

**Common Course Outline for: GEOL 1111 – Environmental Geology Lab****A. Course Description**

1. Number of credits: 1
2. Lecture hours per week: 0  
Lab hours per week: 2
3. Prerequisites: GEOL1110
4. Co-requisites: GEOL1110
5. MnTC Goals: Goal 3 - Natural Science and Goal 10 – People and the Environment

This class is an optional “add-on” lab for Environmental Geology (Geology 1110) only for students who are concurrently or previously enrolled in Geology 1110 and wish to have Geology 1110 count for a Goal 3 lab science requirement.

**B. Date last revised:** March, 2015**C. Outline of Major Content Areas**

- a. Environment and human activity
- b. Plate Tectonics
- c. Earthquake analysis
- d. Volcanoes
- e. Groundwater contamination
- f. Stream monitoring and floods
- g. Mass movements
- h. air pollution
- i. Climate change and greenhouse gases
- j. Landfill siting
- k. Water pollution analysis
- l. Lake sediment analysis
- m. glaciers
- n. topographic map reading

**D. Course Learning Outcomes**

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

1. Interpret and analyze graphic data bases, including a variety of maps, data tables, figures, and graphs.
2. Demonstrate a working knowledge of the scientific method by formulating hypotheses about environmental processes, collecting and analyzing data, and assessing the validity of your hypotheses based on your data analysis.
3. Communicate lab analyses and conclusions both orally, within lab work groups,

and in the form of prepared written responses

4. Explain using scientific theories how geological processes function and interact.
5. Describe the fundamental interrelatedness of geological systems and socio/cultural systems in the terms of some of the ways in which people affect the environment and the ways in which humans adapt to natural systems.
6. Describe the range of responses that have been developed by various political and social institutions to meet the challenges of natural resources management.
7. Develop a basis for evaluating critical environmental issues and their solutions from a scientific perspective.
8. Create appropriate personal responses to a variety of environmental issues using a critical perspective.

#### **E. Methods for Assessing Student Learning**

Instructors may use any or all of the following, but are not limited to:

- a. Graded lab exercises
- b. Lab exams
- c. Any other additional work assigned

#### **F. Special Information**

- a. Students should consult their course syllabus for specific grading policies.