

# ENVIRONMENTAL STUDIES

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The environmental studies department takes an interdisciplinary approach to the study of the environment and sustainability issues, integrating perspectives from the humanities, social sciences, natural sciences, and fine arts, and applies these perspectives to issues ranging from global warming to the environmental impacts of our own lifestyle choices. Because environmental problems and their potential solutions do not stop at disciplinary boundaries, our curriculum teaches students to approach a particular topic not simply as a question of biology, politics, or theology, but rather to combine these (and many more) perspectives to better understand environmental and sustainability issues in all their complexity. Particularly important to this process is the inclusion of social science and humanities viewpoints, as even the most technical solutions to environmental problems must be implemented by individuals working within cultural, political, and economic contexts. Five environmental studies faculty and supporting faculty from over a dozen different academic departments contribute to the program; students also have access to professional staff with responsibility for environmental and sustainability issues on both campuses in areas ranging from physical plant to grounds, dining services to transportation, including Environmental Health and Safety, the College of St. Benedict Office of Sustainability, the St. John's Outdoor University, and other related offices. The unique ecological resources of our two campuses include nearly 3,000 acres of deciduous and coniferous forests, restored oak savanna, tall grass prairie, wetlands, and a diversity of large and small lakes. This setting, which is carefully managed in the tradition of Benedictine stewardship, provides a wealth of opportunities for the hands-on exploration of environmental issues as well as venues for outdoor recreation and reflection.

Students majoring or minoring in environmental studies come from a wide range of backgrounds and areas of interest, but all share an essential curiosity about and concern for the environment and a sustainable future. The interdisciplinary nature of the program requires students to hone their skills in reading, writing, critical thinking, quantitative analysis, and argumentation to become well-rounded thinkers adept at developing and expressing reasoned opinions not only about environmental and sustainability issues, but in all aspects of their intellectual lives. Undergraduate research is central to the major curriculum; all graduates must complete a senior thesis and competitive summer research fellowships are regularly available. Experiential learning components are incorporated into many courses, including laboratories, service learning projects, field studies, and a required internship for majors. A variety of co-curricular and volunteer activities offer students interested in environmental education, outdoor recreation, food and agriculture, environmental activism, campus sustainability practices, and other related topics frequent opportunities to directly connect with others who share their interests, often alongside faculty and staff affiliated with the program. Majors and minors in environmental studies pursue a wide range of careers, not only in environmental and sustainability fields but in many other professions for which a traditional liberal arts education serves as preparation. Many also go on to advanced study in related fields such as energy development, environmental law, public policy, natural resource management, journalism, landscape architecture, and environmental education. Complete information on the environmental studies program is available on-line at <http://www.csbsju.edu/environmentalstudies>

[www.csbsju.edu/environmentalstudies](http://www.csbsju.edu/environmentalstudies) (<https://www.csbsju.edu/environmentalstudies/>).

## Assessment

The Environmental Studies Department's curriculum emphasizes research, writing, and problem-solving skills in an environmental/sustainability context. The departmental assessment program thus focuses on evaluating student outcomes via problem-solving and skill-building exercises embedded in required courses and a variety of research activities. The assessment program culminates with the senior research theses, all of which are evaluated as a group annually by the department faculty.

## Majors

- Environmental Studies Major (<https://catalog.csbsju.edu/catalog/academic-departments/environmental-studies/environmental-studies-major/>)

## Minors

- Environmental Studies Minor (<https://catalog.csbsju.edu/catalog/academic-departments/environmental-studies/environmental-studies-minor/>)

### ENVR 100A The Nutritious Garden (1 Credit)

This section of ENVR 100 is part of the new "Hands-On-The-Land" series of experiential learning courses offered by the Environmental Studies Department with the assistance of the St. John's Arboretum and faculty from several other departments. This first course will be offered by Profs. Bernadete Elhard and Romona Robinson-O'Brien of the Nutrition Department. Want to eat green? Lower your carbon footprint with your food choices? Ever wonder what is whole food? How can you plant a garden to increase your nutritional status? This course will provide students with practical approaches to these issues by teaching them about growing their own food and safely preserving it. The course will combine lecture, discussion, readings and field trips to examine the relationship between the science of Nutrition, gardening and food preservation. Students will learn about garden planning from a nutritional and geographical perspective. Food preservation technology will be combined with culinary preparation technique to create appealing food from a taste, texture and visual perspective. Students will apply food preservation and food preparation knowledge previously discussed in the course by preserving locally grown foods in the food science laboratory. No prerequisites are required for this course.

