

ENVIRONMENTAL STUDIES

Students who matriculated in fall 2021, 2022, or 2023 may follow the Environmental Studies major and minor requirements. Students who matriculated in fall 2024 must follow the requirements of the Sustainability and Environmental Studies major and minor. Any Environmental Studies major or minor who matriculated prior to fall of 2024 must work closely with the program to ensure that they are meeting all requirements appropriately.

Program Guidelines

Environmental Studies is an interdisciplinary inquiry into the relationship between humans and the environment. Both a major and a minor are available to students with an interest in the rigorous study of these issues. The major requires students to develop a specific environmental focus as a concentration in addition to the environmental core and distribution courses. The minor in ENVS allows students to integrate an environmental perspective with their major field of study.

As a holistic interdisciplinary area, Environmental Studies draws on work in the natural sciences, social sciences, humanities, and the arts. It endeavors to bridge these many intellectual approaches and perspectives in the hope that students will gain a deeper understanding both of the environmental concerns facing the world and of proactive opportunities for change. Among issues of concern and investigation are resource utilization, the impact of technology on ecosystems, relationships between the environment and sociocultural systems, ecosystem management, geographic analysis, sustainable design, environmental economics and policy, conservation of biological diversity, nature writing, alternative dispute resolution, political ecology, environmental photography, sustainable agriculture and environmental ethics, among many others.

Faculty

Professor Abram Kaplan, Director

Environmental Studies Faculty

Abram Kaplan, Lucy McAllister, Douglas Spieles, Tom Henshaw (visiting)

Affiliated Faculty

Quentin Duroy (Economics), Jonathan Maskit (Philosophy), Shiri Noy (Anthropology and Sociology), Sarah Supp (Data Analytics), James Weaver (English)

Resource faculty

Annabel Edwards (Chemistry), David Goodwin (Earth and Environmental Science), Amanda Gunn (Communication), Rebecca Homan (Biology), Matt Jungers (Earth and Environmental Science), Jordan Katz (Chemistry), Rebecca Kennedy (Classics), Erik Klemetti (Earth and Environmental Science), Andrew McCall (Biology), Trey Proctor (History), Joe Reczek (Chemistry), Jessica Rettig (Biology), Karl Sandin (Art History and Visual Culture), Geoff Smith (Biology), Keith Spencer (Studio Art), Catherine Stuer (Art History and Visual Culture), Andrea Ziegert (Economics).

Academic Administrative Assistant

Brenda Franks

View faculty profiles and contact information (<https://denison.edu/academics/environmental-studies/contacts/>)

Environmental Studies Major

The Environmental Studies Major requires eight courses plus a thematic concentration (typically five courses) as part of a three-pronged program.

1. Four required core courses:

Code	Title
ENVS 100	Integrated Environmental Studies
ENVS 200	Environmental Analysis
ENVS 301	Environmental Practicum
ENVS 401	Environmental Senior Project (or approved senior experience *)

*Generally speaking, majors enroll in ENVS 401 to complete the senior experience requirement. Alternatives include one semester of senior research independently arranged with a faculty member (typically ENVS 451; may be extended to a second semester with the addition of ENVS 452), or an approved senior experience in the area of study for a second major – e.g., ANSO 460 (Senior Research Seminar) or ENGL 453/454 (Senior Writing Project). Students planning to fulfill the ENVS senior experience other than through ENVS 401 are expected to consult with the ENVS Program Director prior to registration for the Fall of their senior year.

2. Four distribution courses: Students are to fulfill the requirements of the distribution categories listed below. No double counting is permitted among these distribution categories or between the distribution courses and the concentration. See the ENVS website for updates to the list of courses that may be used to fulfill these categories. Also note that some of these courses have prerequisites.

a. One environmental methods course from the Humanities or the Arts. Examples include:

Code	Title
AHVC 263	World Views: Spatial Imagination in East Asia
AHVC 302	Medieval Art and Architecture
AGRS 312	Ancient Identities
ENGL 291	Environmental Literature
ENGL 391	Nature's Nation
HIST 240	Advanced Studies in Latin American History (when taught as "Environmental History of Latin America")
PHIL 260	Environmental Philosophy
REL 205	Religion and Nature

See the ENVS website for a complete and current list.

b. One environmental course from the Social Sciences. Examples include:

Code	Title
ECON 202	Microecon Analysis Lec
ECON 427	Environmental Economics
COMM 215	Special Topics in Communication (when taught as "Environmental Communication")
ENVS 240	Environmental Politics and Decision Making

ENVS 262	Environmental Dispute Resolution
ENVS 284	Environmental Planning and Design
ENVS 334	Sustainable Agriculture
See the ENVS website for a complete and current list.	

c. A two-course sequence in the Natural Sciences. Examples include:

Code	Title
BIOL 230	Ecology and Evolution (BIOL 210 & 220 prerequisites)
ENVS 215	Renewable Energy Systems (any 100 or 200 level science course prerequisite)
ENVS 274	Ecosystem Management (any 100 or 200 level science course prerequisite)
EESC 200	Environmental Geology
EESC 240	Earth Resources

3. A thematic concentration. The concentration is a set of courses (typically five) that provides depth in an area of interest. Concentration courses may not double count with the Core or Distribution categories above. Approved concentrations are given on the ENVS website. Examples include: Creative Environments, Ecosystem Conservation, Environmental Art History, Environmental Biology, Environmental Decision Making, Environmental Economics, Environmental Geoscience, Global Environmental Justice, Journalism, Sustainable Agriculture, Sustainable Design, and Sustainable Development. Students may also design their own thematic concentration, pending program approval, including coordinated double majors in Art History & Visual Culture, Biology, and Economics. ENVS majors declare their concentration in the early Spring of sophomore year.

