Environmental Science - ENVI

Courses

ENVI 1010 INTRODUCTION TO ENVIRONMENTAL SCIENCE (1) LEC. 1. Introduction to the environmental science field and the ENVI major. Course may be repeated for a maximum of 3 credit hours.

ENVI 1020 FUNDAMENTALS OF ENVIRONMENTAL SCIENCE (3) LEC. 3. Preference given to students for whom the course is required. Survey of fundamental concepts, issues, and concerns related to environmental science.

ENVI 1030 ENVIRONMENT AND LIFE (4) LEC. 3. LAB. 3. This course is a lecture/lab course integrating principals of basic science with the impacts of humans on the environment. Topics will include population dynamics, land use change, energy, pollution, water availability, climate, human-environment interactions, biodiversity environmental policy, and sustainability. The laboratory component of the class will challenge students to observe phenomena in the world around them, construct and test hypotheses, and draw conclusions on the management and solutions to environmental problems in the world today.

ENVI 3000 INTRODUCTION TO STREAM RESTORATION (4) LEC. 2. LAB. 4. Introduction to concepts necessary for stream restoration design, construction, and maintenance and how they relate to the physical, chemical and biological processes of streams. Students will participate in research associated with stream restoration by assessing steam stability and classifying streams.

ENVI 4000 ENVIRONMENTAL REGULATION AND MANAGEMENT APPLICATIONS (3) LEC. 3. Pr. ENVI 1010 and ENVI 1020. This course provides an introduction to and overview of how municipal, state and federal regulations and programs are used in environmental management. The spectrum and development of environmental requirements, responsibilities, and direct applications as to the release of pollutants to air, soil and water are explored.

ENVI 4950 ENVIRONMENTAL SCIENCE SENIOR SEMINAR (2) LEC. 2. Pr. (ENGL 1120 or ENGL 1127) and ENVI 1010 and ENVI 1020. Departmental approval. This course will cover oral and written professional presentations, assessment of students in the ENVI major via standardized testing, and student assessment via exit surveys.

ENVI 4980 UNDERGRADUATE RESEARCH (2-4) IND. Departmental approval. Directed research in the area of specialty within the department. Course may be repeated for a maximum of 4 credit hours.

ENVI 5100 CLIMATE CHANGE IMPACTS (3) LEC. 3. An overview of climate change for the non-climate scientist, how climate change affects global environments (forests, oceans, lakes, coasts, agriculture) in recent time periods and how historic records are used to study past climate change impacts.

ENVI 5200 ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN ENVIRONMENTAL SCIENCE (4) LEC. 3. LAB. 2, LLB. 0. Pr. (STAT 2510 or STAT 2513) and (MATH 1610 or MATH 1613 or MATH 1617). This course introduces environmental science students to the basics of artificial intelligence (AI) and machine learning (ML) and their applications in environmental science. Students will learn how to use AI/ML tools to analyze large and complex environmental data sets, make predictions, and identify patterns that are not visible to the naked eye. Students will become familiar with the potential and limitations of AI/ML in environmental science and what ethical considerations should be made.

ENVI 6100 CLIMATE CHANGE IMPACTS (3) LEC. 3. An overview of climate change for the non-climate scientist, how climate change affects global environments (forests, oceans, lakes, coasts, agriculture) in recent time periods and how historic records are used to study past climate change impacts.

ENVI 6200 ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING IN ENVIRONMENTAL SCIENCE (4) LEC. 3. LAB. 2. This course introduces environmental science students to the basics of artificial intelligence (AI) and machine learning (ML) and their applications in environmental science. Students will learn how to use AI/ML tools to analyze large and complex environmental data sets, make predictions, and identify patterns that are not visible to the naked eye. Students will become familiar with the potential and limitations of AI/ML in environmental science and what ethical considerations should be made.