**Prerequisites:** None

**ENVR 100C Hand Papermaking in the Arboretum (1 Credit)**

This section of ENVR 100 is part of the new "Hands-On-The-Land" series of experiential learning courses offered by the Environmental Studies Department with the assistance of the St. John's Arboretum and faculty from several other departments. This course will introduce the history, methods and science of natural papermaking via the process of making paper by hand. Students will learn to identify and gather plants in the St. John's Arboretum suitable for making paper, then explore ways to break down the plants and reform the fibers into a variety of handmade papers involving creative fiber combinations unique to the CSBSJU environment. The course will include readings on papermaking's thousand-year history and will explore the contemporary uses of plant-based handmade paper. Discussion will include the environmental ramifications of using various types of plants found in the region. Instructors: Scott Murphy & Rachel Melis from the Art Department. Prerequisites: none; open to all majors.

**Prerequisites:** None

**ENVR 100D Tracking Carnivores (1 Credit)**

This course will introduce students to the natural history and ecology of Minnesota's small to mid-size forest carnivores. While there will be a lecture component to this course, most of our time will be spent conducting field work related to forest carnivores. As part of the Hands-On-The-Land series this course will make extensive use of the St. John's Arboretum. After an introduction to population sampling techniques (scent stations with track identification, mark-recapture techniques, and camera trapping techniques), we will develop a research design and set up carnivore scent stations and remote-trigger camera traps. Students will gain skills in carnivore tracking, carnivore ecology, and scientifically-reliable research design. Students from all majors are welcome.

**Prerequisites:** None

**ENVR 150 Introduction to Environmental Studies (4 Credits)**

Interdisciplinary introduction to environmental studies. Case-based investigation of environmental issues combining perspectives from the social sciences, natural sciences, and humanities. Topics will vary but may include such subjects as endangered species, air/water pollution, environmental justice/racism, animal rights, global warming, ecotourism, agriculture, nature writing, campus ecology, and others. Both semesters.

**Prerequisites:** None

**Attributes:** Benedictine Raven (BN)

**ENVR 175 Earth Systems Science (4 Credits)**

An interdisciplinary introduction to the science underlying environmental issues. This course will focus on earth systems science, providing a basic understanding of how the earth's hydrosphere, lithosphere, atmosphere and biosphere work and how they interact. Both semesters.

**Prerequisites:** None

**Corequisites:** ENVR 175L

**Attributes:** Natural World (NW), Quantitative Reasoning (QR)

**ENVR 175L Laboratory (0 Credits)**

**Prerequisites:** None

**Corequisites:** ENVR 175

**ENVR 200A Environmental Art and Architecture (4 Credits)**

This course focuses on a range of issues addressing art, architecture and their relationship to a sustainable environment. Through an analysis of critical theory, students will gain an understanding of the language and critical issues of art, architecture and their impact upon the environment. Through a hands-on approach, students will apply these concepts to make ceramic artwork in the SJU Pottery Studio. By using all native materials, designing through a programmatic structure of indigenous systems, in a sustainable framework the student will parallel architectural and design schematics presented in theory and research to an applied reality. Students will critically analyze readings, will discuss examples of art and architecture and will meet with artists in order to expand their understanding of the relationship between art, architecture and the environment. Spring. Offered for A-F grading only.

**Prerequisites:** None

**Restrictions:** Enrollment is limited to students with a major in Environmental Studies.

**Equivalent courses:** ART 200

**Attributes:** Artistic Expression (AE), Thematic Encounter1/2-Justice

**ENVR 200D Geology of the National Parks & Monuments (2 Credits)**

There are over 450 national parks and monuments in the United States and the majority preserve examples of landscapes and geology at their most impressive. Our national parks and monuments have two purposes: 1) to preserve features of scientific and cultural importance and 2) to make those features available for the education and enjoyment of the public. Geology of the National Parks provides a view of the diverse aspects of geology preserved in our national parks and monuments through the conceptual framework of the rock cycle. The course is designed to provide students with an appreciation of why the preservation of geologic features within national parks helps us understand natural science and how geology relates to society and the environment. An optional, May-term course (Geology Field Experience) will provide 'hands-on' experience exploring the geology of selected parks and monuments in the western U.S. Course offered for A-F grading only.

**Prerequisites:** None

**ENVR 200E Women, Ecology & Development (1 Credit)**

This course focuses on the writings of Dr. Vandana Shiva in preparation for her visit to campus in February as the Renaissance speaker. We will read Shiva's most famous book (Stolen Harvest: The Hijacking of the Global Food Supply) and her most recent one (Staying Alive: Women, Ecology and Development). We will also watch two documentaries in which she features prominently as an expert witness on issues of food and biotechnology, globalization, and development issues. The course is discussion based but will also require a final paper.

**Prerequisites:** None

**ENVR 210 Environmental Field Experience (1 Credit)**

Environmental Field Experience offers students the opportunity to apply a range of disciplinary and interdisciplinary field methods to a specific topic and geographical area. The course will incorporate on-campus work in the classroom, lab and outdoors with a multi-day field component off campus. The topics will be selected to offer breadth of exposure to methods and access to suitable field sites. Each iteration will provide students with an introduction to and practice with field methods from at least two different disciplines, along with the opportunity to apply them to a discrete topic/project in the off-campus portion of the course. This is a one-credit course that will include a mandatory field experience after graduation. The class is intended for both ENVR majors and minors; students from other majors are welcome as space permits. Prerequisites are ENVR 150 and ENVR 175 or permission of the instructor. Course fees will be assessed to cover the cost of the field experience in an all-inclusive approach (travel, food, lodging, etc.) for all participants. Topics and locations will vary.