ENVS Thematic Concentration Options

Students who major in Environmental Studies are required to fulfill the eight core/distribution courses (100, 200, 301, 401, an environmental science sequence of two courses, one environmental social science course, and one environmental arts/humanities course).

Additionally, majors each designate an area of concentration, which is intended to provide depth in an area of study relevant to the field. ENVS concentrations are all five courses

This document describes the design of nine different ENVS thematic concentrations:

- Creative Environments
- Ecosystem Conservation
- Environmental Decision Making
- Environmental Geoscience
- Global Environmental Justice
- Journalism
- Sustainable Agriculture
- Sustainable Design
- Sustainable Development

Note that students may propose their own self-designed thematic concentration, subject to the approval of the ENVS Program Committee. These can take many forms, and in some cases could be designed

around a second major in Art History and Visual Culture, Biology, Communication, Data Analytics, Environmental Science, Economics, Global Commerce, Global Health, or International Studies. See more information on these options at the end of this document. Other second majors may also be suitable, per approval of the ENVS Program Committee.

In all concentrations, other relevant courses may be added to these lists as they are developed and offered by faculty. Also note that appropriate Off Campus Study courses may count toward most thematic concentrations.

Creative Environments

This arts- and humanities-based concentration offers students the opportunity to explore a range of ways humans and societies have represented, performed, mediated, and otherwise imagined built and natural environments. By studying verbal, visual, and performative representations of the environment across periods and traditions, students will think critically about cultural constructions of built and natural environments. By immersing themselves in the imaginative process and creating artistic works that engage the environment, students will reflect on the ways our personal and cultural assumptions about the environment inflect the ways we represent, narrate, and otherwise imagine both built and natural environments. ENVS majors with this concentration will achieve a solid grounding both in the critical assessment and interpretation of mediated environments and in the creative, imaginative making of such mediations. Students who pursue this concentration will be well-equipped for jobs in the environmental arts and humanities in particular, but the skills developed in this concentration have broad application to a wide array of career paths.

This concentration involves five courses, and students may choose whether to emphasize critical approaches or creative expression in the arts and humanities. The difference is in balancing two courses from one category and three from the other.

1,2) Two of the following Critical Approaches courses:

Code	Title
AHVC 204	High Renaissance and Baroque Art & Architecture
AHVC 263	World Views: Spatial Imagination in East Asia
AHVC 302	Medieval Art and Architecture
AGRS 312	Ancient Identities
ENGL/ENVS 291	Environmental Literature
ENGL/ENVS 391	Nature's Nation
ENVS 290	Special Topics in Environmental Studies
HIST 240	Advanced Studies in Latin American History
PHIL 260	Environmental Philosophy
REL 205	Religion and Nature

3,4) Two of the following Creative Expression courses:

Code	Title
ARTS 165/ENVS 290	Special Topics in Studio Art (Drawing Terrain)
ARTS 365/ENVS 290	Advanced Special Topics (Landscape Painting)

ENVS 290	Special Topics in Environmental Studies (Confronting Climate Change through Photography)
DANC 274	Cultural Studies

5) One additional course from either group above.

Ecosystem Conservation

The Ecosystem Conservation concentration offers students an integrated understanding of ecological systems, including theoretical foundations, practical applications, and socio ecological connections. The three required courses provide a conceptual basis of systems ecology and the field, lab and data management skills that are essential for ecosystem practitioners. The choices provide opportunities for application of conservation concepts in complex political and biological environments. ENVS majors with a concentration in Ecosystem Conservation will be well-prepared for careers in such fields as environmental consulting, land use planning and regulation, land and water stewardship and geospatial analysis.

Code	Title
ENVS 222 & ENVS 223 or EESC 234	Geographic Information Systems I and Geographic Information Systems II Applied GIS for Earth and Environmental Sciences
ENVS 274 or BIOL 352	Ecosystem Management Conservation Biology

and one of the following Conservation Policy courses:

ENVS 236	Political Ecology
ENVS 240	Environmental Politics and Decision Making
ENVS 262	Environmental Dispute Resolution

and one of the following Organismal courses:

BIOL 312	Herpetology
BIOL 313	Vertebrate Zoology
BIOL 326	Plant Evolution and Reproduction
BIOL 327	Biology of Insects

and one of the following Ecological Systems courses (not to double count with ENVS 274 or BIOL 352):

ENVS 274	Ecosystem Management
BIOL 310	Wetland Ecology
BIOL 352 & BIOL 353	Conservation Biology and Population and Community Ecology

Environmental Decision Making

This theme offers a lens onto the process by which environmental decisions are – and can – be made. It is not content-specific, though certainly a student could focus attention on a particular category of decisions – a particular policy area – for some of the coursework chosen as part of the theme. The courses included in the list below are all aimed at better understanding the factors that affect behavior and various frameworks in which environmental decision-making takes place ranging from the individual to the group, from the community to the institutional.

Some courses aim at skill-building while others emphasize a normative exploration or an emphasis on theory-building.

Code	Title
ENVS 240	Environmental Politics and Decision Making
and two of the following Environmental Context courses:	
COMM 215	Special Topics in Communication

ENVS 236	Political Ecology
ENVS 262	Environmental Dispute Resolution
ENVS 284	Environmental Planning and Design
ENVS 290	Special Topics in Environmental Studies
PHIL 260	Environmental Philosophy
and two of the following Decision Making Techniques courses:	
BIOL 356	Special Topics
COMM 122	Argumentation
CS 112	Discovering Computer Science: Markets, Polls, and Social Networks
DA 101	Introduction to Data Analytics
ENVS 222 & ENVS 223 or EESC 234	Geographic Information Systems I and Geographic Information Systems II Applied GIS for Earth and Environmental Sciences
DPR 101	Data Visualization for Political Research
DPR 201	Design and Data Analysis for Social Impact
DPR 250	Writing with Data in the Public Interest

ENVIRONMENTAL Geosciences

The Environmental Geoscience concentration provides ENVS students with an option in the physical sciences. The fundamentals of geology are combined with Geographic Information Systems (GIS) and elective choices in earth systems and landscape science.

