ENVIRONMENTAL SCIENCES AND SOCIETY (ENVSS)

ENVSS 1040 Planet Earth 4 Credits
This course is an introduction to the physical environment of the Earth (lithosphere, atmosphere, hydrosphere, and biosphere) and to the processes that shape the surface of the Earth through space and time. Through this course, you will investigate diverse landscapes and the processes that create them, explore the structure and dynamics of the atmosphere, tour Earth's biomes and examine the climates that produce them, analyze components of climate change and environmental conservation, and investigate how people influence and are influenced by our world. A course trip is required.
Components: Laboratory, Class
GE: Natural Science

ENVSS 1050 Introduction to Human Geography 3 Credits
An introduction to the global distribution of human characteristics. Topics will include population, cultural, agricultural, industrial, economic, political, urban, linguistic and religious geographies. The character, distribution, and origin of these geographies will be examined along with their relationship to each other and the physical environment.
Components: Class
GE: Global Studies (former Int Ed), Social Sciences

ENVSS 1230 Survey of Cultural Geography 3 Credits
An introduction to the culture of peoples, with a focus on the constructing of culture and the primary components of culture: ethnicity, language, religion, and popular culture. The course concentrates on cross-cultural comparisons in an attempt to broadly describe cultures from around the world.

Components: Class
GE: Global Studies (former Int Ed), Social Sciences

ENVSS 1330 World Regional Geography 3 Credits
Geographic understanding of the major regions of the world; emphasis is placed upon human-environmental relationships.
Components: Class
GE: Global Studies (former Int Ed), Social Sciences

ENVSS 2230 Cartography 3 Credits
This course employs hands-on and project-based learning to explore the concepts, principles, and techniques related to crafting well-designed and ethical maps using contemporary tools.
Components: Laboratory, Class

ENVSS 2370 The Land Ethic 3 Credits
This course takes as its premise that land is a relationship that is cultivated through land practices. Students will engage with an overview of central theories and approaches to environmental ethics, environmental history, and land politics with special emphasis on Indigenous land relations and land stewardship. Students will analyze the racialized, gendered, and colonial dynamics of land relations. Additionally, this course aims to help students deepen their connection with the land and grow their knowledge and skills for participating in dialogue about the role of land and place in relationship to societies today. This course may be taken in conjunction with The Land Ethic Practicum (ENVSS 2380) for hands-on experiences with land practices.
Components: Class
GE: Social Sciences

ENVSS 2380 Land Ethic Practicum I 3 Credits
This is a companion course to ENVSS 2370. The practicum offers students hands-on experiences with important land practices. The knowledge learned in ENVSS 2370, The Land Ethic, will be applied to a land stewardship context outside of the classroom for experiential and place-based learning. This course may be repeated for credit.
Components: Practicum
Prereqs/Coreqs: P or C: ENVSS 2370

ENVSS 3120 Geography of the Driftless Area 3 Credits
The Driftless Area is unique in its geology, landscape, culture, economy, and environment. This place-based course will use a regional approach to examine what makes the Driftless Area distinct and in the process explore ways in which people create identity and express themselves through their relationships with the land and each other.
Components: Class
Prereqs/Coreqs: P: ENVSS 1040 or ENVSS 1230 or ENVSS 1330

ENVSS 3140 Global Landforms 4 Credits
This course is the study of Earth surface processes and landforms and their distribution across the planet. Topics include plate tectonics, mountains, weathering and erosion, glaciers, freshwater systems, coasts, karst, and natural hazards. Relevance to environmental change and human impacts on natural systems is stressed. Lab exercises will include mapping skills, regional landscapes, and field techniques. Trips are required.
Components: Laboratory, Class
GE: Natural Science
Prereqs/Coreqs: P. ENVSS 1040 or GEOLOGY 1140 or Instructor Consent

ENVSS 3170 Space, Place, and Gender 3 Credits
An introduction to gender and geography. The role of gender in the study of geography, which is concerned with places, linkages, patterns of flow, locations, landscape, and the social/political/economic production of space.
Components: Discussion, Class
Cross Offering: WOMGENDR 3170
GE: Gender Studies