**Prerequisites:** (ENVR 150 or ENVR 150Z) and (ENVR 175 or ENVR 175Z)

**ENVR 215 Sustainability Workshop (2 Credits)**

Workshop focusing on current environmental issues in application, intended for students new to the major or minor. Course may be repeated for credit when topics vary with approval of the Department Chair. Both semesters.

**Prerequisites:** None

**ENVR 271 Individual Learning Project (1-4 Credits)**

Supervised reading or research at the lower-division level. Permission of program director required. Consult department for applicability towards major requirements. Not available to first-year students.

**Prerequisites:** None

**ENVR 275 Humans and the Environment (4 Credits)**

An interdisciplinary scientific exploration of environmental issues through case studies. Specific case studies will be chosen by the instructor, but will typically center around the broad topics of population, climate change, food and agriculture, biodiversity, pollution and energy.

Prerequisite: ENVR 175. Both semesters.

**Prerequisites:** ENVR 175 or ENVR 175Z

**Corequisites:** ENVR 275L

**ENVR 275L Laboratory (0 Credits)**

**Prerequisites:** None

**Corequisites:** ENVR 275

**ENVR 278A 20th Century World Environmental History (4 Credits)**

This course explores the history of the 20th century world through an environmental lens, emphasizing relationships between humans and the natural world, the impacts of social/political/economic systems on nature, and the evolving use of natural resources in human societies. Movements of people, raw materials, capital, manufactured goods, and living material between ecosystems receive particular attention. The impacts of human action on the natural world, including resource extraction, large-scale construction, agriculture, transportation of species between ecosystems, warfare, migration, and the generation of pollutants will be followed through the century on scales ranging from regional to global. Students will develop an understanding of how humans have shaped the environments they inhabit both directly and indirectly, how nature influences culture over time, and how the environmental crises of the 21st century are rooted in historical events, decisions, and actions. The skills of historical analysis and argumentation will be practiced throughout the course as well.

**Prerequisites:** ENVR 278A is a Thematic Focus - Justice Course. You must take INTG 100 or 205 prior to taking a Thematic Focus Course. You must take a Cultural and Social Difference: Identity (CI) course prior to or at the same time as Thematic Focus Courses.

**Attributes:** Human Experience (HE), Thematic Focus - Movement

**ENVR 279A Environmental Methods and Analysis (4 Credits)**

This course serves as an introduction to the analytical tools and metrics of environmental studies, providing students with quantitative and qualitative methodological skills germane to environmental problem solving that can be applied in upper division courses and in their own research projects. Emphases will include basic quantitative literacy, units of measurement commonly used in environmental fields, estimation, basic applied statistical analysis, cost-benefit and other economic metrics, textual analysis of survey and interview data, and data visualization through construction of graphics and maps. Students will also be guided through the process of collecting both primary and secondary data. Students will learn to apply these methods and to critique the use of similar methods by the media, in marketing campaigns and by other researchers.

**Prerequisites:** ENVR 279A is a Thematic Focus - Truth course. You must take INTG 100 or 205 prior to taking a Thematic Focus Course. You must take a Cultural and Social Difference: Identity (CI) course prior to or at the same time as Thematic Focus Courses.

**Equivalent courses:** ENVR 250

**Attributes:** Social World (SW), Thematic Focus - Truth

**ENVR 300C Environmental Justice (4 Credits)**

This course explores the relationship between environment, ideas of justice, and social inequity. We will examine how racial, economic, and cultural status can affect people's access to a clean, safe environment and productive natural resources. We will consider examples of how people's access to a safe, clean environment and vital natural resources are threatened or violated locally, nationally, and globally. Specific issues examined may include energy issues such as coal mining and fracking, siting of hazardous waste facilities, exposure to toxins, and inequalities in food systems, among others. This course will also look at the environmental justice movement as it emerged in the late 20th century, both within the United States as well as globally. Although the primary perspective is sociological, the course is taught from an interdisciplinary approach that includes history, ethics and natural science. Using a mixture of in-depth case studies and broader theory, the course will specifically look at the connection between institutional racism and environmental problems in the U.S., the perpetuation of class inequalities, the lack of diversity in the mainstream environmental movement, and the role of women in the environmental justice movement. The role of public policy (such as zoning and the history of urban segregation) will be discussed, as well as some of the mechanisms being used to secure environmental rights and promote environmental justice.