Students choosing this option will complete the core and distribution requirements of the ENVS major and will fulfill their concentration as follows (concentration courses may not double-count with ENVS core or distribution courses).

Code	Title
EESC 200 or EESC 240	Environmental Geology Earth Resources
EESC 210 or EESC 211	Historical Geology Rocks, Minerals & Soils
ENVS 222 & ENVS 223 or EESC 234	Geographic Information Systems I and Geographic Information Systems II Applied GIS for Earth and Environmental Sciences
and one of the following:	
EESC 270	Oceanography
EESC 300	Geomorphology
EESC 313	Environmental Hydrology
EESC 333	Stable Isotopes in the Environment
and one of the following:	
ENVS 215	Renewable Energy Systems
ENVS 274	Ecosystem Management
ENVS 334	Sustainable Agriculture
BIOL 351	Restoration Ecology

GLOBAL ENVIRONMENTAL Justice

Global environmental justice is an important field of academic study and the basis for a major form of social action and practice. Questions of justice are multi-scalar and arise within societies and across nations, cultures and species. This theme examines how and why certain populations experience disproportionate environmental and health harms as well as unequal access to resources associated with well being. Key focus areas of the concentration include studying: 1) the structural factors underpinning injustices and inequalities, and 2) the

meaningful inclusion of all people in environmental and social decisions impacting their communities. In sum, this concentration involves an interdisciplinary investigation of all three concepts in its title as ones that require careful analysis, and are often contested by activists and scholars: “global,” “environmental” and “justice.”

Code	Title
ENVS 290	Special Topics in Environmental Studies
One course that addresses the intersections among the three conceptual components of this concentration:	
ANSO 321	Anthropology of Human Rights
ECON 202	Microecon Analysis Lec
ENVS 236	Political Ecology
PHIL 260	Environmental Philosophy
One course on conception of justice:	
ANSO 321	Anthropology of Human Rights
ECON 201	Economic Justice
ENVS 262	Environmental Dispute Resolution
ENVS 290	Special Topics in Environmental Studies (Explorations in Animal Studies)
PHIL 126	Social and Political Philosophy
REL 102	Ethics, Society and the Moral Self
REL 224	Religion and Social Ethics
PHIL 326	Theories of Justice
One course on conceptions of globalization:	
ANSO 218	Sociology of International Development
ANSO 321	Anthropology of Human Rights
BLST 345	Advanced Topics in Black Studies
GH 352	Planetary Health
INTL 100	Introduction to International Studies: The Making of the Modern World
PPA 344	The United Nations and World Problems
PPA 345	Human Rights in Global Perspectives
WGST 306	Transnational Feminism
WGST/REL 327	Women and Social Ethics in the Global Context
and an additional course from conceptual components, justice, or globalization categories.	

Journalism

The Journalism concentration provides exploration and skill-building in long-format, in-depth storytelling that is both attractive to some ENVS majors and useful preparation for potential career paths.

Code	Title
JOUR 100/COMM 108	Introduction to News Reporting and Writing
JOUR 200/ENGL 221	Literary Journalism
JOUR 201/ENGL 386	Multimedia Storytelling

JOUR 300	Experiential Reporting (Must be taken during the Junior or Senior Year.)
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and one elective, selected in consultation with the director of the Journalism Program.

Sustainable Agriculture

interdisciplinary perspectives on the issue of food production and food distribution. These perspectives should allow students to think critically about the environmental, social, and economic impacts of food production and distribution. To this end, students are expected to take two science courses related to plant biology, earth systems or climate change. Additionally, students will take a course on social movements and/or issues of justice to help identify the social factors that have played a role in the sustainability of food systems (e.g., worker's rights, labor movement). The last requirement is flexible to include any food related course from any division, including courses off campus.

Code	Title
ENVS 334	Sustainable Agriculture
and two of the following Biology, Earth Systems, or Climate courses:	
BIOL 326	Plant Evolution and Reproduction
BIOL 327	Biology of Insects
ENVS 222 & ENVS 223 or EESC 234	Geographic Information Systems I and Geographic Information Systems II Applied GIS for Earth and Environmental Sciences
EESC 111	Planet Earth
EESC 115	Special Topics in Earth & Environmental Science
EESC 211	Rocks, Minerals & Soils
and two of the following Context courses:	
ANSO 218	Sociology of International Development (Confronting Climate Change through Photography)
BLST 340	Social Movements
ENVS 236	Political Ecology
ENVS 242	Community Resilience
ENVS 262	Environmental Dispute Resolution
ENVS 290	Special Topics in Environmental Studies
LACS 414	International Labor Migration in a Globalized Economy
REL 205	Religion and Nature

Sustainable Development

In 1987, the Brundtland Commission defined this term for the ages: “Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (*Our Common Future*). While its focus may be largely on parts of the world where “needs” are unmet and poverty is endemic, a concentration in sustainable development will also seek to address the systemic nature of ecological, social, historical, and economic crises the world over. Therefore, the courses in this theme are generally international in their orientation and aimed at fostering a culturally sensitive understanding of the distinct challenges faced by developing countries and post-industrial societies in their socio-economic development trajectory.

