G473 ENVIRONMENTAL GEOLOGY
POLICIES AND PROCEDURES
Spring 2004 Term - Western Oregon University
3 CR TR 4:00 - 5:50 PM Natural Sciences Bldg, Rm 218

INSTRUCTOR: Dr. S. Taylor
OFFICE HOURS: T 3-4 PM, R 1:30-4 PM
By Appointment
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COURSE DESCRIPTION:

This course serves as an upper division introduction to environmental geology. The emphasis is placed on the technical aspects of human interaction with near-surface environments of the Earth. The range of topics include an overview of environmental and land-use regulations, geomorphic hazards (soil erosion, flooding, mass wasting, landslide, debris flow, coastal erosion), tectonic hazards (earthquakes, tsunamis, ground disturbance, volcanic eruptions), water resource issues (source, supply and quality), mining impacts, and waste management.

THE PROFESSOR'S PHILOSOPHY ON UPPER DIVISION EARTH SCIENCE / GEOLOGY COURSES:

The upper division Earth Science / Geology course sequence is designed for mature, serious students who are willing to work hard, play hard, have fun, and learn in-depth skills / concepts in a professional academic setting. By default, our student population is very diverse with a wide array of skills, interests, and career goals. The student population ranges from serious Earth Science majors with focused career objectives, to Environmental Studies minors to Science Education majors. As such, the professor is charged with serving a diverse array of student interests and career goals in the most professional manner possible. The problem-solving and technical skills acquired via training in the Earth Sciences are highly valuable (and marketable), regardless of career track. Students are expected to actively participate in the learning process and make a significant contribution to the academic integrity of the Earth Science program at Western Oregon University. The ultimate goal of the program is to provide graduates with the academic skills that will enable them to be highly competitive in graduate school or the career marketplace. *GO TEAM!*

TEXT:

Keller, E.A., 2000, Environmental Geology, 8th Ed., Prentice Hall, 562 p.

ADDITIONAL READING:

Journal and assorted text readings to be provided by the instructor on an as-needed basis.

CLASS NOTES:

A comprehensive set of instructor class notes are available for download via the internet. The class web site is at URL http://www.wou.edu/taylor ... and follow the links to the "G473 Environmental Geology" home page.

The class notes, lab exercises, answer keys, and study guides are available as Adobe Acrobat Reader files (*.pdf file). Acrobat Reader is free and is installed on many campus PC's. For home installation, Acrobat Reader is also available for download at the class web site, but you will be responsible for properly installing the software (and will do so at your own risk!). Based on prior student suggestions, I have assembled my class notes and made them available. These notes may be freely printed at any campus internet station (e.g. ITC Bldg - Student Lab, Library, local department computer labs). The notes are in outline form and are very comprehensive. "Exam Study Guides" will also be posted on the web site as the term progresses.

FIELD TRIPS

Attendance on field trips is mandatory, however alternative assignments can be arranged on an as needed basis for students with irreconcilable time conflicts. The University policy on field trips is that attendees must pay out-of-pocket for vehicle rental and mileage costs. Please be aware that additional class expenses will be required for field trips, these are typically charged administratively to student accounts. Given the close proximity of the class field trips, we may also opt for use of personal vehicles.

EVALUATIONS AND EXPECTATIONS:

Student performance will be evaluated on the basis of lab exercises, writing assignments, and two (2) exams. The following is a breakdown of evaluation points and letter grades:

Mid-Term Exam	100 pts	27%
Final Exam	125 pts	35%
Class Exercises	135 pts	38%
Total	360 pts	100%

Final Grading Scale

Percent Range of Total Points	Letter Grade	Percent Range of Total Points	Letter Grade
94-100%	A	77-79%	C+
90-94%	A-	73-76%	C
87-89%	B+	70-72%	C-
83-86%	B	67-69%	D+
80-82%	B-	63-66%	D
		60-62%	D-
		<60%	F

Exams: Exams will be administered at evenly spaced increments throughout the semester; the final will be 20% comprehensive with test material drawn from throughout the term. Exams will largely consist of essay questions and homework-type problems. *Warning: the exams are very comprehensive and will likely require a full 2+ hours to complete, please plan accordingly*.

Make-Up Exams: Under NO circumstances will make-up exams be administered without prior arrangement (at least five days) and good reason. Please show up on exam day!

Class and Lab Assignments: Class and lab assignments will be worked BOTH during class time and outside of class time each week. You will have lab, reading, and homework assignments that **may** take up to 3 or 4 hours to complete outside of class time, maybe more in some cases, depending on your skill levels and ability. Please plan your schedule accordingly. Due dates for class exercises will be prescribed by the instructor. Late work will be accepted up to 1 week after the due date, but will be automatically assessed a penalty of -20% off the point total.

Due to the volume of students assigned to the instructor each term, he will not be able to grade the lab exercise work in detail. The homework and lab assignments will be checked for completeness, with questions randomly chosen for content and accuracy. Grade points will be assigned on the basis of these two criteria. Exercise answer keys will be posted on the class web site by the instructor. **It is your responsibility to: (1)**

check your work against the lab / homework keys, (2) make sure you understand how to complete the exercises, (3) find help if you have trouble with lab exercises, and (4) study / learn the exercise skills and material for the exams.

