Environmental Sciences Courses (ENVS)

This is a list of all environmental sciences courses. For more information, see Environmental Sciences.

**ENVS:1080 Introduction to Environmental Science** 3-4 s.h.
Biological and physical character of the Earth; interaction of humans with the environment, including impacts on ecosystems, climate, natural processes, resources; alternative options, including sustainability, waste management, energy, land reform. GE: Natural Sciences with Lab; Natural Sciences without Lab. Same as EES:1080.

**ENVS:1081 Introduction to Environmental Sciences Laboratory** 1 s.h.
Laboratory component of EES:1080. Requirements: completion of 3 s.h. in EES:1080 or ENVS:1080; or 3 s.h. of transfer equivalent. GE: Natural Sciences Lab only. Same as EES:1081.

**ENVS:1085 Fundamentals of Environmental Science** 4 s.h.
Interdisciplinary study of how Earth's natural systems interact, how these systems affect society, and how they respond to human activity; how environmental problems can be solved and avoided by drawing upon knowledge in disciplines as diverse as ecology, anthropology, economics, chemistry, and political science; blended instructional environment, including traditional lectures, discussions in TILE classrooms, laboratory, online learning, peer-reviewed writing exercises, and service learning. Offered fall semesters. GE: Natural Sciences with Lab. Same as EES:1085.

**ENVS:1115 The History and Science of Oil** 3 s.h.
Historical perspective on business, science, geology, technology, politics, environment, and culture of the global oil industry; the rise of oil as the most influential international business of the last 150 years, the material foundation of economies, a major force in world politics, a shaper of daily life, and a guide to understanding Earth's deep history. Offered fall semesters. GE: Historical Perspectives. Same as EES:1115, GEOG:1115, HIST:1115.

**ENVS:2001 Second-Year Field Trip for Earth and Environmental Sciences** 1 s.h.
Opportunity for students to begin developing an appreciation of earth system and earth history scales; application of classroom learning to field-based inquiry; real-world examples of introductory course material in an outdoor classroom setting. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080. Requirements: geoscience or environmental sciences major. Same as EES:2001.

**ENVS:2200 Historical Geology** 4 s.h.
Framework of earth history that is essential to understand how the earth system works; investigation of physical, biological, atmospheric, oceanographic, and chemical history of the earth to prepare for further earth and environmental science courses. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080 or EES:1085 or ENVS:1085. Same as EES:2200.

**ENVS:2673 Ecology** 3 s.h.
Adaptations of organisms to their physical and biological environments; organism-environment interactions; population biology; interactions between species; ecology of communities, ecosystems; human impact on ecosystems. Prerequisites: BIOL:1411 and BIOL:1412. Recommendations: a basic statistics or calculus course. Same as BIOL:2673.

**ENVS:3000 Environmental Sciences Seminar** 1 s.h.
Role of sciences in environmental issues and problems; progression from observation to evaluation to design of better questions and experiments. Requirements: environmental sciences major.

**ENVS:3001 Third-Year Field Trip for Earth and Environmental Sciences** 1 s.h.
Opportunity for students to apply their major course work to real-world problems; field trip to visit parks, mines, and/or quarries in Missouri and Arkansas that illustrate many of the lessons learned in EES:2410 and EES:3500. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080 or EES:2410. Requirements: geoscience or environmental sciences major, and junior standing. Same as EES:3001.

**ENVS:3020 Earth Surface Processes** 3 s.h.
Basic geomorphic and environmental processes that shape the earth's surface; emphasis on erosion, transport, deposition by land mass movement (creep, landslides, earth flow), fluid agents (wind, water, ice); methods used to study these processes. Prerequisites: EES:1050 or EES:1080 or ENVS:1080 or GEOG:1020 or EES:1085 or ENVS:1085. Same as EES:3020, GEOG:3020.

**ENVS:3030 Conservation Paleobiology** 4 s.h.
Exploration of how near- and deep-time geologic record pertains to conservation; restoration targets; best practices for conservation of ecosystems; human impacts. Same as EES:3030.

**ENVS:3050 Geology of Iowa** 2 s.h.
Exploration of geologic history responsible for landscape, soil, rocks, fossils, water, and natural resources of Iowa; background of Iowa's natural history; preparation for K-12 educators to deliver earth and environmental science content in their own classrooms, utilizing natural landscapes in Iowa. Same as EES:3050.

**ENVS:3051 Geology of Iowa Field Trip** 1 s.h.
Exploration of the geologic history responsible for landscape, soil, rocks, fossils, water, and natural resources of Iowa; field-based examples of Iowa's natural history; preparation for K-12 educators to deliver earth and environmental science content in their own classrooms utilizing the natural landscapes in Iowa. Recommendations: EES:3050. Same as EES:3051.

**ENVS:3095 Field Ecology** 4 s.h.
Analysis and interpretation of patterns and underlying physical and biotic basis for regional and local distributions of plants and animals of eastern Iowa; field observation, sampling, and laboratory analysis; conduction of several field research projects requiring collection, statistical analysis, and interpretation of data in short reports; field-oriented course. Recommendations: advanced undergraduate standing or graduate standing in ecology, environmental sciences, or geoscience.

**ENVS:3096 Winter Ecology** 2 s.h.
How seasons occur, thermoregulation, microhabitats, what animals are active, and winter plant identification; local area fieldwork.
ENVS:3097 Introduction to Bird Study  
2 s.h.  
Basic identification skills, bird banding, and bird ecology;  
Hageboeck Hall of Birds at the UI Museum of Natural History;  
local field study.

ENVS:3100 Introduction to Applied Remote Sensing  
4 s.h.  
Remote sensing of the earth's surface from aircraft, satellites;  
aerial photograph interpretation; remote sensing systems,  
methods, data analysis using electromagnetic spectrum and  
digital processing techniques, including visible, infrared,  
microwave radiation; remote sensing applied to geologic and  
environmental problems. Prerequisites: EES:1050 or EES:1080  
or EES:1030. Same as EES:3100.

ENVS:3110 Chemical Evolution of the Oceans  
3 s.h.  
Investigation of various physicochemical states oceans  
have assumed over the past four billion years of Earth  
history; use of isotope geochemistry as a proxy for ancient  
ocean conditions; focus on integrated Earth system science,  
paleoceanographic and paleoclimate modeling, role of  
chemical stratigraphy in deciphering past climate states of  
ocean-atmosphere system; relationship between chemical  
changes in ocean/atmosphere and biological systems of the  
Earth. Same as EES:3110.

ENVS:4001 Fourth-Year Field Trip for Earth and  
Environmental Sciences  
2 s.h.  
Application of core course learning to real-world examples;  
students develop a broader understanding of interrelated  
aspects of earth and environmental sciences as truly  
integrated scientific endeavors; field trip to Big Bend  
National Park to highlight a wide range of geoscience and  
environmental science studies and provide students an  
opportunity to apply all aspects of their training to the  
amazing geologic landscape of southwest Texas; capstone  
field experience for students heading into their senior year.  
Prerequisites: EES:2831. Requirements: geoscience or  
environmental sciences major, and senior standing. Same as  
EES:4001.

ENVS:4700 Evolution of Ecosystems  
3 s.h.  
Evolutionary history of terrestrial and marine ecosystems;  
et ecological processes from population to ecosystem levels;  
community assembly, trophic levels, networks, biodiversity  
dynamics; practical aspects of paleoecological data collection,  
statistical analysis, modeling. Requirements: two courses in  
geoscience, biology, environmental sciences, anthropology, or  
geography. Same as EES:4700.