Code	Title
Choose one of the following foundation courses:	
ANSO 218	Sociology of International Development
ECON 202	Microecon Analysis Lec
ENVS 236	Political Ecology

Choose four courses from the following categories, including one from each category (no double counting permitted with above foundation courses):

A. Culture and Historical Setting:	
AHVC 263	World Views: Spatial Imagination in East Asia
AHVC 302	Medieval Art and Architecture
AGRS 312	Ancient Identities
LACS 200	Special Topics in Latin American and Caribbean Studies

B. Context and Application:	
ANSO 321	Anthropology of Human Rights
ENVS 334	Sustainable Agriculture
GH 100	Introduction to Global Health
ENVS 290	Special Topics in Environmental Studies (Community Resilience)
ENVS 290	Special Topics in Environmental Studies (Environmental Justice)

C. Social Process:	
BLST 340	Social Movements
ANSO 218	Sociology of International Development
ECON 202	Microecon Analysis Lec
ECON 427	Environmental Economics
ENVS 236	Political Ecology
ENVS 240	Environmental Politics and Decision Making
ENVS 262	Environmental Dispute Resolution
ENVS 290	Special Topics in Environmental Studies (Solving the Unsolvable)
GC 220	Sustainable Global Finance
GH 352	Planetary Health

Sustainable Design

This theme interrogates the ways we construct our built environment, with an eye to approaches that emphasize ecological harmony, local materials, waste reduction, energy efficiency, and stewardship in the form of both cultural and environmental sensitivity. While Denison does not have any curricular dedication to city planning or architectural studies, there are a variety of courses which students can combine into a liberal arts examination of the core issues in these areas of study. Students who select this theme have the option of choosing a technological/ structural or behavioral approach, and should be able to articulate individualized reasoning as to why particular courses are chosen for the orientation of interest.

Code	Title
ENVS 284	Environmental Planning and Design
and one of the following Environmental Systems courses:	
EESC 200	Environmental Geology

ENVS 215	Renewable Energy Systems
ENVS 274	Ecosystem Management
ENVS 222 & ENVS 223	Geographic Information Systems I and Geographic Information Systems II
or EESC 234	Applied GIS for Earth and Environmental Sciences
AGRS 312	Ancient Identities

and one of the following visual/aesthetic courses:	
AHVC 302	Medieval Art and Architecture
AHVC 204	High Renaissance and Baroque Art & Architecture
ARTS 165	Special Topics in Studio Art (Drawing Terrain)
ARTS 265	Special Topics in Studio Art (Landscape Painting)

and one of the following context courses:	
COMM 234	Media Theory
ECON 202	Microecon Analysis Lec
ENVS 236	Political Ecology
ENVS 262	Environmental Dispute Resolution
ENVS 290	Special Topics in Environmental Studies (Environmental Justice)

and an additional course from Environmental Systems, Visual/ Aesthetics, or Context courses.

Self-Designed Concentration Options

Students may propose their own self-designed thematic concentration, subject to the approval of the ENVS Program Committee. These can take many forms, and typically require the student to work with ENVS faculty to develop thematic description and a list of 5 courses to be taken, plus some alternate course selections. Self-Designed themes that involve Off Campus Study courses are welcome (up to two OCS courses may count toward the ENVS major for a semester abroad; up to three for a year abroad).

In some cases, a Concentration could be designed around a second major. If you are considering one of these, see the notes below. Listed here are courses taught in these disciplines which may be suitable for use within an ENVS concentration and also be used to satisfy requirements in the disciplinary major.

Code	Title
ART HISTORY AND VISUAL CULTURE:	
AHVC 101	The Western World: Ancient to Baroque
AHVC 201	Classical Art and Architecture
AHVC 203	Early Renaissance Art and Architecture
AHVC 204	High Renaissance and Baroque Art & Architecture
AHVC 263	World Views: Spatial Imagination in East Asia
AHVC 302	Medieval Art and Architecture
BIOLOGY:	
BIOL 230	Ecology and Evolution
BIOL 313	Vertebrate Zoology
BIOL 317	Diversity of Microorganisms
BIOL 321	Plant Ecology
BIOL 326	Plant Evolution and Reproduction
BIOL 334	Comparative Physiology: Human and non-human animals

BIOL 353	Population and Community Ecology
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Note that these courses typically require BIOL 210, BIOL 220, and BIOL 230 as prerequisites.

ECONOMICS:

ECON 201	Economic Justice
ECON 202	Microecon Analysis Lec
ECON 204	Income Inequality
ECON 240	General Topics in Intermediate Economics (A Global Green New Deal)
ECON 412	Economics of the Developing World
ECON 415	Political Economy of the Middle East
ECON 427	Environmental Economics
ECON 462	Health Economics

The Economics major requires four advanced courses. In order to complete a double-major with ENVS, students need to enroll in one additional environmentally-relevant ECON elective to complete the five-course ENVS concentration requirement.

Environmental Science

The following EESC courses have clear relevance to ENVS:

Code	Title
EESC 111	Planet Earth
EESC 200	Environmental Geology
EESC 222	Geographic Information Systems I
EESC 270	Oceanography
EESC 300	Geomorphology
EESC 308	Biodiversity Through Time
EESC 333	Stable Isotopes in the Environment

Additional double major combinations that are potentially doable in terms of substantive crossover are Communication, Data Analytics, Global Health, Global Commerce, and International Studies. Please see an ENVS advisor for planning of these combinations.

Environmental Studies Minor

The Environmental Studies Minor requires six courses. Regular offerings are listed here for each category. Check with the ENVS program office or website for a list of special offerings that may be allowed to fulfill each requirement. Also note that some of these courses have prerequisites.

1. ENVS 100 - Integrated Environmental Studies
2. ENVS 200 - Environmental Analysis

Four distribution courses: Students are to fulfill the requirements of the distribution categories listed below. No double counting is permitted among these distribution categories. See the ENVS website for updates to the list of courses that may be used to fulfill these categories. Also note that some of these courses have prerequisites.

