

**ES473 ENVIRONMENTAL GEOLOGY
POLICIES AND PROCEDURES**

Spring 2006 Term - Western Oregon University
4 CR TR 3:00 – 4:30 PM Natural Sciences Bldg, Rm 218

INSTRUCTOR: Dr. S. Taylor
OFFICE HOURS: TW 1-3 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 "ES473 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	33%
Class Exercises/Summaries	150 pts	40%
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Total	375 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 500-800 word (~1-2 typed pages) summary for each of two field trips and five journal articles that will be assigned. 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, (3) Final Discussion of the Relevance of the Presentation / Field Trip to Environmental Issues in the State of Oregon, (4) References Cited, and (5) pertinent figures and tables (items 4 and 5 are in addition to the 1-2 type-written pages).

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-spelled words will not be tolerated. Save your word-processing files as you may be required to modify and edit the summaries.

LAB PORTFOLIOS-ASSIGNMENT/LAB EXERCISE SUBMISSION PROCEDURE: In-class assignments, homework, and lab exercises are to be completed by the prescribed due date (to be determined as term progresses). Your assignments will be compiled into a lab portfolio consisting of the three-ring binder, with organized tabs / labels. Your lab portfolios will be graded once at midterm and once at finals time. Prior to the midterm and final portfolio submissions, you will scan your assignments by the due date and make digital copies as acrobat *.pdf files. A scanner is available for student use in NS218A – the GeoData Processing Laboratory. The digital copies will be electronically submitted to the instructor by the prescribed due date using the WebCT software interface. You will retain your originals and compile them into a lab portfolio which will be submitted and graded at the midterm and final, respectively. Timely completion and electronic submission of your scanned assignments will comprise a portion of your lab grade.

The following are procedures for electronically submitting your homework assignments:

- (1) You will have an individual student account set up on WebCT with a username and password.
- (2) The WebCT website may be accessed in the following ways:
 - (a) from the class homepage (www.wou.taylor ... follow the links to ES492 ... then follow the links to "WebCT" in the "Assignment Submission" section), or
 - (b) by surfing to <http://www.wou.edu/webct>
- (3) Once at the site, choose the "Log On to My WebCT" option. **DO NOT CHOOSE** "Create myWebCT", this has already been done for you.
- (4) Enter your WebCT student username- This will be the same as your student server username (the first letter of your first name + the first 6 letters of your last name, for e.g. jsmith or jwoodwa) Use all lower case letters only!!!
- (5) Enter your username again for the password. Use all lower case letters only!!! Your password will be the last 4 digits of your V#, just like your student server account.
- (6) Once you are logged in, look for the "Change Password" icon... you can change your password at any time!
- (7) Click on the "Electronic Assignment Submission" icon.
- (8) Click on the homework assignment you wish to submit, type in the relevant information, and choose "upload" to browse to your *.pdf scanned copy.
- (9) Make sure you save a hard copy of your assignments to include in your portfolio. Pay attention to the assignment availability and due dates.

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!**

CHANGE OF SYLLABUS - POP QUIZZES - UNANNOUNCED HOMEWORK ASSIGNMENTS

The instructor reserves the right to modify the syllabus and class schedule at any time during the term.

Students will be notified of such changes in a timely manner. The instructor also reserves the right to administer pop-quizzes and assign unscheduled homework / class assignments at any time. All students will be responsible for completing this work and it will comprise part of the final class grade.

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

<u>Week</u>	<u>Dates</u>	<u>Class Content</u>	<u>Text Reading</u>	<u>Class Assignments</u>
1	Apr 4 Apr 6	Class Policies, Introduction Taylor off to Houston for Meeting: In-Class Video, Lab, and Reading Assignment	Keller, Ch 1,7	Intro to Quant. Applications Lab
2	Apr 11	OSU Seminar: Geomorphic Impacts of Dams; 4 PM Gilfillan Auditorium, Corvallis Lv. Jackson Street Entrance NSB 3:15 PM	Graf, 2005	Article 1 Summary OSU Sem. 1 Summary
	Apr 13	Rivers and Flooding	Keller Ch 5	Flood Hazards Lab
3	Apr 18	Field Trip - PSU Student Night: OR Assoc. of Environmental and Engineering Geologists; Social, Dinner, and Scientific Presentations; Starts at 6:00 PM; LV WOU at 4:30 PM		PSU Field trip/Poster Summaries
	April 20	Mass Wasting Hazards	Journal Article(s)	Slope Stability Lab
4	Apr 25	Earthquake / Tectonic Hazards	Keller, Ch 7 Journal Articles	Article 2 Summary
	Apr 27	Volcanic Hazards	Keller Ch 8, 6	Tectonic Hazards Lab
5	May 2	Waste Management Issues	Keller Ch 12	
	May 4	Field Trip to Coffin Butte Landfill (Lv 2:30 PM)	Journal Article(s)	Landfill Field Trip Summary
<i>Student Poster Topics Assigned for Academic Achievement Day</i>				
6	May 9 May 11	Midterm Exam Water Resources / Oregon Water Law	Keller Ch 10, 18	Water Law Summary
7	May 16 May 18	Watershed Analysis / Oregon Water Law Open Lab / Poster Preparation	Journal Article(s) Keller Ch 18	Surfer Tutorial
8	May 23 May 25	Groundwater Field Trip to Monmouth-Independence Area (Lv 3:00 PM)	Keller Ch 10-11	Groundwater Flow Lab Mon-Ind Field Trip Summary
9	May 30	OSU Seminar: Nuclear Waste Disposal 4 PM Gilfillan Auditorium, Corvallis Meet Jackson Street Entrance NSB, 3:15 PM	Hanford Article	Hanford Article + OSU Field Trip Summary
<i>Academic Achievement Day – Wed. May 31, 2006 – Student Poster Presentations</i>				
	June 1	Groundwater	Keller Ch 10-11	Mtn Fir Project
10	June 6 June 8	Soil and Water Remediation Soil and Water Remediation	Journal Article(s) Journal Article(s)	Mtn Fir Project
11	Week of June 12	Finals Week, check schedule		