**Prerequisites:** None

**ENVR 300D World Literature of Climate Change (4 Credits)**

This course explores literary writing from around the globe about climate change, with particular attention to questions of post-coloniality and environmental justice. Texts will include readings from every continent, including Antarctica, as well as genres ranging from poetry to literary theory to "cli-fi" (climate science-fiction). Through reading, thinking, discussing, and writing critically about a wide range of genres and cultural expressions, students will gain an appreciation for the depth of the world's literary approaches to the climate crisis. Students will learn to actively engage such writing from a variety of approaches including historical analysis, ecocriticism, and ethical reasoning.

**Prerequisites:** None

**ENVR 300E Envisioning Nature (4 Credits)**

This course will examine the evolution of our modern understanding of the natural world. How do we imagine nature, and do other cultures (past and present) imagine it differently? Where exactly did our current understanding of the natural world come from, and where does it seem to be heading in the future? In asking these questions, we will also explore how different visions of nature (nature as God's creation, nature as a mechanical structure, nature as a complex ecosystem, human nature etc.) have shaped our approach to our understanding of the lives we live. Students will examine a mix of history, biology, political philosophy, literature, film and cultural theory texts as part of a course of study designed to investigate where, why and how writing and nature intersect in our world today. Course Objectives: 1. To explore the social and historical importance of influential visions of nature from the ancient world up to more recent modern and/or postmodern periods, 2. To investigate the relationship between nature, economics and literature, 3. To examine how certain visions of nature have been used to justify social inequalities, 4. To read debates about the natural world from politically informed perspectives, and 5. To study how different visions of nature shape and reshape our understanding of the natural and social worlds in which we all live.

**Prerequisites:** None

**Restrictions:** Students with a class of First Year may not enroll.

**Equivalent courses:** ENGL 385I

**ENVR 300F Environmental Geography (4 Credits)**

Case-study based and issue-oriented approach to understanding relationships between societies and their environments from a geographical perspective. Centered on exploring how humans around the world have modified their environments, and how societies respond to environmental change. Examining these processes includes exploring the current and historical roles played by social and cultural institutions, by political and economic systems, and by forces such as development and globalization.

**Prerequisites:** GEOL 211 or ENVR 175

**Corequisites:** ENVR 300FL

**ENVR 300FL Laboratory (0 Credits)**

**Prerequisites:** None

**Corequisites:** ENVR 300F

**ENVR 300G World Literature of Climate Change (4 Credits)**

This course explores literary writing from around the globe about climate change, with particular attention to questions of post-coloniality and environmental justice. Texts will include readings from every continent, including Antarctica, as well as genres ranging from poetry to literary theory to "cli-fi" (climate science-fiction). Through reading, thinking, discussing, and writing critically about a wide range of genres and cultural expressions, students will gain an appreciation for the depth of the world's literary approaches to the climate crisis. Students will learn to actively engage such writing from a variety of approaches including historical analysis, ecocriticism, and ethical reasoning.

**Prerequisites:** None

**Attributes:** Human Experience (HE), Thematic Encounter 3 - Justice, Writing Requirement (WR)

**ENVR 300H Green Writing: Nature in British Literature, 1750 – 1901 (2,4 Credits)**

As the Industrial Revolution gained speed, many British writers explored the dynamic relationship between Nature and the Imagination. These writers represent Nature as a powerful force capable of provoking hope, solace, and terror. In this course, we'll examine the changing meanings of "nature" in British literature. We'll give particular attention to the interactions of "nature", human beings, and the rapidly changing built environment in 18th- and 19th- century British poetry, essays, and fiction. Observing the movement of population from rural areas to cities, the shift from handcraft to factory labor, and the transition from horses to railways, British writers reflected on the changing relationship between people and the natural world. Industrialization and urbanization inform the works we'll read; the natural rhythms of days and seasons were giving way to the steady, ticking rhythm of the clock, and the environment of daily work was shifting from the agricultural outdoors to the urban workplace. We'll study 19th-century nature writing in the context of these momentous changes.

**Prerequisites:** None

**Restrictions:** Enrollment limited to students with a class of Junior, Sophomore or Senior.

**Equivalent courses:** ENGL 340C

**ENVR 300I Environmental Anthropology (4 Credits)**

This course examines the relationships between human cultures and the environments they inhabit. We will engage with the ways in which environments are collusions of human knowledge, perspective, histories, and economic and other cultural systems. Many of the course texts grapple with environmental management systems throughout the world, and ways that people plan for, participate in, subvert, and are affected by environment management schemes. Furthermore, this course also emphasizes the ways in which people shape knowledge about the environment and environmental management throughout historical vantages as well as Western science, particularly of conservation biology and ecology.

