

Course: EES 40 Geology and the Earth

1. Date of Application: 12/1/2011
2. Name, Dept of Proposer: Greg Croft, environmental and earth science
3. Name of Dept/Program housing course: Environmental and earth science
4. Name of Chair/PD: William Perkins
5. How often is the course taught: yearly
6. Course Prerequisites: None
7. Unit value of course: 1
8. Normal Class Size: 25
9. Number of sections expected Fall 2012: 2
10. Number of sections expected Spring 2013: 0
11. Is the course appropriate for first-year students: Yes
12. Relevant Learning Goal(s): Scientific Understanding
13. Chair will oversee submission of student work: Yes
14. Chair will oversee instructor participation in norming/asst: Yes
  
15. Teaching: "EES-50 is not a required course for Environmental Science nor for Environmental Studies. It will be predominantly taken by Juniors and Seniors who are not science majors.

The first learning outcome of the Scientific Understanding learning goal will be met by covering the topics on the EES 050 schedule (part of the syllabus) in the lecture sections. These topics include major concepts and theories that explain the natural world, such as the origin of the earth; plate tectonics as related to the development of continents and ocean basins; and the origin, evolution and diversification of life

In addition, the process of science will be emphasized. Most content will be covered via lecture by the professor and via assigned textbook readings. Discussion and video clips may also be incorporated. Thus, we will be exploring the different concepts pertaining to the natural world in this class.

The second outcome of the Scientific Understanding learning goal requires a course to have a component of data collection and analysis. EES 50 is accompanied by a mandatory lab section that is 2 hours per week. In this lab, students will learn the process of scientific inquiry and hypothesis testing. Most weeks, students will collect data on different geologic topics. They will be analyzing and interpreting the collected data to validate or refute their hypothesis.

The third outcome of the Scientific Understanding learning goal is to explore the social and ethical implications of scientific inquiry. This learning outcome will be met through discussion pertaining to ethics of environmental degradation in the last section of the course. In this section of the course, students will be discussing the ethical implications of topics such as global warming and natural resource depletion in the class.

16. Learning: "Since the core learning outcomes are aligned with the course objectives, course learning assessment will also allow us to ascertain the meeting of core learning outcomes. Students will demonstrate their learning these principles and concepts through their midterm and final exams. The questions will be in both essay and multiple choice format to test the student's knowledge, comprehension and application of geological principles.

Essay questions will be incorporated to allow the student to demonstrate understanding of

the geological concepts and theories covered in the course.

The student learning in the process of scientific inquiry will be assessed using lab exercises that test one's ability to analyze data as well as through a capstone project at the end of the semester, in which each student chooses an area to study the stratigraphy, prepare a graphic description of it, and interpret the geologic history of the locality..

Assessment of student learning about social and ethical issues will occur through a two-page (double-spaced) paper due near the end of the semester. The student will write about one of several contemporary issues covered in class relating to current earth science issues, such as global warming and mineral resource depletion. The paper will look at different ethical perspectives on and possible social implications of the scientific issue chosen by the student.

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