1. One environmental course from the Humanities or the Arts:

Code	Title
Examples include:	
AGRS 312	Ancient Identities
AHVC 263	World Views: Spatial Imagination in East Asia

AHVC 302	Medieval Art and Architecture
ENGL 291	Environmental Literature
ENGL 391	Nature's Nation
HIST 240	Advanced Studies in Latin American History
PHIL 260	Environmental Philosophy
REL 205	Religion and Nature

2. One environmental course from the Social Sciences.

Code	Title
Examples include:	
COMM 215	Special Topics in Communication (when taught as "Environmental Communication")
ECON 202	Microecon Analysis Lec
ECON 427	Environmental Economics
ENVS 240	Environmental Politics and Decision Making
ENVS 262	Environmental Dispute Resolution
ENVS 284	Environmental Planning and Design
ENVS 334	Sustainable Agriculture

3. A two-course sequence in the Natural Sciences.

Code	Title
Examples include:	
BIOL 230	Ecology and Evolution
ENVS 215	Renewable Energy Systems
ENVS 274	Ecosystem Management
GEOS 200	Environmental Geology
GEOS 240	Earth Resources

Additional Points of Interest

Choosing a Concentration for the ENVS major

Students who major in ENVS choose an area of concentration during the sophomore year. Prospective ENVS majors are encouraged to discuss possible concentrations with any of the ENVS-affiliated faculty listed above prior to the sophomore year. The concentration proposal deadline is typically early in the Spring semester.

ENVS courses and General Education (GE) requirements

Courses taken under the ENVS heading typically fulfill the Interdivisional (I) General Education requirement. In the case of cross-listed courses, students may choose to enroll under the ENVS heading to earn the Interdivisional (I) GE, or the heading of the home department to earn the GE designation appropriate for that department. In either case, the course will count toward the ENVS major or minor. Students are typically able to fulfill a maximum of five GE requirements through the ENVS major.

Off-Campus Study

Students are encouraged to participate in study abroad programs when appropriate to enhance the concentration area or otherwise supplement course offerings at Denison. Students who want to study abroad should plan to do so during their junior year. Courses taken abroad that serve as substitutes for courses listed above or that are otherwise used to satisfy elements of the Environmental Studies major must be approved

in advance by the Environmental Studies Director, prior to the student's departure for the off campus program. A maximum of two off-campus courses may be used to satisfy requirements in the major for students who spend one semester off-campus, and a maximum of three off-campus courses may be used to satisfy requirements in the major for students who spend two semesters off-campus.

Courses

ENVS 100 - Integrated Environmental Studies (4 Credit Hours)

In this course the student will consider environmental problems through the lenses of many different academic disciplines. The purpose of this approach is two-fold: 1) to enhance the student's understanding of environmental issues as multi-dimensional dilemmas, and 2) to encourage the student to seek synergistic solutions. The course focuses on three major realms of environmental studies. In the first, students will consider the human relationship with the non-human world, including problems of ethics, social and psychological connections with nature, ecological services, biodiversity, aesthetics and utility. The second section addresses agriculture and aquaculture in the context of ecological limits, economics and policy. The third section explores the global aspects of energy use and climate change, with special emphasis on technology, disparity and human rights. The laboratory component of the course will expose the student to local and regional environmental problems and solutions. Field trips, guest speakers, analysis and discussion will emphasize the necessity of multidisciplinary integration in the design of sustainable environmental systems. Students will apply concepts of quantitative, qualitative and representative analysis to evaluate environmental questions and will learn to convey these concepts in writing. Course fulfills Interdivisional (I) GE requirement.

ENVS 115 - Energy and Environment (4 Credit Hours)

Energy and Environment is an introductory course that provides a comprehensive overview of the current energy systems that are in use today; including fossil, nuclear and renewable. The course introduces the basic scientific and physical concepts associated with the origins, the use and the environmental/climate impact of these energy systems. Emphasis is placed on real world examples through the introduction of several related case studies including oil exploration and hydrofracking. Course can be used as a prerequisite for ENVS 215 or ENVS 274, and fulfills Quantitative Reasoning (Q) GE requirement.

ENVS 199 - Topics in Environmental Science (1-4 Credit Hours)

A general category used only in the evaluation of transfer credit.

ENVS 200 - Environmental Analysis (4 Credit Hours)

In this course students will learn and practice different methods of addressing environmental questions and expressing environmental perspectives. Central themes are writing and quantitative analysis: for each of the topics and methods used, students will gain experience with a variety of professional writing styles and analytical approaches. Environmental issues will be investigated through both quantitative and qualitative methods of data collection and statistical analysis, along with a variety of writing styles. Students will also examine the human connection with the nonhuman world through the use of media and spatial representation. Through successful completion of this course, students will have applied a variety of methods to the analysis of environmental issues. Course fulfills Quantitative (Q) and Writing (W) GE requirements, and fulfills the ENVS Methods requirement.

Prerequisite(s): ENVS 100.

ENVS 202 - Economic Growth and Environmental Sustainability (4 Credit Hours)

Economic growth is traditionally perceived as the solution to the socio-economic ills of poverty, unemployment and more generally underdevelopment. However, economic growth is also accompanied by increased pressure on and, over time, deterioration of the natural environment. The objective of this course is to explore the relationship between economic growth and the natural environment. While the concept of economic growth occupies a central place in economic policy-making, we will discuss whether economic growth is compatible with the sustainable development worldview adopted by the UN and many other global and local economic actors. Sustainable development emphasizes the need to embark upon a development path that not only takes into account the environmental, social and economic needs of the present generation, but also those of future ones. Course fulfills the ENVS Social Science requirement.

Prerequisite(s): ECON 101 and ECON 102.

Crosslisting: ECON 202.