**Prerequisites:** SOCI 111 or (SOCI 121 or SOCI 121Z) or (PSYC 111 or PSYC 111Z) or (ECON 111 or ECON 111Z) or ECON 111A or (POLS 111 or POLS 111Z) or POLS 121 or PCST 111

**Equivalent courses:** SOCI 337D, SOCI 349

**ENVR 300J Sustainability in Asia (4 Credits)**

An analysis of the sustainability of Asian societies with respect to environmental, economic and social issues. We will examine practices of ancient and medieval Asia, and continue with an assessment of contemporary environmental issues. Particular attention will be given to Japan and China as comparative subjects. Dr. Li is a visiting Associate Professor in Ecology from Southwest University in Chongqing, People's Republic of China.

**Prerequisites:** None

**ENVR 300K God and Nature (4 Credits)**

This course surveys the relationships between Western religions and the natural world. The course traces the historical development of how nature has been perceived, beginning with Jewish and Christian origins, proceeding through the Middle ages and into modernity, giving special attention to the interactions between Christianity and other faiths (e.g., pre-Christian European traditions and Native American spiritualities). The primary focus of the course concerns contemporary issues within the United States, including religious environmentalism within church bodies and the non-profit sector, forms of spirituality within environmentalism, eco-feminism, the environmental justice movement, nature religions, and contested depictions of the natural world within Christianity.

**Prerequisites:** None

**ENVR 300L British Literature after 1700: Green Writing (4 Credits)**

As the Industrial Revolution gained speed, many British writers explored the dynamic relationship between Nature and the Imagination. These writers represent Nature as a powerful force capable of provoking hope, solace, and terror. In this course, we'll examine the changing meanings of "nature" in British literature. We'll give particular attention to the interactions of "nature," human beings, and the rapidly changing built environment in 18th- and 19th-century British poetry, essays, and fiction. Observing the movement of population from rural areas to cities, the shift from handcraft to factory labor, and the transition from horses to railways, British writers reflected on the changing relationship between people and the natural world. Industrialization and urbanization inform the works we'll read; the natural rhythms of days and seasons were giving way to the steady, ticking rhythm of the clock, and the environment of daily work was shifting from the agricultural outdoors to the urban workplace. We'll study 19th-century nature writing in the context of these momentous changes. Prerequisite: Sophomore standing.

**Prerequisites:** None

**Equivalent courses:** ENGL 342

**ENVR 300M Global Transition to Sustainability (4 Credits)**

"Business as usual" is becoming more and more deadly to humans so humanity has turned to sustainability for help. This course discusses what sustainability is, why it has become a global concern, how people measure it, and how countries and their institutions have implemented it as a way to steer away from societal as well as ecosystem collapse. Of special concern will be an analysis of benchmark policies used by leaders in sustainability. We will look at implementing sustainability at the "micro" level (businesses, cities, schools, etc.) as well as the "macro" level (country and multi-country levels) and will examine examples of what's working around the planet as well as what's not. Of special concern throughout this course will be deciding what sustainability economics is as well as discussing what a sustainable or green economy would look like. Introductory Economics would be helpful.

**Prerequisites:** ECON 111 or HONR 220A or ECON 111A

**ENVR 300N Conservation Natural Resource Management (4 Credits)**

The course focuses on the management and conservation of natural resources in the United States, including the national parks, national forests, oil/gas/mineral resources, surface and ground water, fisheries, wildlife, grazing/rangeland, and other publicly-managed resources. It explores the scientific, economic, cultural, legal, administrative, and political dimensions of natural resource management challenges faced by resource managers at a variety of levels from local lake associations to state departments of natural resources to federal agencies like the US Forest Service, National Park Service, and Bureau of Land Management. Through an interdisciplinary approach we will examine specific issues faced by agencies tasked with managing parks, wildlife, fisheries, hunting, mining, grazing, logging, recreation, and other resource uses. Specific attention will be paid to the various roles of public-sector employees and careers related to natural resource management within public agencies, as well as to the legal and political contexts for decision-making and conflict resolution. The course is open to all majors and anyone with an interest in natural resource management, ecology, environmental conflicts, environmental law and policy, public-sector management, government, politics, outdoor recreation, and related topics.

**Prerequisites:** None

**Attributes:** Thematic Encounter3 - Movement

**ENVR 300O Climate Studies: Culture, Science and Policy in a Changing Environment (4 Credits)**

This course uses a cultural focus to understand how humans study, experience, interpret, and mitigate global climate change. We investigate climate science, politics, and economics, along with how climate change intersects with matters of justice, gender, globalization, media, development, and higher education. As we learn about these topics, we will conduct applied research on particular climate topics at various scales—local, state, national, and international—to work towards defining solutions and ways forward in a rapidly changing environment.

**Prerequisites:** None

**ENVR 300P Environmental Writing (4 Credits)**

This course will offer the experience of exploring the interplay between the world of woods (nature) and the world of words (literature). Students will read, analyze and discuss a wide range of nature writing, but the main focus of the class will be on the creation of their own body of nature-based, written work, primarily in the form of creative nonfiction. Emphasis will be placed on the development of individual voices and styles. Prerequisite: Completion of FYS and junior standing.