ENVSS 3230 Geographic Information Systems 4 Credits
An in-depth and hands-on introduction to the core GIS concepts including map projections and coordinate systems, raster and vector data models, digital data sources, digitizing, map design and production, attribute data, data manipulation, and fundamental spatial analysis.
Components: Class, Laboratory

ENVSS 3240 Meteorology 4 Credits
This course is the study of Earth's atmosphere and weather. Topics include atmospheric composition and structure, solar radiation and seasons, atmospheric pressure and wind, clouds, precipitation, storms, forecasting, and the impacts of climate change on weather. Weekly lab meetings will engage students in hands-on meteorological exercises.
Components: Class, Laboratory
GE: Natural Science
Prereqs/Coreqs: P. ENVSS 1040 or Instructor Consent

ENVSS 3330 Environmental Conservation 3 Credits
How to adequately conserve our environment in the face of global changes is one of the big questions of our time and depends on both science and policy to create effective solutions. This course explores the relationship between societies and the natural environment with an emphasis on conservation strategies, policies, and conflicts. Students will analyze the use and misuse of natural resources, global conservation initiatives, and the history of conservation thought and practice to understand the critiques and promise of various approaches to conservation.
Components: Class
GE: Social Sciences
Prereqs/Coreqs: P. Junior standing or (ENGLISH 1230 and ENVSS 1040)

ENVSS 3340 Biogeography 3 Credits
This course examines life on Earth, the biosphere, which extends from the deepest ocean miles into the atmosphere. Students will study the distribution of life worldwide, both past and present, and the factors that determine these patterns. Topics discussed include evolution, extinction, dispersal, altitudinal zonation, zoogeographic provinces, regional climate, vegetation structure, ecological succession, species richness, global climate change, biomes, and island biogeography.
Components: Class
Prereqs/Coreqs: P. ENVSS 1040 or BIOLOGY 1150 or BIOLOGY 1650 or BIOLOGY 1750 or consent of instructor

ENVSS 3510 Drones: Unmanned Aerial Systems (UAS) Operations and Imaging 3 Credits
This course is designed to provide students with hands-on experience with drone safety, operations, and image collection and processing. Students will learn the background and knowledge to successfully pass the FAA Part 107 licensing exam. Topics will include regulations, airspace classification and operating requirements, weather, loading and performance, and operations. Students will demonstrate their understanding through quizzes on content, classroom engagement, flight demonstration, and a course project. Students will also learn how drones are used by professionals in industry and government.
Components: Laboratory, Class

ENVSS 3520 Remote Sensing of the Environment 3 Credits
Introduction to the study of the environment through air photos and satellite imagery. Topics covered includes the principles of remote sensing, interactions of the electromagnetic spectrum with the atmosphere and earth's surface, aerial photographs, satellite systems, and sensors. The emphasis is on applications to climate change, landcover mapping, forestry, agriculture, and oceanography.
Components: Class, Laboratory

ENVSS 3530 Topics in Regional Geography 2-3 Credits
Selected world regions are studied in a traditional regional or topical format.
Components: Class
GE: Global Studies (former Int Ed), Social Sciences

ENVSS 3570 Fire Ecology 3 Credits
This course will integrate learning in the classroom, on the land, and in the laboratory to explore the key role of fire in nearly all of Earth's terrestrial ecosystems. Students will examine the relationship between fire and vegetation patterns from ecological to evolutionary time scales, with emphasis placed on the role of people in shaping historical patterns of fire and how we engage with fire as a society. Students will translate course content to application through management, conservation, and stewardship actions.
Components: Field Studies, Laboratory, Class
Prereqs/Coreqs: P. ENVSS 1040 or ENVSS 2370 or BIOLOGY 1750 or ECORES 1010 or Instructor Consent

ENVSS 3630 Geography of Latin America 3 Credits
The geographic region of Latin America is comprehensively studied, both regionally and topically. Topics include those from both physical and human geography.
Components: Class
GE: Global Studies (former Int Ed), Social Sciences
Prereqs/Coreqs: P. a 1000-level course in ENVSS (formerly GEOGRPHY) or consent of instructor

