

# Environmental Studies Course Offerings

## Spring 2024

### ENVR 150 INTRODUCTION TO ENVIRONMENTAL STUDIES (BN) (4)

MWF 9:10 – 10:05 am PENGL 212 Lyndgaard, K

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.

*Required For: ENVR Major, ENVR Minor, Climate Studies Minor*



### ENVR 175 EARTH SYSTEMS SCIENCE (NS, NW, QR) (4)

MWF 10:20 – 11:15 am PENGL 225 Storlien, J

Laboratory M 12:40 – 3:40 pm PENGL 206 Storlien, J

Laboratory W 12:40 – 3:40 pm PENGL 206 Storlien, J

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.

*Required For: ENVR Major, ENVR Minor*



### ART 200 ENVIRONMENTAL ART AND ARCHITECTURE (FA, AE, TE1/2-JU) (4)

T 12:45 – 2:05 pm ART 102/128 Lemke, S

R 12:45 – 3:40 pm ART 102/128 Lemke, S

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, discuss examples of art and architecture, and meet with artists in order to expand their understanding of the relationship between art, architecture, and the environment.

*Approved For: ENVR Major*



### ENVR 275 HUMANS AND THE ENVIRONMENT (NS) (4)

TR 9:35 – 10:55 am PENGL 225 Knight, T

Laboratory M 12:40 – 3:40 pm PENGL 210 Knight, T

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.

*Required For: ENVR Major, ENVR Minor*



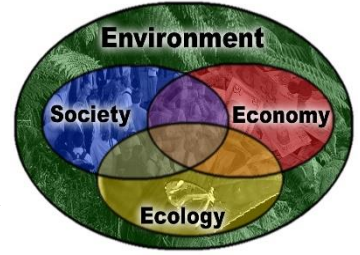


**ENVR 310 ENVIRONMENTAL GEOGRAPHY** (SS, SW, TE3-MV) (4)

MWF 11:30 am – 12:25 pm PENGL 212 Lavigne, J

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.

Approved For: ENVR Major, ENVR Minor

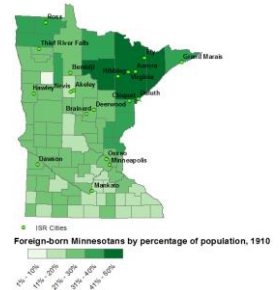


**ENVR 311 INTRODUCTION TO GIS** (AS) (4)

MWF 1:50 – 2:45 pm PENGL 236 Lavigne, J

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.

Approved For: ENVR Major, ENVR Minor



**ENVR 320 RESEARCH COLLOQUIUM** (4)

TR 2:20 pm – 3:40 pm PENGL 232 Storlien, J

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.

Required For: ENVR Major



**ENVR 331 SCIENCE OF CLIMATE CHANGES** (4)

MWF 10:20 – 11:15 am PENGL 229 Knight, T

W 12:40 – 3:40 pm PENGL 210 Knight, T

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.

Approved For: ENVR Major, ENVR Minor, Climate Studies Minor



**POLS 350A SUSTAINABLE URBAN PLANNING (TE3-JU) (4)**

*T* 6:15 – 9:15 pm SIMONS 310 Lindstrom, M

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.

*Approved For: ENVR Major, Climate Studies Minor*

**GBUS 368 SUSTAINABLE BUSINESS (BN, HE, HM, TF-MV) (4)**

*TR* 2:20 – 3:40 pm SIMONS 360 Schwarz, S

The rules of business have changed. Long-term success for business requires more than a positive cash flow. Companies now must be economically, environmentally, and socially sustainable in order to survive in today's global business economy. Sustainability has gone beyond a buzzword and is now integrated in the business strategies of nearly every major company. This course will take an in-depth look at the drivers for sustainability and the reasons why businesses are pursuing sustainability. The course will also look at the best industry practices of companies pursuing sustainability initiatives and analyze how these companies are using those practices to create a competitive advantage. Major areas of sustainability such as energy, food, water, waste, transportation, and personal responsibility will be covered. Prerequisite: GBUS 202 or permission of instructor.

*Approved For: ENVR Major, Climate Studies Minor*

**COMM 378A ENVIRONMENTAL RHETORIC (BN, HE, HM, TF-MV) (4)**

*TR* 9:35 – 10:55 am QUAD 353 Check, T

This course examines how people use communication to articulate viewpoints about the natural environment in the public sphere. Students study an array of environmental discourse, including speeches, advocacy campaigns, advertisements, image events, environmental reporting and news, film and media, to see how these messages convey meaning and shape audience attitudes and behavior about the environment. Prerequisite: SO, JN or SR standing.

*Approved For: ENVR Major, Climate Studies Minor*

**ENVR 397 INTERNSHIP (1 credit minimum)**

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.

*Required For: ENVR Major*

## Climate Studies and Other Courses of Interest

**POLS 121 INTRO TO INTERNATIONAL RELATIONS (GL, IC, SS, SW, TE1/2-JU) (4)**

*MWF* 11:30 am – 12:25 pm SIMONS G60 dos Santos, Pedro

Students learn about global issues through different theoretical lenses, including realism and liberalism. Using these lenses, students investigate international security, civil conflict, economic interactions, and the influence of globalization. They also examine the influence of important actors in the international arena, including states, intergovernmental organizations, and non-governmental organizations. Students examine their understandings of

culture and how it shapes understanding of concepts like human rights. This broad overview helps students have a better understanding of the world around them and how their worldview shapes their perceptions of international events.

