

Common Course Outline for: GEOL 1110 – Environmental Geology**A. Course Description**

1. Number of credits: 3
2. Lecture hours per week: 3
Lab hours per week: 0
3. Prerequisites: None
4. Co-requisites: None
5. MnTC Goals: Goal 3 - Natural Science and Goal 10 – People and the Environment

This course investigates the relationship between people and the environment, focusing on the distribution and use of geologic resources, natural hazard and their effects on human activity, and human impacts on the physical environment. This course includes a lab-like experience.

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

- a.Environment and human activity
- b.Global perspectives on Environmental Geology
- c.Resources and economic development
- d.Minerals
- e.Energy resources
- f. Impact of resource exploitation
- g.Water resources
- h.Economics and pollution control
- i. Environmental constraints and economic development
- j. Hazardous wastes
- k.Risk assessment
- l. Volcanoes
- m. Earthquakes
- n.Mass movements
- o.Floods and coastal processes
- p.Erosion and sedimentation

D. Course Learning Outcomes

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

1. Explain using scientific theories how geologic processes function and interact.
2. Explain the Earth's geologic systems both verbally and quantitatively including the various components of the earth, their controls, their interrelationships, and their global regional distribution.
3. Explain the fundamental interrelatedness of geological systems and socio/cultural

systems in terms of some of the ways in which people affect the environment and the ways in which humans adapt to natural systems.

4. Communicate an understanding of the process of scientific inquiry as it relates to the earth sciences, including the formulation of hypotheses, collection and analysis of data, and assessment of the validity of hypotheses and forecasts.
5. Evaluate the range of responses that have been developed by various political and social institutions to meet the environmental challenges of energy, mineral and water resource management.
6. Discuss appropriate human responses to issues related to environmental hazards.

E. Methods for Assessing Student Learning

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

- a. Minimum of two fifty minute exams
- b. Lab exercises
- c. Any other additional work assigned

F. Special Information

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