

# ENVIRONMENTAL SCIENCE (ENVS)

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## **ENVS 2200. Environmental Policy, Governan. (3 Credits)**

Environmental Policy, Governance, and Compliance Credit Hours: (3-0-3) This course introduces the principles of environmental policy, governance, and regulatory compliance at local, national, and global scales. Students examine how environmental laws and policies are developed, implemented, and enforced, and how scientific information—particularly biological and ecological data—inform environmental decision-making. Topics include major U.S. environmental statutes, regulatory agencies, international environmental agreements, policy instruments, and compliance mechanisms affecting ecosystems, biodiversity, and public health. Emphasis is placed on the roles of institutions, stakeholders, and governance frameworks in managing and protecting biological and environmental systems.

## **ENVS 2202. Environmental Science. (3 Credits)**

Credit Hours: (3-0-3) This course is an interdisciplinary course integrating principles from biology, chemistry, ecology, geology, and non-science disciplines as related to the interactions of humans and their environment. Issues of local, regional, and global concern will be used to help students explain scientific concepts and analyze practical solutions to complex environmental problems. Emphasis is placed on the study of ecosystems, human population growth, energy, pollution, and other environmental issues and important environmental regulations.

## **ENVS 3000. Env Monitorin & Restoration. (3 Credits)**

This course introduces the principles and practices of environmental monitoring and ecosystem restoration. Students examine methods for assessing environmental conditions, detecting change, and evaluating ecosystem health using field, laboratory, and data-driven approaches. Topics include monitoring of water, soil, air, and biological systems; restoration ecology; mitigation strategies; and evaluation of restoration success. Emphasis is placed on applied techniques, data interpretation, regulatory contexts, and real-world environmental problem-solving. The course integrates scientific methods with sustainability and management perspectives relevant to environmental science and applied environmental careers.

## **ENVS 3000L. Env Monitoring & Rest Lab. (3 Credits)**

This lab course complements ENVS 3000 and should be taken concurrently. Together these two courses introduce the principles and practices of environmental monitoring and ecosystem restoration. Students examine methods for assessing environmental conditions, detecting change, and evaluating ecosystem health using field, laboratory, and data-driven approaches. Topics include monitoring of water, soil, air, and biological systems; restoration ecology; mitigation strategies; and evaluation of restoration success. Emphasis is placed on applied techniques, data interpretation, regulatory contexts, and real-world environmental problem-solving. The course integrates scientific methods with sustainability and management perspectives relevant to environmental science and applied environmental careers.

## **ENVS 4100. Renewable Energy & Society. (3 Credits)**

Prerequisites: GEOL 3603, ENVS 2202, BIOL 1108K, and at least one of the Minor's Electives (BIOL 3500, BIOL 3510, ENVS 3000, STEM 2600) or Permission from Instructor This course examines renewable energy technologies within their environmental, social, economic, and policy contexts. Students explore major renewable energy systems—including solar, wind, hydroelectric, geothermal, and bioenergy—and analyze their interactions with ecosystems, communities, and institutions. Emphasis is placed on energy transitions, sustainability, equity, land use, environmental impacts, and public acceptance. Through case studies, data analysis, and discussion, students critically evaluate the role of renewable energy in addressing climate change and shaping sustainable societies. The course integrates scientific understanding with social and policy perspectives relevant to environmental science.

## **ENVS 4905. Undergrad Research Env Sci. (1-3 Credits)**

Prerequisites: GEOL 3603, ENVS 4100, and at least one of the Minor's Electives (BIOL 3500, BIOL 3510, ENVS 3000, STEM 2600) or Permission from Instructor Independent Research under the supervision of a faculty mentor. Includes literature review, laboratory project, and presentation of results. The student and mentor would determine the amount of credits the course will carry (between 1-3) depending on the complexity of the project to be undertaken.