ENVS 205 - Religion and Nature (4 Credit Hours)

An investigation of the religious value of nature in Christianity and Buddhism, particularly in America and Japan. We look at how people in these cultures have viewed the place of humanity within the world of nature, and the relationships among humanity, God and nature. Course fulfills the ENVS Humanities requirement.

Crosslisting: REL 205.

ENVS 209 - Drawing Terrain (4 Credit Hours)

Drawing helps us see! Students will make keen observations and interpretations about the landscape through the immediacy and directness of drawing. This course introduces illustrative methods in a variety of media to render our visual world accurately, but will also include explorative and experimental mark making methods to reveal what we cannot see. We will study a wide range of visual artists who use drawing to tackle the environment as subject matter, inspiration, and even as material. Art projects will occur in the studio and outside. Hands-on art activities about the landscape will be supplemented with various course readings, discussions, and presentations to contextualize an art practice to the broader world.

Crosslisting: ARTS 209.

ENVS 211 - Landscape Painting (4 Credit Hours)

This course introduces students to the genre of landscape painting. Art making will be completed in the studio and out in the field. Art projects are devised to have students develop acute observations about the landscape while creating newfound relationships to it. Technical demonstrations in paint application and design are coupled with strategies of research and preparation to produce thoughtful and critical pictorial representations. An introduction to the historical lineage of the painted landscape will be balanced with exposure to contemporary artists and concepts. Students will use painting as an excuse to probe their landscape, to dissect and invert it, to wander off path, and redefine where it starts and ends. Group readings, presentations, and discussions compliment the studio workshop environment by helping to contextualize an art practice to the broader world.

Crosslisting: ARTS 311.

ENVS 215 - Renewable Energy Systems (4 Credit Hours)

Renewable Energy Systems provides students with a comprehensive overview of the different alternative energy systems that are in use today. The course will introduce the basic scientific and engineering concepts used in designing and analyzing different energy technologies. Some emphasis will be placed on real-world applications of such technologies through the introduction of several case studies related to the field. Course fulfills the ENVS Natural Science requirement.

Prerequisite(s): Any 100 or 200 level science course.

ENVS 219 - Environmental Communication (4 Credit Hours)

"The "green" and "organic" language that is marking everything from our magazine racks to our grocery shelves, the increasing number of farmers' markets throughout urban and rural areas, and the increasing local discussions of the dangers of "fracking" serve as evidence that the current discourses in and around environmental care are not a fad. Rather, environmental awareness and practices comprise a "central issue of our time" that is laden with cultural concerns of ideological and material differences, power, privilege and marginality. This course will begin with an in-depth exploration of the philosophy that communication is the means through which we construct, participate, and convey the cultures we are a part of and therefore, is central to the creation of the kind of world we want to live in. We will then turn our attention to an analysis of current social, organizational and political discourses on the environment and our responsibility, or not, in its protection." Course fulfills the ENVS Social Science.

ENVS 222 - Geographic Information Systems I (2 Credit Hours)

This course is an introduction to the concepts and uses of Geographic Information Systems (GIS) with particular application to environmental issues. The course consists of laboratory exercises on GIS data structures and sources of data, on the use of specific GIS tools, and on practical applications of GIS to real-world tasks. The student will gain skills in spatial data analysis, map generation, and data presentation using ArcGIS software. After successful completion of this course, students who wish to develop advanced GIS skills may enroll in ENVS/GEOS 223.

Crosslisting: GEOS 222.

ENVS 223 - Geographic Information Systems II (2 Credit Hours)

This course is intended to give the student experience with advanced GIS applications. The focus will be on novel analyses of spatially explicit data pertaining to real-world environment issues. Completion of 222 & 223 satisfies ENVS Methods requirement, and can fulfill the ENVS Natural Science.

Prerequisite(s): ENVS 222 or GEOS 222.

Crosslisting: GEOS 223.

ENVS 229 - Landscape Painting (4 Credit Hours)

This course introduces students to the genre of landscape painting. Art making will be completed in the studio and out in the field. Art projects are devised to have students develop acute observations about the landscape while creating newfound relationships to it. Technical demonstrations in paint application and design are coupled with strategies of research and preparation to produce thoughtful and critical pictorial representations. An introduction to the historical lineage of the painted landscape will be balanced with exposure to contemporary artists and concepts. Students will use painting as an excuse to probe their landscape, to dissect and invert it, to wander off path, and redefine where it starts and ends. Group readings, presentations, and discussions compliment the studio workshop environment by helping to contextualize an art practice to the broader world.

Crosslisting: ARTS 229.

ENVS 236 - Political Ecology (4 Credit Hours)

What really causes deforestation? How is a fish 'cultural'? Why do Americans spend so much time and money on their lawns? Should we be saving people or endangered species? Why are ecosystem services so hard to privatize? Is obesity truly just a question of consuming too many calories? These are all questions that political ecology can help us to answer. Political ecology is an interdisciplinary field that situates environmental change within broader networks of political, economic, and social relations. It differs from other environmental approaches in that it views power, material nature, everyday struggles and practices, social justice, and discourse to be critical components of human-environment interactions. In this course, we will: (a) study the theoretical foundations of political ecology, (b) evaluate some of the theses it puts forward, and (c) apply political ecology insights to contemporary environmental issues. Course fulfills the Writing (W) GE and ENVS Social Science requirement.

ENVS 240 - Environmental Politics and Decision Making (4 Credit Hours)

This course gives students a chance to explore the realm of proactive change in the environmental arena. It combines the theories of policy, the tools of problem solving, and the practice of dealing with environmental challenges in the real world of American government. The premise of the course is this: if you want to improve the state of the planet, you have to propose a solution. To make a solution happen, you should understand the process of getting an idea through the decision-making system. Effecting change requires a background in the system(s) that make things happen, whether you ultimately want to work within the system or outside it. This course is divided into two main components: an overview and implementation of problem solving techniques, and an in-depth examination of the U.S. Congress' role in environmental policy formation. The latter section culminates in a "Moot Congress" undertaken by students at the end of the semester. Not recommended for first year students. Course fulfills the Oral Communication (R) requirement and the ENVS Social Science requirement.