**ART 218 INTRO TO COMPUTER ART (AE, FA, TE1/2-TR) (4)**

MW 8:20 – 10:25 am BAC C100 CSB Staff

Introduction to the Macintosh platform, digital imaging, and the principles of two-dimensional design.

Understanding the computer as a tool for creative expression.

*Approved For: Climate Studies Minor*

**INTG 278A ENERGY & ENVIRONMENT (NS, NW, QR, TF-MV) (4)**

MWF 12:40 – 1:35 pm PENGL 173 Taft, G

An introduction to commercial energy production and consumption. The physical laws governing energy transformations, the effects of energy consumption on a finite resource base and the impact of energy use in a closed environment will be examined. The technology and impact of major energy sources: fossil fuels, nuclear, solar, as well as energy-efficient consumption will be investigated. An opportunity for experimentation is provided. Intended for non-science majors.

*Approved For: Climate Studies Minor*

**EDUC 323 ELEMENTARY SCIENCE CONTENT (NS, NW, TE3-TR) (4)**

TR 8:20 – 9:40 am HAB 115 Fenton, D

The purpose of this course is to provide pre-service teachers with content specific knowledge, methods, and theoretical basis necessary for success in the elementary science education classroom. The course content emphasizes: teaching for conceptual understanding, problem solving, reasoning and sense making, inquiry, modeling, representations, science as a coherent and connected subject, and technology integration. The course is also designed to help pre-service teachers develop an understanding of how to use national and state science standards in lesson planning, instruction, and assessment, and become aware of various teaching resources that are available to enrich the science instruction. Prerequisite: EDUC 111 and Sophomore standing.

*Approved For: Climate Studies Minor*

**BIOL 332 NATURAL HISTORY OF VERTEBRATES (4)**

TR 8:00 – 10:55 am PENGL 375 Chu, P

Amphibians, reptiles (including birds), and mammals comprise the Tetrapoda, or terrestrial-vertebrate group. In this course we examine tetrapod anatomy, physiology, behavior, and evolution. Laboratories emphasize identification of, and field experience with, the tetrapods of central Minnesota. Prerequisite: BIOL 202 or instructor's consent.

**BIOL 336 BEHAVIORAL ECOLOGY (EX, GL, NS, NW, TE3-JU) (4)**

TR 11:10 am – 12:30 pm PENGL 375 Timmerman, K

Laboratory T 12:45 – 3:35 pm PENGL 234 Timmerman, K

Laboratory R 12:45 – 3:35 pm PENGL 234 Timmerman, K

A study of animal behavior with emphasis on the ways in which the ecological circumstances surrounding animals help shape their behavior. Laboratory experience in the observation and analysis of behavior in living organisms. Prerequisite: BIOL 121 or 202 or ENVR 175

**CHEM 343 CLIMATE & HABITAT CHANGE (2)**

AB-MWF 9:30 – 10:25 am ARDOLF 107 Strollo Gordon, C

Along with the positive advances that result from chemistry, copious amounts of toxic and corrosive chemicals have also been produced and dispersed into the environment. The course will address selections from different

areas of environmental study that impact our climate and habitat. Specific topics could include; global warming, ozone depletion, pollution, energy production and usage, and toxic waste disposal. Approaches for remediation will be discussed. Prerequisite: CHEM 255.

*Approved For: Climate Studies Minor*

**CHEM 344A ENVIRONMENTAL CHEM: ATMOSPHERE (2)**

CD-MWF 9:30 – 10:25 am ARDOLF 107 Strollo Gordon, C

Along with the positive advances that result from chemistry, copious amounts of toxic and corrosive chemicals have also been produced and dispersed into the environment. The course will address selections from different areas of environmental study that impact our climate and habitat. Specific topics could include; global warming, ozone depletion, pollution, energy production and usage, and toxic waste disposal. Approaches for remediation will be discussed. Prerequisite: CHEM 255.

*Approved For: Climate Studies Minor*

**BIOL 373Q ECOLOGY OF SERENGETI (NS, NW, TE3-JU) (4)**

*EMBEDDED STUDY ABROAD*

CD-M 12:40 – 3:30 pm PENGL 369 Timmerman, K

Students will study the ecologically and evolutionarily complex Serengeti Ecosystem of Tanzania. Using traditional classroom methods and field-based activities, we will explore the following disciplines: Evolutionary Biology, Terrestrial Ecology, History of Science, Nutrient Cycling, Animal Physiology, Wildlife Conflicts, Geology, Climate and Conservation Biology. Thus, the Serengeti Ecosystem represents an ideal place to study the interaction of multiple disciplines in one of the most intellectually stimulating places on Earth (not to mention one of the most beautiful). The object of this program is to provide students with both an in-class learning opportunity (C/D modules) and a hands-on field experience to the Serengeti (May) – with an ultimate goal for students to obtain both academic and an intellectual understanding of one of the most unique ecosystems on earth. Prerequisites: Biology 101, 201 and 202.

**BIOL 375 NATURAL HISTORY OF MAPLE SYRUP (1)**

BC-R 2:30 – 4:30 pm PENGL 325 Rauch, K

A springtime ritual throughout NE United States, including St. John's, is the production of maple syrup from the sap of the sugar maple tree. This course provides an introduction to the history of the process, methods for producing syrup, and the biological and chemical principles underlying the production of sap and syrup. Prerequisite: BIOL 201 or 221 or instructor consent.