ENVSS 3750 The Western Trip: Regional Studies of Environment and Society in the Western United States 1-4 Credits
This course trip is built around an extended place-based experience in selected regions of the western United Sates. Topics of study include physical, human, and environmental geography.
Components: Field Studies
Prereqs/Coreqs: P. consent of instructor

ENVSS 3850 Geography of the National Parks 3 Credits
This course examines the National Park System (NPS) of the United States. Issues of conservation and natural resource management, politics, culture, and Indigenous rights will be explored. An accompanying course trip is required.
Components: Discussion, Class
Prereqs/Coreqs: P. a previous course in ENVSS (formerly GEOGRPHY) or consent of instructor

ENVSS 3930 Geography of Asia 3 Credits
A regional and topical comprehensive study of the geographic regions of South Asia, Southeast Asia, and East Asia. Topics include those from both physical and human geography.
Components: Class
GE: Global Studies (former Int Ed), Social Sciences
Prereqs/Coreqs: P. a 1000-level course in ENVSS (formerly GEOGRPHY) or consent of instructor

ENVSS 3950 Guided Research 1-3 Credits
Students participate and lead in various phases of the research process in close collaboration with a faculty member. This course develops students' research and professional skills and culminates in a formal presentation and/or written report.
Components: Field Studies, Laboratory

ENVSS 4040 Python for GIS 3 Credits
This course will introduce Python within the context of ArcGIS, starting with the basics and foundations of Python then working up to creating tools and tasks within Python for ArcGIS. Knowledge of Python can enhance the GIS experience and make available tools and processes not accessible through ArcGIS desktop. A working knowledge of Python will make produce a more efficient GIS user and a more attractive job candidate. No previous programming experience is assumed, but knowledge of ArcGIS is critical.
Components: Laboratory, Class
Prereqs/Coreqs: P. ENVSS 3230 or equivalent

ENVSS 4120 Special Topics in Environment and Society 2-3 Credits
An in-depth exploration of a specific environmental topic developed by the faculty instructor.
Components: Seminar, Laboratory
Prereqs/Coreqs: P. junior standing

ENVSS 4150 Global Environmental Change 3 Credits
Environmental change, especially climate change, creates the framework in which all economic, conservation, and policy decisions are made and is a key issue in pursuing a sustainable society. This course will introduce you to the diverse methods used to study past and current environmental change and will give you a broad understanding of the state of knowledge in this critical area.
Components: Class
Prereqs/Coreqs: P. ENVSS 1040 or BIOLOGY 1750 or consent of instructor

ENVSS 4330 Advanced Geographic Information Systems 4 Credits
This course builds on concepts covered in ENVS 3230 Geographic Information Systems with an emphasis on spatial analysis using advanced methods for rasters and vectors.
Components: Laboratory, Class
Prereqs/Coreqs: P. ENVSS 3230

ENVSS 4530 Historical Geography of the United States 3 Credits
Recreation of past geographies; changes through time in the physical and cultural environment.
Components: Class
Prereqs/Coreqs: P. 3 credits in ENVSS (formerly GEOGRPHY) or consent of instructor

ENVSS 4660 Cooperative Field Experience 1-8 Credits
In this course, the student will partner with a cooperating agency, business, organization, or institution. The nature of the partnership, assignment, experience, number of credits, and method of evaluation will be stipulated in a learning contract between the student, faculty mentor, and external partner.
Components: Field Studies
Prereqs/Coreqs: P. consent of department chair

ENVSS 4760 Place-Based Pursuits in Environmental Sciences and Society 1-8 Credits
Place-based, experiential learning that will span one to eight weeks duration to study environmental systems and their relation to society firsthand in North America or overseas.
Components: Field Studies

ENVSS 4920 Independent Study in Environmental Science and Conservation 1-3 Credits
Independent work on a particular topic or problem proposed by the student that is approved and overseen by a faculty and/or instructional staff member.
Components: Independent Study
Prereqs/Coreqs: P. consent of department chair

ENVSS 4950 Environment and Society Seminar 3 Credits
Students participate in a community of learning dedicated to special topics in Environment and Society. May include the development of geographic thought through readings, discussion, library research, and/or organization and presentation of research data.
Components: Seminar
Prereqs/Coreqs: P. Completion of 24 credits of ENVSS (formerly GEOGRPHY) courses and department consent