ENVS 242 - Community Resilience (4 Credit Hours)

The impacts of a shock on a community are not necessarily determined by the scale of the shock, but greatly influenced by community preparation. Community resilience is the capacity of a community to withstand, recover from, and respond positively to crisis or adversity. This course focuses on place-based communities in a variety of local and global contexts and the assets that shape those community's efforts to maintain or improve local quality of life and sustainability.

Crosslisting: ANSO 242.

ENVS 248 - Environmental History of Latin America (4 Credit Hours)

This course examines how the peoples of Latin America have lived with, utilized, and transformed the environments in which they lived over time. Environmental History is a fascinating way to study the past and to understand the present. Many ideas that we may think of as static or unchanging – such as those about nature, wilderness, landscape, science, technology, land-use planning, and conservation emerged from historical relations with our physical environment. Yet these ideas about the environment are always embedded in power structures and social relations. Nature, as we will see, is as much cultural, social, political, and economic as it is natural or ecological. We will explore how human-nature interactions have shaped human history through the exploration of how natural disasters, ecological zones, natural resources, livestock and wildlife, and epidemic diseases (among other things) influence peoples' lives in various historical moments with a focus on Latin America.

ENVS 260 - Environmental Philosophy (4 Credit Hours)

This course investigates the question of our ethical relations and responsibility to objects and systems in the natural world, including animals, other living beings, non-living entities, ecosystems, and "nature" as a whole. It also asks about nature as such: what nature is, what the place in it is of humans, the role of human action in transforming nature, etc. The question of the relation of the natural to the social will receive special attention. Course fulfills the ENVS Humanities/Arts requirement.

Prerequisite(s): One previous course in Philosophy or Environmental Studies or consent of instructor.

Crosslisting: PHIL 260.

ENVS 262 - Negotiation and Environmental Conflict Resolution (4 Credit Hours)

An in-depth investigation of alternative dispute resolution (ADR) as an improved means to affect change in environmental conflict. Both an intellectual and hands-on introduction to the theory and practice of ADR, relying on research into theoretical aspects of conflict, attendance at both conventional litigatory and ADR hearings, and actual participation in ADR exercises. Fulfills University's Oral Communication (R) general education requirement. Course fulfills the ENVS Social Science requirement.

ENVS 263 - World Views: Spatial Imagination in East Asia (4 Credit Hours)

This course engages the question: 'How are images used to imagine our place in the world?' Students are invited to study fascinating practices of spatial image-making in East Asia from the inside out, by exploring these world-views from the perspective of their makers. You will be asked to pay special attention to how social and economic power structures inflect these representations: to envision and decode spatial imagery as a site of imagination, control and resistance. Artists and patrons in China, Japan, and Korea have for centuries produced elaborate maps and landscape imagery, photographs and film to imagine the world in a variety of ways. This course invites you to approach modern and contemporary representations of space in East Asia both in theoretically and historically informed ways. In the first part of the course, students build a frame of reference for their analysis of post-war case studies, by reading core texts in spatial theory, and exploring important visual representations of space from pre-modern East Asia. In the second part of the course, students apply these theoretical and historical approaches to select cases that exemplify more recent struggles over space and its imagination in East Asia. Course fulfills the ENVS Humanities/Arts requirement.

Crosslisting: AHVC 263.

ENVS 274 - Ecosystem Management (4 Credit Hours)

Many of Earth's ecosystems are stressed and degraded as a result of human activities. Ecosystem management is the process of evaluating the biotic and abiotic features of ecosystems and stressors and manipulating those features toward a defined goal, such as conservation or restoration. In this course, students will apply aspects of systems ecology to management scenarios in particularly stressed ecosystems. Students will gain an understanding of systems ecology and will learn how ecological communities function within ecosystems and landscapes. After establishing this foundation, students will lead the exploration of some of our planet's greatest ecological systems. Lab sessions will give the students an opportunity to construct a computer-based simulation of an ecosystem and to apply ecological modeling as a management tool in both lab and field settings. Course fulfills the ENVS Natural Science requirement.

Prerequisite(s): Any 100 or 200 level science course.

ENVS 276 - Environmental Justice (4 Credit Hours)

Using waste as a focusing lens, this course examines the theory and application of environmental justice and environmental inequality within a global context. The objective of this course is to understand, explore, and analyze the inequities and power dynamics associated with many types of socio-environmental issues, thus illustrating environmental (in)justice at multiple scales. Using several case studies (e.g., electronic waste, renewable energy, and climate change, among others), we explore three core questions: 1) How are justice issues experienced locally by different social groups? 2) How do socio-environmental issues relate to broader structural injustices? And 3) How can we reimagine solutions for environmental justice? By thinking critically about these questions, we challenge our thinking on a variety of topics, including consumption, circular economy, the meaning of waste, and why it matters today and in the future. Importantly, students in this course engage significantly with the oral communication of environmental justice issues to different audiences within the broader community.

ENVS 284 - Environmental Planning and Design (4 Credit Hours)

This course examines a variety of local environmental planning processes and issues, focusing primarily on the communities surrounding Denison (Granville, Licking County), as well as the theories, concepts and tools of design, both at a community level and for individual buildings. Particular attention will be paid to controversial models of architecture and planning in order to understand some of the negative implications of conventional approaches. Field trips, group exercises, research and project competitions will form the basis for course evaluation. Course fulfills the ENVS Social Science requirement.