A Note About Incompletes: No incomplete grades will be given during the last week of class. If you have a problem that warrants an incomplete, make arrangements prior to the last week (no exceptions!!).

Writing Assignments: Students are required to write a 300-500 word (1-2 typed pages) summary for each of the presentations given as part of the field trip and seminar series. This exercise is designed to enhance the writing skills of students. The format should include: (1) Introduction to the Problem / Issue, (2) Summary of Main Points of the Presentation, and (3) Final Discussion of the Relevance of the Presentation / Field Trip to Environmental Issues in the State of Oregon.

A variety of student writing guides are available on the class web site. The summaries should be neatly word-processed, double spaced, with 1 inch margins, and checked for spelling errors with a "spell checker" tool. Miss-spellled words will not be tolerated. Save your word-processing files as you may be required to modify and edit the summaries. Use the following format:

OTHER REQUIRED MATERIALS:

Students will also need access to a scientific calculator, ruler, protractor, and pentium-class desktop computer. You will be required to use these materials during lecture, lab, and exams. The Natural Sciences Computer Lab
will be available for student use during class time and at other times during the day. Weekend use of the computer lab is possible, with prior arrangement.

STUDENT HONOR POLICY:

Plagiarism and cheating will not be tolerated. Cheating includes copying others work and using cheat sheets on exams. However, students are encouraged to interact in small groups during class assignments, i.e. you can freely discuss concepts in all portions of the class, except exams.

A NOTE ABOUT LAB EXERCISES:

Lab exercises will be quantitative in nature with an expectation that students have or will develop skills in the areas of applied algebra and trigonometry. Students will learn computer applications with emphasis on data analysis and problem solving in the Earth sciences. As such, lab exercises will require an additional time commitment outside of the scheduled weekly meeting (i.e. you will have "homework" and "projects" to work on outside of the scheduled class time).

STUDENTS WITH DISABILITIES:
Any student who has a disability that requires accommodation, please make an appointment to see me.

A NOTE ABOUT THE LAST WEEK OF CLASS:
Given that the Oregon University System employs the "quarter method" of academic scheduling, upper division courses are by nature "compressed" with much detailed information to cover in a relatively short period of time. Please note that most upper division text books are geared for courses at universities with a 16 week semester system (i.e. we are truly trying to pack 10 pounds of dirt in a 5 pound bag). As such, the 10th week of class is as critical to content coverage as the 1st week. Students should anticipate a full slate of "normal" activities during the last week of class, including lectures, lab exercises, written reports, etc. The class is not over until after the final exam! **Plan your schedule accordingly!**

TENTATIVE CLASS SCHEDULE: This outline should be considered tentative at best. The following schedule may be modified as class ideas evolve throughout the semester.

Week	Dates	Class Content	Text Reading	Class Assignments
1	Mar 30 Apr 1	Class Policies, Introduction Tectonic Hazards	Keller, Ch 1,7,8	Intro to Engineering Geology
2	Apr 6 Apr 8	Mass Wasting Hazards Flood Hazards	Keller, Ch 6 Keller, Ch 5	Slope Stability
3	Apr 13 April 15	Flood Hazards **OSU Seminar: P. Ashley – Environmental Degradation Related to Gold Mining in Australia (Lv. for OSU 3:15; starts 4:00 PM)**	Keller Ch 5 Keller Ch14	Flood Hazards Lab Seminar 1 Summary
4	Apr 20	**Field Trip to AEG Student Night at Portland State University – Departs ~4:00 PM**		Flood Hazards Lab Seminar 2 Summaries
	Apr 22	**No Class**		
5	Apr 27 Apr 29	Waste Management Issues **Tentative: Field Trip to Coffin Butte Landfill (Lv 2:30 PM)**	Keller Ch 12	Field Trip 1 Summary
	Saturday, May 2 – Luckiamute Watershed Field Trip – Group 1 (9 AM – 5 PM)			
6	May 4 May 6	Midterm Exam No Class – Presentation Prep.		
7	May 11 May 13	Watershed Analysis – Student Presentations Watershed Analysis – Student Presentations	Keller Ch 10, 18	Presentation Week
	Saturday, May 15 – Luckiamute Watershed Field Trip – Group 2 (9 AM – 5 PM)			
8	May 18 May 20	Groundwater **Tentative: Field Trip to Independence Public Works (Lv 3:30 PM)**	Keller Ch 10	Groundwater Flow Lab Field Trip 2 Summary
	Optional Extra Credit Field Trip: OSU Seminar – Effects of Jacksonville Lake Dam Grand Tetons, Friday May 21, 12:00 PM			Optional Summary
9	May 25 May 27	Groundwater **OSU Seminar: Climate and Wildfire in Western U.S. (Lv. 3:15 PM)**	Keller Ch 10 Keller Ch 16	Surfer Tutorial Seminar 3 Summary
10	June 1 June 3	Soil and Groundwater Remediation Soil and Groundwater Remediation	Keller Ch 11	Mtn Fir Project
11	Week of June 7	Finals Week, check schedule		