

Environmental Geosciences (ENV 383)
University of Portland, Spring Semester 2007
Thursdays 7:10-9:55 pm
Franz Hall Lecture Hall

Scott Nowicki

Office Hours: BC 270, 6-7 pm Thursday
Available on Pilots UP discussion forum as scheduled

- Texts:** (1) Keller, E.A., *Environmental Geology* (8th Edition). Prentice Hall, NJ, 2000.
(2) Harris, S.L., *Fire Mountains of the West: The Cascade and Mono Lake Volcanoes* (3rd Edition). Mountain Press Publishing Company, MT., 2005.
(3) At least one additional book must be obtained from the list below, as determined in the first class meeting:
- (a) Reisner, M., *Cadillac Desert: The American West and It's Disappearing Water*. Penguin, 1993 (revised ed.).
 - (b) Diamond, J., *Collapse: How Societies Choose to Fail or Succeed*. Penguin, 2005.
 - (c) Kay, J.H., *Asphalt Nation: How the Automobile Took Over America and How We Can Take It Back*. University of California Press, 1998.
 - (d) Roberts, P., *The End of Oil: On the Edge of a Perilous New World*. Mariner, 2005.

Overview

This is an upper-level Earth Science course that will investigate the major tools, paradigms, and questions in Environmental Geological Sciences. There are no official prerequisites, although all students are expected to have taken at least basic courses in physics, chemistry and biology. This course is very reading-intensive, including a standard textbook, a regional volcanologic guidebook, and a popularized science book. As a result, students will have multiple reading assignments per class meeting, and be expected to complete them before each class.

Course Policies

Attendance

Perfect class attendance is essential to master the lecture material and in-class laboratory exercises. Considering the small number of classroom meetings, only one excused absence is allowed for the entire semester. After a second unexcused absence, students may be withdrawn from the course. An absence will only be considered excused if I am contacted with an appropriate reason before the missed class.

Assigned Readings

Assigned reading and additional homework must be completed before the start of each class. Reading to be completed by the next class meeting will be assigned during most classes, and will consist of the required texts, handout materials, and articles available on the web.

Book Assignment

There are a number of excellent books recently published that have been written to educate and entertain the general public on important current topics in the environmental sciences. We will take advantage of a few of these to investigate topics in detail that we will only be able to briefly discuss in class. Students are required to obtain one of the books listed above and read it on their own schedule. As the course progresses, we will schedule group meetings for each book to discuss the material. At the end of the course, each group will organize and present the book's major findings to the rest of the class.

Field Trips

Two in-town and one 2-day field trip will be a major part of the course, and will occur outside normal class times. For the two Portland-area excursions, transportation will not be supplied, and students will be expected to get to the field area unassisted. For the two-day field trip, transportation will be arranged, but students will be responsible for food and camping equipment. The field trips are not required, but attendance is encouraged, and absence will require additional coursework.

Exams

There will be a mid-term and a final exam. Attendance at each exam is mandatory. Each exam will consist of 10 essay questions from the material covered in class and in the assigned readings.

Grading Policy:

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| Mid-Term Exam | 25% |
| Book reading and Presentation | 25% |
| Field Trip Exercises | 25% |
| Final Exam | 25% |

| <u>Course Schedule</u> | <u>Topics</u> | <u>Notes/Assignments</u> |
|------------------------|-------------------------------------|----------------------------|
| Jan 18 | Geologic Time, Evolution | Pick additional book |
| Jan 25 | Rocks and Minerals, Plate Tectonics | Lab 1: Rocks and Minerals |
| Feb 1 | Fluvial Processes, Water Resources | Lab 2: Maps |
| Feb 8 | Energy Resources, Solid Waste Mgt. | |
| Feb 15 | Atmospheres and Air Pollution | |
| Feb 22 | Soils, Landslides | Field Trip #1 UP Landslide |
| Mar 1 | Mid-Term Exam, Climate Change 1 | |
| Mar 8 | Climate Change 2: Observations | |
| Mar 15 | Spring Break, No Class | |
| Mar 22 | Climate Change 3: Hazards | |
| Mar 29 | Volcanology: Eruptions and Rocks | Lab 3: Volcanic Rocks |
| Apr 5 | Volcanology: History and Future | Field Trip #2 Mt Tabor |
| Apr 12 | Coastal Processes, Oceans | |
| Apr 19 | Land-Use, Transportation | Field Trip #3 |
| Apr 26 | Student Presentations | |
| May 1 | Tuesday - Final Exam 7:00 pm | |