

**NOVA COLLEGE-WIDE COURSE CONTENT SUMMARY
GOL 225 - ENVIRONMENTAL GEOLOGY (4 CR)**

Course Description

Explores the interaction between man and his physical environment. Stresses geologic hazards and environmental pollution utilizing case histories. Lecture 3 hours. Laboratory 3 hours. Total 6 hours per week.

General Course Purpose

The purpose of the environmental geology course is to provide the student in the physical or earth sciences with a course in geologic hazard identification and mitigation, the effect human activities on the Earth environment, and geological phenomena related to global resources. This course is intended to be a "second year" geology course comparable to an introductory environmental geology course in other schools. The student should have a basic knowledge of Earth science. The course focuses on three areas of study: 1) geologic hazards such as floods, landslides, volcanoes and earthquakes; 2) geologic resources such as metals, stone, fossil fuels, and water; and, 3) pollution issues such as greenhouse gases, solid waste, sewage, and hazardous materials.

Course Prerequisites/Co-requisites

The student is expected to have completed GOL 105 or an equivalent introductory geology course (eg. Earth Science, Oceanography 111, or equivalent via permission of the instructor).

Course Objectives

Upon completion of the course, the student will be able to:

- Demonstrate an understanding of earth materials and fundamental geological processes.
- Understand potential impacts of natural geologic events on society and some of the potential impacts of human activities on our environment.
- Demonstrate awareness of competing concerns (including economic, social, & biological tradeoffs) that arise in environmental geologic decision making.

Major Topics to be Covered

- A. Earth Materials and Processes
- B. Natural Geologic Hazards
 - 1. Volcanoes
 - 2. Earthquakes
 - 3. Floods
 - 4. Mass Wasting
 - 5. Coastal Hazards
 - 6. Extraterrestrial Impacts
- C. Resources and Pollution
 - 1. Water Resources
 - 2. Water Pollution
 - 3. Mineral Resources
 - 4. Energy and Resources
 - 5. Soils and Environment
 - 6. Waste as a Resource: Waste Management
 - 7. Air Pollution (including greenhouse gases)
- D. Environmental Management and Society
 - 1. Global Climate Change
 - 2. Geology, Society, and the Future