ENVR 100  Topics in Environmental Studies  (0-4)
In-depth study of an environmental issue, perspective, or methodology at the lower-division level. Course may be repeated for credit when topics vary and with consent of the Department Chair. Varies.

ENVR 100A  The Nutritious Garden  (1)
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 foot print 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.

ENVR 100B  The Environment of Minnesota  (2)

ENVR 100C  Hand Papermaking in the Arboretum  (1)
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.

ENVR 100D  Tracking Carnivores  (1)
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, markrecapture 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.

ENVR 150  Introduction to Environmental Studies  (4)
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.

ENVR 175  Integrated Environmental Science I  (4)
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. Prerequisite: math prerequisite. Both semesters.

ENVR 200  Topics in Environmental Studies  (1-4)
In-depth study of an environmental issue, perspective, or methodology at the lower-division level. Course may be repeated for credit when topics vary with approval of the Department Chair. Varies.

ENVR 200A  Environmental Art and Architecture  (4)
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.

**ENVR 200C Environmental, Social and Cultural Sustainability in Scandinavia (2)**
The Scandinavian countries have all evolved in the past century from agrarian to industrial to leading informational technology societies. These small countries intentionally conceived and implemented groundbreaking social and economic policies. They are the most environmentally sustainable, gender balanced, and digitally interconnected societies in the world. They have developed democratic and humane systems of social organization, globally aware cultures, advanced organizational and industrial design, deeply embedded environmental stewardship, leadership in United Nations and international peace-keeping, and global marketing of their artistic productions. As culture, history, politics and economics frame the ways in which humans organize themselves and create and manage institutions to accomplish things then we must ask how and what can we learn from Sustainable Scandinavia. Participants in this course will learn to appreciate and understand the diverse cross-developments of environment, religion, politics, technology, and social structures underlie the dramatic yet sustainable development that enabled Scandinavian societies to become globally engaged while remaining sensitive to the foibles of the human condition. This learning will be done through on-site research and dialogue with hosts and faculty directors, supported by preparatory readings, faculty-led workshops and exercises, media analysis, and ongoing and reflective critical writing and group discussion. Offered for A-F grading only.

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

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

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

**ENVR 220 Environmental Methods & Measurement (2)**
This course serves as an introduction to the analytical tools and metrics of environmental studies, providing students with quantitative and methodological skills germane to environmental problem solving that can be applied in upper division courses and in their own research projects. Topics covered will include basic statistical analysis, environmental footprinting, cost-benefit and other economic metrics, energy auditing, green building standards, greenhouse gas emissions auditing, green certification programs, field- and laboratory-based measurement tools, and other common standards. 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. Prerequisite: math prerequisite. Both semesters. Offered for A-F grading only.

**ENVR 225 Food, Gender, and the Global Environment (4)**
In this course, we examine the environmental, economical, and social equity issues of food, production, processing, distribution and consumption. We explore the journey of food from the field to our table. To map successfully this journey we analyze women's and men's roles, historically and currently, in food production; examine different approaches to food sustainability and environmental sustainability; and delve into politics of food regulation. Both semesters.

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

**ENVR 275 Integrated Environmental Science II (4)**
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.
ENVR 300 Topics in Environmental Studies (1-4)
In-depth study of an environmental issue, perspective, or methodology at the upper-division level. Course may be repeated for credit when topics vary with approval of Department Chair. Varies.

ENVR 300C Environmental Justice (4)
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.

ENVR 300E Envisioning Nature (4)
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:

- 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.
- To investigate the relationship between nature, economics and literature.
- To examine how certain visions of nature have been used to justify social inequalities.
- To read debates about the natural world from politically informed perspectives.
- To study how different visions of nature shape and reshape our understanding of the natural and social worlds in which we all live.

ENVR 300F Environmental Geography (4)
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.

ENVR 300G Science of Global Climate Change (4)
Is Earth’s climate rapidly changing, and if so, what is causing it? 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 students will gain a basic understanding of the interdisciplinary science behind climate change and its impacts. Following an introduction to the climate system, we will explore Earth’s climatic history and how we know about this history, the drivers of climate change past and present, and the impact of climate change and stability on human societies in the past, present and future. Labs will focus on furthering understanding of climatic processes, methods in paleoclimatology, and the use of models in climate science.

ENVR 300H Green Writing: Nature in British Literature, 1750 – 1901 (2-4)
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.
ENVR 300I  Environmental Anthropology (4)
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. Prerequisite: Any one of the following: SOCI 111 or 121, PSYC 111, ECON 111, POLS 111 or 121, PCST 111, or Permission of Instructor.

ENVR 300J  Sustainability in Asia (4)
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.

ENVR 300K  God and Nature (4)
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 nonprofit sector, forms of spirituality within environmentalism, eco-feminism, the environmental justice movement, nature religions, and contested depictions of the natural world within Christianity.

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

ENVR 300M  Global Transition to Sustainability (4)
"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.

ENVR 300N  Conservation Natural Resource Management (4)
The course focuses on the management of natural resources, conflicts over natural resources, and basic problems in natural resource policy-making. It explores the legal, administrative, and political dimensions of natural resource management problems in various sectors including soil, public rangelands, forests, water, national parks, biodiversity, and recreation. It also considers the role of environmental ideas, organizations, and civil society in pursuing a variety of conservation and management strategies.

ENVR 300O  Climate Studies: Culture, Science and Policy in a Changing Environment (4)
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.
ENVR 300Q Environmental Health (4)
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.

ENVR 310 Environmental Geography (4)
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.

ENVR 311 Introduction to Geographical Information Systems (4)
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.

ENVR 312 Geography of Asia (4)
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.

ENVR 320 Research Colloquium (4)
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.

ENVR 321 Sustainable Agriculture (4)
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.

ENVR 330 Environmental Politics and Policy (4)
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.
ENVR 341 Natural History of Tropical Carbonates (2)
This course provides students with an introduction to the unique ecology and geology of tropical marine carbonate ecosystems, with an emphasis on those of the Bahamas. Topics covered include the evolution of reefs and reef-building organisms, geological history of the Bahamas, and the natural history of modern reef, mangal, and seagrass ecosystems. Environmental challenges facing these ecosystems will also be considered. The course requires participation in a field trip to San Salvador Island, Bahamas, or another tropical carbonate system. As part of the field trip, students will participate in a research project that involves monitoring of the ecological status of a tropical carbonate ecosystem. Prerequisite: BIOL 222, GEOL 212, or ENVR 175/275. Spring semester. Cross-listed with BIOL 341. Offered for A-F grading only. Varies.

ENVR 371 Individual Learning Project (1-4)
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.

ENVR 395 Research Seminar (4)
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.

ENVR 397 Internship (1-8)
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.