**Prerequisites:** None

**Restrictions:** Enrollment limited to students with a class of Junior, Sophomore or Senior.

**Equivalent courses:** ENGL 315C

**ENVR 300Q Environmental Health (4 Credits)**

This course will explore the health of the environment and how it relates to public policy by examining the issues and problems associated with environmental pollution and how pollutants impact our ecosystem. Students will develop an understanding of the physical processes involved in polluted environments as well as the socioeconomic consequences. Topics may include energy and resources; water treatment; geoengineering; climate change; remediation strategies; environmental public policy; in addition to pollution in the air, water, and soil including heavy metals, toxic organic compounds, ozone, greenhouse gases and pesticides.

**Prerequisites:** None

**ENVR 300R Sustainable Urban Planning (4 Credits)**

A sustainable world requires continual examination and debate related to the ways we plan, design and manage human settlements. Urban planners and policy makers address both the built and natural environment and the relationships between town and country. Sustainable development has ecological, economic and social aspects. The organization and design of space is a prime source of resource and energy use, as well as being a key to well-functioning and healthy communities. The course includes discussion and debate on themes including land use, economic development, ecological footprint, social neighborhood planning, citizen participation, work and mobility, and urban ecology. Offered for A-F grading only.

**Prerequisites:** None

**Equivalent courses:** POLS 350A

**ENVR 300T Sustainable Agriculture Science (4 Credits)**

Managing agricultural landscapes to provide the world with sustainable food, fiber, and fuel while conserving the environment and addressing climate change is a grand challenge of 21st century agriculture. This course examines agroecosystems as complex adaptive systems characterized by interactions and feedbacks among organisms, the atmosphere, climate, and the cycling of elements at local to global scales. Key elemental cycles of carbon and nitrogen and how human activities are affecting these cycles, and creating environmental challenges will be emphasized. Soil and crop management practices and resulting interactions between soil, water, organisms, and organic and chemical inputs form the basis for discussions on diverse cropping systems, soil health, water quality and quantity, bioenergy, greenhouse gases, and sustainability.

**Prerequisites:** None

**Corequisites:** ENVR 300TL

**Attributes:** Natural World (NW), Thematic Encounter3 - Movement

**ENVR 300TL Laboratory (0 Credits)**

**Prerequisites:** None

**Corequisites:** ENVR 300T

**ENVR 300Y Environmental Hazards, Risk and Resilience (4 Credits)**

This course reviews theories and practices for risk reduction, including natural hazards, catastrophes, and acts of terrorism, all of which produce devastating impacts on social structures and the built and natural environments. We address these issues through readings selected from anthropology, geography, sociology, and planning to understand how governments, markets, and societies respond and adapt to the consequences of climate change, droughts, floods, tornadoes, tsunamis, and wildfires. Students will explore human subjectivity to hazards and risks, including measurement tools used for assessing vulnerability and the causes and consequences of environmental-based migration and displacement. Through development of a case study, students will critically reflect on the roles of international and state institutions in community recovery efforts and how policies and programs prioritized or omitted social and environmental justice objectives. Finally, students will develop a final paper suggesting actionable strategies for policymakers to respond to an environmental crisis and pathways to a more resilient future.

**Prerequisites:** None

**ENVR 303 Climate Action Workshop (4 Credits)**

This course involves exploration of climate policy and climate justice action at the national, regional, and local level. Students will learn about climate change and its effects, policies, and technologies to address climate change, and debates over taking action, focused on the national and local level. Students will gain hands-on organizing skills through planning an event around climate justice, interview climate justice stakeholders in the MN region, and engage in solidarity work with MN-based climate justice organizations, including attendance at local events. Sophomore standing required. No course prerequisites. Offered annually.

**Prerequisites:** ENVR 303 is a Thematic Focus - Justice Course. You must take INTG 100 or 205 prior to taking a Thematic Focus Course. You must take a Cultural and Social Difference: Identity (CI) course prior to or at the same time as Thematic Focus Courses.

**Restrictions:** Students with a class of First Year may not enroll.

**Attributes:** Thematic Focus - Justice

**ENVR 305 United Nations Climate Change Conference (2 Credits)**

This course involves preparation for, research in support of, and attendance at the United Nations Framework Convention on Climate Change (UNFCCC) annual Conference of Parties (COP). Meeting once per week in the fall semester, students will learn about climate change and its effects, policies and technologies to address climate change, and debates over taking action, all at the global level. Students will also learn about the Intergovernmental Panel on Climate Change, and the UNFCCC, in preparation for attending the conference. Each student will focus on one aspect of climate change, writing a research paper that includes both preliminary research before the conference then primary research at the conference itself, attending sessions devoted to that issue and interviewing stakeholders. Participants are required to attend the COP during the semester they take this course. Enrollment is by permission of instructor only. Applications for this course are accepted each spring semester. Students accepted into the course will be enrolled in the course by the instructor. This course can be combined with ENVR 303: Climate Action Workshop to create a four-credit course. Sophomore standing required. No course prerequisites. Offered annually.