ENVS 288 - Sustainability Seminar (1 Credit Hour)

New efforts to achieve sustainability in the face of environmental problems are generating innovation and opportunity at an ever-increasing pace. This seminar exposes students to cutting-edge ideas, technologies, research, and potential career pathways in environmental sustainability. The seminar will feature guest speakers, opportunities for networking with Denison alumni, presentations from students who have completed internships and off campus study, faculty research spotlights, and conversations with environmental professionals. Seminar participants will meet once each week during each semester. This course adheres to Denison's Academic Credit policy. It does not fulfill a GE requirement.

ENVS 289 - Environmental Careers (1 Credit Hour)

ENVS 290 - Special Topics in Environmental Studies (4 Credit Hours)
This course provides students with an opportunity to investigate particular environmental issues from diverse perspectives within the discipline. Students may enroll in this course more than once. Courses may fulfill different ENVS requirements depending on content; please consult course pre-registration materials for the particular semester when offered.

ENVS 291 - Environmental Literature (4 Credit Hours)

This course examines humanity's relationship with and shifting conceptions of the nonhuman world through a range of literary and cultural texts. While reading selections will vary, they will generally include writers who reflect different ethnic, regional, and/or national outlooks and who work in various modes, including fiction, poetry, memoir, natural history, and science writing.

Crosslisting: ENGL 291.

ENVS 301 - Environmental Practicum (4 Credit Hours)

This keystone course is primarily for ENVS majors; minors are welcome. This course provides the opportunity for students to gain hands-on experience working on real-world environmental problems. As a group, students work in an intensive format with a real "client" and real deadlines to research a problem, assess options, recommend solutions, and evaluate outcomes. Examples of projects include energy and water conservation, local land use planning, wetlands managements, reuse/recycling programs, agriculture preservation, and environmental education. Should be taken during the junior year. Core course in the major.

Prerequisite(s): ENVS 200; ENVS major or minor.

ENVS 334 - Sustainable Agriculture (4 Credit Hours)

This course will expose students to the purposes and methods associated with sustainable agriculture. We will do this through readings, discussion and actual experience on local and sustainable farms. Throughout the semester we will reflect on the social, economic and environmental aspects associated with sustainable agriculture as well as actual practices affiliated with the modern sustainable agriculture movement. Students must be prepared to commit to working on farms each week as part of the lab requirement of this course. Course fulfills the Writing (W) GE, and the ENVS Social Science requirement, and the ENVS Social Science requirement.

ENVS 351 - Restoration Ecology (4 Credit Hours)

Many of Earth's ecosystems are degraded to the point where they no longer fully support the species and processes on which we depend. In response, western science has recently applied ecological theory to techniques of restoration. Some of these practices have long been used by cultures around the world, while others are experimental approaches to novel situations. In this course, students will learn foundational concepts and skills for the planning, design, actualization, and evaluation of restored ecosystems. Using literature review, discussion, projects, and labs, we will explore the following: landscapes in which ecological restoration may occur, including sociocultural landscapes; abiotic features of ecosystems and associated physiological limits of organisms; genetic aspects of restoration; population dynamics and community assembly; principles of succession and disturbance ecology; nonnative species and invasion ecology; and methods of evaluation. A primary focus of the course is exposure to real-world situations through fieldwork and consultation with professionals. This is a lab science course that fulfills the Y GE and adheres to Denison's Academic Credit policy.

Prerequisite(s): ENVS 274, BIOL 230, or consent.

Crosslisting: BIOL 351.

ENVS 352 - Planetary Health (4 Credit Hours)

Human health is intimately linked to the natural systems on which it depends. With advances in technology, agriculture, and health knowledge, humans are living longer than ever. However, those same technologies have pushed planetary systems to a breaking point. This class seeks to elaborate a path forward that recognizes the profound impact human 'progress' has on our planet and the reciprocal impact changes in natural systems will have on the future of human health.

Prerequisite(s): GH 100.

Crosslisting: GH 352.

ENVS 361 - Directed Study (1-4 Credit Hours)**ENVS 362 - Directed Study (1-4 Credit Hours)****ENVS 363 - Independent Study (1-4 Credit Hours)****ENVS 364 - Independent Study (1-4 Credit Hours)****ENVS 391 - Nature's Nation (4 Credit Hours)**

This course explores how a range of nineteenth-century American authors represented the natural world, examining how those representations of nature are informed by gender, class, and racial identities and how they become implicated in discourses of nationalism and imperialism. Course fulfills the ENVS Humanities/Arts requirement.

Crosslisting: ENGL 391.

ENVS 399 - Advanced Topics in Environmental Studies (1-4 Credit Hours)

A general category used only in the evaluation of transfer credit.

ENVS 401 - Environmental Senior Project (4 Credit Hours)

This course is required for ENVS majors with senior standing unless they are pursuing senior research (ENVS 451/452 or equivalent). This course provides an integrating and culminating experience for students, individually or in small groups, to engage with an environmental issue, either by conducting research related to this issue or by taking action on it in a way that is informed by their academic understanding. The primary objective is for each student to integrate their study of environmental issues at Denison and to develop skills in critically analyzing environmental problems and promoting environmental change. A primary focus is on writing: crafting a project proposal, communicating objectives and cogent arguments, reviewing and incorporating relevant literature, analyzing results and synthesizing conclusions. Students will have the opportunity to hone a major written work through several stages and to provide and receive peer review on written work. Course fulfills the Writing (W) GE.

Prerequisite(s): ENVS core and ENVS 301, or consent of instructor.

ENVS 451 - Senior Research (4 Credit Hours)

Independent research arranged with a faculty advisor.

ENVS 452 - Senior Research (4 Credit Hours)

Senior. ENVS 452 is the continuation of ENVS 451; see information above.