ENVS - ENVIRONMENTAL SCIENCE

ENVS 200
Introduction to Environmental Science
3 Credits
This course provides an introduction to the interdisciplinary nature of environmental science. Students will learn about the relationships between geological materials, air, water, soil, and ecosystems and the interconnections between biology, Earth science, and environmental science. Human interactions with the environment and environmental change will be examined on local and global scales by exploring issues such as climate change (past, present, and future), environmental pollution, environmental monitoring and remediation, endangered species, habitat loss, and land reclamation. Aspects of environmental policy and assessment will be introduced.
Prerequisites: Minimum grades of C- in EASC 102 and in BIOL 108.

ENVS 300
Principles of Environmental Science
3 Credits Weekly (3-1.5-0)
This course provides an introduction to the interdisciplinary nature of environmental science. Students will learn about the relationships between geological materials, air, water, soil, and ecosystems, and the interconnections between ecology, Earth science, and chemistry. Human interactions with the environment and environmental change will be examined on local and global scales by exploring issues such as climate change (past, present, and future), environmental pollution, environmental monitoring and remediation, endangered species, habitat loss, and land reclamation. Aspects of environmental policy and assessment will be introduced.
Prerequisite: Minimum grades of C- in BIOL 208, EASC 102, EASC 221, and CHEM 261.

ENVS 323
Hydrogeology
3 Credits Weekly (3-3-0)
In this course students will study groundwater systems, from infiltration at the soil surface to deep aquifer dynamics. Core topics include how groundwater moves, groundwater resources, the role of groundwater in geologic processes, and controls on groundwater chemistry. The course will also address how pollutants are transported through groundwater, the principles behind the movement of contaminants, and strategies for the remediation of contaminated sites. Through hands-on labs coupled with industry-standard computational tools, students will engage in modeling exercises that replicate groundwater flow, solute transport, and chemical reactions in the subsurface. This applied experience is complemented by a theoretical foundation provided through lectures and a critical literature review.

ENVS 398
Independent Study
3 Credits Total (0-0-72)
This course permits an intermediate-level student to work with a faculty member to explore a specific topic in depth through research or through directed reading of primary and secondary sources. The student plans, executes, and reports the results of their research or study project under the direction of a faculty supervisor. To be granted enrollment in the course, the student must have made prior arrangements with a faculty member willing to supervise their project. This course can be taken twice for credit.

ENVS 492
Environmental Sciences Work Integrated Learning
3 Credits Total (0-0-90)
The student engages in work integrated learning in environmental sciences in a professional setting that would typically last for one semester. Any placement needs department approval. After the successful completion of the placement, there is a critical analysis/demonstration of the learning accomplished. The contact hours are a minimum of 90 hours but can involve more depending on the placement. Consent of the Department is required.

ENVS 495
Special Topics in Environmental Sciences
3 Credits Weekly (0-0-3)
This course involves reading, discussing, and critically evaluating current research on specialized topics in Environmental Science. Topics covered vary with the interests of students and faculty. Note: This course is intended for students in the final year of their degree. This course may be taken twice for credit, provided the course topic is different.

ENVS 498
Advanced Independent Study
3 Credits Total (0-0-72)
This course permits a senior-level student to work with a faculty member to explore a specific topic in depth through research or through directed reading of primary and secondary sources. The student plans, executes, and reports the results of their research or study project under the direction of a faculty supervisor. To be granted enrollment in the course, the student must have made prior arrangements with a faculty member willing to supervise their project. This course can be taken twice for credit.
Prerequisites: A minimum grade of B- in at least one 300-level course in Biological Sciences, Chemistry, or Earth and Planetary Sciences; faculty mentors may require specific prerequisites according to the project needs.