

# North Hennepin Community College

## GEOL 1160: Global Environmental Field Geology

### A. COURSE DESCRIPTION

Credits: 4

Lecture Hours/Week: \*.\*

Lab Hours/Week: \*.\*

OJT Hours/Week: \*.\*

Prerequisites: None

Corequisites: None

MnTC Goals: Goal 03 - Natural Science, Goal 10 - People/Environment, Goal 03 - Natural Science, Goal 10 - People/Environment

An introduction to environmental geology with emphasis on the impact that globalization has on the environments and on geologic resources of various regions of the world, including the United States. Students will examine the geologic development of a particular region and how various cultures and societies approach environmental and geologic resource management problems. Students will explore their own community for the presence of globalization and they will travel to the country or region of study to meet with environmental experts and to observe first-hand the issues covered in this course. A 7-10 day field trip to the study region is mandatory. Course is open to all students. (3 hours lecture, 3 hours lab)

**B. COURSE EFFECTIVE DATES:** 07/23/2002 - Present

### C. OUTLINE OF MAJOR CONTENT AREAS

1. Topics covered: Basic geologic principles, plate tectonics, landform development, use of topographic maps, identification of rocks, data collection and analysis, geologic development of mineral resources, mineral resource management and policy development, impact of globalization on regional geology and geologic resource management.

#### **D. LEARNING OUTCOMES (General)**

1. Demonstrate understand of the scientific method, what science is, how it works and what its place in a global society is.
2. Analyze and critique current theories, hypotheses and policies as well as propose their own for observations in lecture, lab and in the field.
3. Evaluate field data by making geologic and environmental interpretations using an understanding of the geology and geologic resources of the region.
4. Develop and/practice individual and collaborative skills in processing geologic and environmental data, developing hypotheses and means to test them, and predicting outcomes related to the hypotheses proposed.
5. Use quantitative and graphic methods to describe or model 3-dimensional geologic and/or environmental processes students will enhance their ability to think and visualize spatially.
6. Enhance their powers of observation, and enlarge their awareness by recognition of the complexities globalization and its impact on the natural environment.
7. Describe the geology and oceanography (where applicable) of the study area and use geologic principles and rock and/or mineral identification to examine modern and ancient earth systems interaction and cyclicity of/within the study region.
8. Understand and use remote sensing techniques, topographic mapping, and environmental assessment to examine the target area of interest.
9. Recognize/acknowledge that different approaches may be taken to solve environmental problems based on the geology and/or geologic resources of a particular region and/or culture.
10. Gain an understanding of the geologic history, conservation and environmental laws, policies, and philosophies of the study region.

#### **E. Minnesota Transfer Curriculum Goal Area(s) and Competencies**

##### Goal 03 - Natural Science

1. Demonstrate understanding of scientific theories.

##### Goal 10 - People/Environment

1. Explain the basic structure and function of various natural ecosystems and of human adaptive strategies within those systems.

##### Goal 03 - Natural Science

1. Formulate and test hypotheses by performing laboratory, simulation, or field experiments in at least two of the natural science disciplines. One of these experimental components should develop, in greater depth, students' laboratory experience in the collection of data, its statistical and graphical analysis, and an appreciation of its sources of error and uncertainty.
2. Communicate their experimental findings, analyses, and interpretations both orally and in writing.
3. Evaluate societal issues from a natural science perspective, ask questions about the evidence presented, and make informed judgments about science-related topics and policies.

##### Goal 10 - People/Environment

1. Discern patterns and interrelationships of bio-physical and socio-cultural systems.
2. Describe the basic institutional arrangements (social, legal, political, economic, religious) that are evolving to deal with environmental and natural resource challenges.
3. Evaluate critically environmental and natural resource issues in light of understandings about interrelationships, ecosystems, and institutions.
4. Propose and assess alternative solutions to environmental problems.
5. Articulate and defend the actions they would take on various environmental issues.

**F. LEARNER OUTCOMES ASSESSMENT**

As noted on course syllabus

**G. SPECIAL INFORMATION**

None noted