**Prerequisites:** None

**Restrictions:** Students with a class of First Year may not enroll.

**Equivalent courses:** ENVR 300V

**Attributes:** Social World (SW), Thematic Encounter3 - Justice

**ENVR 310 Environmental Geography (4 Credits)**

This course is an upper level, reading intensive course focusing on global environmental issues from the perspective of geography. Using water as a topical focus, the course will consider human modifications of and responses to the environment; the sometimes unintended consequences of such actions; and water as a key resource and potential source of conflict in the 21st century. As an environmental studies course, the subject matter is interdisciplinary and will include physical geography. Annually.

**Prerequisites:** None

**Attributes:** Social World (SW), Thematic Encounter3 - Movement

**ENVR 311 Introduction to Geographical Information Systems (4 Credits)**

This is an introductory course in Geographic Information Systems (GIS). GIS is designed to collect, store, and use spatial and geographical information, such as land use, property ownership, roads, rivers, lakes, forest cover type, elevation, versus tract boundaries and data, and political boundaries. In this course, students will learn to use ESRI's ArcGIS software within a larger context that also includes a history of cartography, the uses and abuses of maps, elements of map design, mental maps, participatory GIS, and a range of ethical issues that must be considered in learning how to use this powerful technology responsibly. Annually.

**Prerequisites:** None

**Equivalent courses:** ENVR 300A

**Attributes:** Abstract Structures (AS)

**ENVR 312 Geography of Asia (4 Credits)**

Asia is a complex and diverse part of the world that contains more than half of the world's population, some of the world's fastest growing economies, and countries and cultures that are fundamentally linked to our everyday lives in North America. In this upper-division, reading-intensive course, students will be introduced to the natural environments, political developments, demographic trends, gender issues, religious and cultural frameworks, and past and present relationships between the United States and Asian countries. The course will emphasize current events, problem, and trends across sub-regions and in individual countries, and will draw on diverse sources of information including books, academic and popular articles, films and novels. Offered infrequently.

**Prerequisites:** None

**Equivalent courses:** GEOG 312

**ENVR 315 American Environmental Literature (4 Credits)**

This course explores the long history of American writing about nature and the environment, with particular attention to questions of the human place in nature. Some of this literature is about exploration—what is out there? Some of this is about the utility of nature—what can we do with vast forests, grasslands, or rivers? But the most interesting examples are often about what we can learn from nature and what obligations we may have to non-human life—what is our place in nature? The styles and traditions of American nature/ environmental writing have changed dramatically over time and today are quite diverse, incorporating at times elements of philosophy, theology, ethics, science, economics, politics, and art. Through reading, thinking, and discussing, and writing critically about a wide range of examples from genre students will gain an appreciation for the depth of the American literary approach to nature, become familiar with many of the writers and texts that could be said to form a “canon” in the field. And will learn to actively engage such writing from a variety of approaches including historical analysis, ecocriticism, and ethical reasoning.

**Prerequisites:** None

**Attributes:** Human Experience (HE), Thematic Encounter3 - Justice

**ENVR 320 Research Colloquium (4 Credits)**

In depth, interdisciplinary study of a single topic in environmental studies. By design the course will provide both depth of exposure in a topic and methodological instruction and application of research skills in the field, as preparation for the research requirements of other upper division ENVR courses and for the application in post-collegiate career settings. Topics will vary each semester, but skills covered will include group discussion, formal oral presentation, poster design and presentation, secondary literature analysis, research design, collaborative project design and implementation, and written presentation of research results. This course is intended for junior/senior Environmental Studies majors and must be taken before enrolling in the ENVR 395: Research Seminar capstone. Both semesters.

**Prerequisites:** ENVR 250 or ENVR 279A

**Attributes:** Writing Requirement (WR)

**ENVR 321 Sustainable Agriculture (4 Credits)**

How do we sustain the environment and provide food security to 9 billion people in 2042? This course examines the causes of food insecurity; investigates the environmental, human and cultural costs of industrial agricultural food production; identifies the environmental consequences of producing protein-rich foods, e.g. fish farming, meat, and soybeans; considers the effect of climate change on food production; and explores the potential and the risks of agricultural biotechnology to increase the global food supply. In addition, we explore emerging agricultural practices as possible solutions to the problem of balancing human needs and the environment. Alternate years.

**Prerequisites:** None

**Equivalent courses:** ENVR 300B

**ENVR 327 Gender & Environment (4 Credits)**

This course explores the links between gender, women, and environments, with an emphasis on the interconnections between environments and the workings of power that shape gender-based inequality, resistance, and strategies for social change. Through reading, discussion, documentary films, and research projects, we will explore how gender inequalities and norms of femininity and masculinity shape and are shaped by environments. The course will focus on local (U.S.) and global climate change; women's leadership in the environmental movement and community resilience; development; gendered perceptions of environmental risk; queer perspectives on environmental issues; how gendered divisions of labor (particularly care of children and elderly) affect environmental experiences; sustainable agriculture and redistribution of global resources; the effects of globalization and militarism on women and the environment; social constructions of gender and science; and the relationship between gender and environmental policy-making, inequalities, and health.

