completion of graduate course work as established by the focal department, which includes basic graduate-level proficiency in research methods appropriate to the designated focal discipline.
2. Courses taken in departments or programs outside the focal department. First-year students participate in a sequence of courses required of all incoming environmental studies graduate students.
3. The term "assessment of competence" is used in lieu of "comprehensive examination" in recognition of the different ways in which departments engage in such assessments.

PhD students must satisfy breadth and concentration requirements established by the Environmental Studies Program and the focal department. Working with an advisory committee, each student customizes a plan of action for completion of the degree.

Requirements may vary depending on the chosen focal department. In addition to the course work, candidates are required to complete and defend a written dissertation and receive approval of the dissertation by a committee chosen in accordance with Graduate School regulations. The committee must have at least five members. The chair and two additional members must be from the focal department. At least three members of the committee must be participants in the Environmental Studies Program.

Graduate Courses

Graduate students typically choose courses that contribute to their individual environmental focus from the Departments of Anthropology; Architecture; Biology; Chemistry and Biochemistry; Economics; English; Geography; Geological Sciences; History; Landscape Architecture; Philosophy; Physics; Planning, Public Policy and Management; Political Science; Psychology; and Sociology; from the International Studies Program; from the School of Law; and others. Consult the individual department listings in this catalog for course descriptions.

Courses

ENVS 196. Field Studies: [Topic]. 1-5 Credits.
Repeatable.

ENVS 198. Laboratory Projects: [Topic]. 1-2 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 298. Temporary Group-Satisfying Course. 4 Credits.

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 355. Environmental Data Analysis and Modeling. 4 Credits.
Statistical methods of data modeling and analysis with specific application to environmental data sets.
Prereq: MATH 252 or equivalent.

ENVS 375. Oregon Seminar. 4 Credits.
Students broaden and deepen their understanding of the materials presented in three linked courses: BI 372 Field Biology, GEOL 308 Geology of Oregon and the Pacific Northwest, and HIST 473 American Environmental History: [Topic]. Offered alternate years.
Prereq: junior or senior standing.

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

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

ENVS 403. Thesis. 1-8 Credits.
Repeatable.

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

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

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

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

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

ENVS 409. Practicum: [Topic]. 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 when topic changes.
Prereq: instructor's approval.

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 440. Environmental Aesthetics. 4 Credits.
Explores aesthetic experience of nature through philosophical perspective; emphasizes nature and art; beauty and the sublime; embodiment, culture, and science; and ethics, conservation, and preservation.
Prereq: ENVS 345 or PHIL 340.

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 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 202.

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

ENVS 503. Thesis. 1-16 Credits.
Repeatable.

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 511. 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.

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 540. Environmental Aesthetics. 4 Credits.
Explores aesthetic experience of nature through philosophical perspective; emphasizes nature and art; beauty and the sublime; embodiment, culture, and science; and ethics, conservation, and preservation.

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 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 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.

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

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

ENVS 609. Terminal Project. 1-16 Credits.
Repeatable.

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.