

COCONINO COMMUNITY COLLEGE  
COURSE OUTLINE

Revised by: Kurt Yuengling  
Status: Permanent  
Effective Term: Fall 2017

January 25, 2017

A. Identification:

1. Subject Area: Geology (GLG)
2. Course Number: 102
3. Course Title: Historical Geology
4. Credit Hours: 4
5. Course Description: Chronological study of the sequence of events involved in the formation and development of the earth and its inhabitants as revealed in the geological record. General Education: Physical and Biological Sciences. Prerequisite: GLG 101 or Consent of Instructor. Three lecture. Three lab. Fall, Spring.

B. Course Goals: To give students an understanding of how the principles of historical geology can be applied to interpreting the history of the Earth and the development of life as recorded in rocks and fossils.

C. Course Outcomes:

Upon successful completion of this course, student will:

1. use scientific method;
2. explain plate tectonic theory;
3. explain evolution theory and floral/faunal succession;
4. distinguish major events and life forms of Earth's history;
5. explain relative and absolute dating of materials;
6. identify index fossils and the time in which they lived;
7. explain the different processes of fossilization;
8. analyze strata using fossils, relative relationships, and sedimentary structures;
9. identify sedimentary rocks and minerals;
10. explain Earth's geologic history;
11. gain a fundamental understanding of the geologic shaping and sculpting of the Earth;
12. use basic and advanced tools for geologic assessment (e.g. Geologic maps, topographic maps, remote sensing applications);
13. and describe the geologic evolution of the Earth during the Precambrian Era, the Paleozoic Era, the Mesozoic Era, and the Cenozoic Era.

D. Course Outcomes Assessment will include:

1. research a paper and/or presentation about geology or geologic resources pertinent to the geologic history of the Earth;
2. labs examining Earth materials and processes;
3. exams pertinent to the basic geologic processes;
4. and exams pertinent to the geologic development and evolution of the Earth.

E. Course Content will include:

1. geologic time;
2. sedimentary rocks with emphasis on Colorado Plateau;
3. fossilization;
4. relative and absolute dating;
5. identification and age of fossils;

6. theory of evolutionary succession and environmental change;
7. theory of plate tectonics;
8. development of life through geological time;
9. development of Earth's continents and oceans through geological time;
10. theories of Earth's origin;
11. scientific method;
12. major geologic hazards of the Earth;
13. and current and past environmental or sustainability issues pertaining to the geologic resources of the Earth.