**Prerequisites:** Before taking a Cultural and Social Difference: Systems Courses (CS) you first must complete the following Integrations requirements; Learning Foundations (LF), Theological Encounter (TE), and Cultural and Social Difference: identity (CI).

**Equivalent courses:** ENVR 300U, GEND 360M

**Attributes:** CSD: Systems (CS)

**ENVR 330 Environmental Politics and Policy (4 Credits)**

This is a course about the politics and policies surrounding environmental issues at all levels of government. Many issues are both local and global. Transportation, electricity, and food are locally experienced but have global as well as local environmental ramifications. Environmental politics and policy are necessarily multi-disciplinary topics so we will draw upon a range of disciplines including economics, history, ecology, and ethics in addition to political science, public policy, and public administration. In covering environmental politics, we focus mostly on the major, albeit shifting, themes of "environmentalism" from white-collar lobbying, legislating and litigating to the direct action protests and the politics of corporate sustainability. The policy focus emphasizes content related to major federal laws governing public lands and other environmental issues, and the federal agencies that oversee environmental policy. The second half of the course concentrates on specific local, national and international issues such as the management of national forests, food politics, and local land use planning. We will study each issue by discussing the players and major debates circulating around the respective ecological issues.

**Prerequisites:** None

**Equivalent courses:** POLS 330

**ENVR 331 Science of Climate Changes (4 Credits)**

Heated ideological debates and images of imminent environmental catastrophe generated by the issue of climate change often obscure the scientific foundation upon which it rests. In this course we will explore: (i) Earth's climatic history and how we know about this history, (ii) the drivers of climate change past and present, and (iii) the impact of climate changes and stability on the biosphere and human societies on the past. By understanding how climate naturally changed in the past we will be able to better understand current human-driven change. The impacts of, and potential solutions to the current climate crisis will be covered within this historical context.

**Prerequisites:** None

**Equivalent courses:** ENVR 300G

**ENVR 331L Laboratory (0 Credits)**

**Prerequisites:** None

**Corequisites:** ENVR 331

**ENVR 360 U.S. Environmental History (4 Credits)**

Environmental history is the study of the relationship between humans and nature over time. This course examines the changing American understanding of nature in the 19th and 20th centuries with particular attention to the development of public policies toward natural resources and wildlife, the emergence of a new set of values recognizing non-utilitarian values in nature, and to the evolution of the conservation and environmental movements. Intellectual, political, economic, scientific, and social evidence will all be examined in the process of placing nature back into the human history of North America. This course is suitable for students of any major, including those who have not taken a previous history course.

**Prerequisites:** None

**Equivalent courses:** HIST 360

**Attributes:** Human Experience (HE)

**ENVR 371 Individual Learning Project (1-4 Credits)**

Supervised reading or research at the upper-division level. Permission of program director required. Consult department for applicability towards major requirements. Not available to first-year students.

**Prerequisites:** None

**ENVR 377A Energy and Society (4 Credits)**

This course explores the relationship between energy and society. Through diverse materials and field trips, we will learn about the energy infrastructures that power our society, the social, political, and cultural factors that shape energy production and consumption, and the relationship between energy, environment, and climate. Throughout, we will examine how all of these factors inform inequalities in who has access to energy and who is impacted by energy extraction, processing, transportation, and consumption. Students will leave the course prepared to assess the social and environmental impacts and benefits of different types of energy, and to contribute to discussions about building sustainable and just energy futures.

**Prerequisites:** ENVR 377A is a Thematic Focus - Justice Course. You must take INTG 100 or 205 prior to taking a Thematic Focus Course. You must take a Cultural and Social Difference: Identity (CI) course prior to or at the same time as Thematic Focus Courses.

**Equivalent courses:** ENVR 300X, ENVR 317

**Attributes:** Social World (SW), Thematic Focus - Justice

**ENVR 395 Research Seminar (4 Credits)**

Capstone seminar for majors/minors; intensive research project and formal presentation in collaborative setting. Prerequisite: senior standing or permission of instructor. Offered for A-F grading only. Both semesters.

**Prerequisites:** ENVR 320

**Restrictions:** Enrollment limited to students with a class of Senior.

**ENVR 397 Internship (1-8 Credits)**

Supervised career exploration which promotes the integration of theory with practice. An opportunity to apply skills under direct supervision in an approved setting. Prerequisites: approval of the department chair and a faculty moderator; completion of the pre-internship seminar. Offered for S/U grading only.

**Prerequisites:** None

**Attributes:** Experiential Engagement (EX)