Degree Applicable

Glendale Community College
January 2010

COURSE OUTLINE

Geology 102
Environmental Geology

I. Catalog Statement

Geology 102 is the study of the earth or natural hazards like earthquakes, volcanism, climate change, pollution and human interactions with the earth environment.

Units - 3.0
Lecture Hours - 3.0

Prerequisites: None

II. Course Entry Expectations

Skill Level Ranges: Reading 5; Writing 5; Listening/Speaking 5; Math 3

III. Course Exit Standards

Upon successful completion of the required course work, the student will be able to:
1. describe the geoenvironmental hazards like earthquakes and volcanic activity;
2. describe the geoenvironmental hazards such as landslides, floods, erosion, and climate change;
3. examine the geoenvironmental hazards attendant to human interference with the earth's environment; 4. evaluate the environmental issues associated with utilization and management of mineral, water and energy resources;
5. articulate the ethical, socioeconomical and/or public policy aspects of global change and related issues from the geological perspective.

IV. Course Content

A. The basic principles and concepts 10 hours
   1. The geoenvironmental problems and their causes
   2. Earth's system, earth materials and geologic time
   3. Plate tectonics

B. Geologic hazards of internal origin 10 hours
   1. Basic principles of earthquake geology
   2. Earthquakes and the related phenomena
   3. Volcanism and volcanic hazards
C. Other geologic hazards 10 hours
   1. Streams and flooding
   2. Slope stability, landslides and subsidence
   3. Coastal processes and hazards
D. Resources and pollution 10 hours
   1. Water resources and pollution
   2. Mineral resources and their exhaustibility
   3. Energy resources, conventional versus alternative
   4. Soils and environment
   5. Air pollution
E. Global change and environmental management
   1. Global climate change
   2. Geology, society and the future
   3. Issues in environmental ethics, economics and law

V. Methods of Presentation

The following instructional methodologies may be used in the course.
1. classroom lectures and in-class demonstrations;
2. instructor analysis of student work'
3. group discussions and peer analysis;
4. screening of instructional videos;
5. use of computer-assisted learning and the internet.

VI. Assignments and Methods of Evaluation

1. Students are assigned exercises to develop skills of retention of lecture and textbook materials.
2. Students are given periodic quizzes and tests, including thee mid-term and final examinations.
3. Student work, including any project/research reports and term papers, is presented for instructor’s analysis and grading.
4. Student reports and/or projects are presented in the class for the critique by peers and instructor.

VII. Textbook

Marshak, Earth Text PKG W/Workbook. Norton publisher, ISBN: 0393183068
Third (current) Edition
Marshak, E Book PKG W/Workbook. Norton publisher, ISBN: 0393185818

VIII. SLO

1. Students will gain an appreciation for how science works and difference between evidence and theory.
2. Students will be able to discuss natural disasters and the hazards associated with them.
3. Students will be able to ask questions related to human preparedness for natural disasters.
4. Students will be able to associate natural disasters with particular geographic and geologic locations and settings.