

**GEOMORPHOLOGY / AERIAL PHOTO INTERPRETATION (ES322)  
POLICIES AND PROCEDURES**

Fall 2004 Term - Western Oregon University  
4 CR TR 2:00 - 3:50 PM Natural Sciences Bldg, Rm 218

INSTRUCTOR: Dr. S. Taylor

OFFICE: RM 210 Natural Sciences Bldg

OFFICE HOURS: T,W,R 11AM-12PM  
R 4-5 PM By Appointment

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**COURSE DESCRIPTION:**

Geomorphology is the study of the Earth's surface landforms and the processes that operate to form them over geologic time ( $10^2$  to  $10^6$  years). This course will examine a wide variety of landforms and processes, with an emphasis on those associated with Oregon and the Pacific Northwest. Studies will include systematic analysis of weathering processes, soils, mass wasting, fluvial systems, glacial phenomena, tectonic landscapes, volcanic areas, and coastal regions. Class lab exercises will include interpretation of aerial photographs, map analysis, and quantitative (algebra, trigonometry, and statistics) approaches to geologic problem solving.

**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 Geology / Earth Science 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!*

**REQUIRED TEXTS:**

Ritter, D.F., Kochel, R.C., and Miller, J.R., 2002, **Process Geomorphology 4th Ed.**: W.C. Brown Publishers, Dubuque, IA, 539 pp.

**ADDITIONAL READING:**

Journal articles and text readings, to be provided by the instructor.

**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 "G322" home page.

The class notes 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.

### **EVALUATIONS AND EXPECTATIONS:**

Student performance will be evaluated on the basis of 2 exams (Mid-term, Final) and weekly lab exercises. The following is a breakdown of evaluation points, dates, and letter grades:

Mid-Term Exam	100 pts
Final Exam	100 pts
Class / Lab Exercises	125 pts

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TOTAL:	325 pts
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### **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% of 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!!).

### **FIELD TRIP(S):**

Local field trips and field exercises may be scheduled during the term as time permits. Please be aware that additional scheduling and personal time may be required as the course develops. Field trip ideas this term include field data collection in the Luckiamute river basin and coastal geomorphology of the Coos Bay area (tentatively schedule for the weekend of Nov. 5, in conjunction with the structural geology class).

### **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.

### **OTHER REQUIRED MATERIALS:**

Students will also need access to a scientific calculator, colored pencils, ruler, and protractor. You will be required to use these materials during lecture, lab, and exams. Please plan accordingly, or you will have trouble successfully completing the class.

### **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 rocks 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	Ritter Text Reading
1	Sep 28, 30	Class Introduction / Basic Principles	Chap. 1-2
2	Oct. 5, 7	Weathering and Soils	Chap. 3
3	Oct. 12, 14	Mass Wasting	Chap. 4
4	Oct. 19, 21	Fluvial	Chap. 5-6
5	Oct. 26, 28	Fluvial (Cont.) / Surficial Mapping Techniques	Chap. 6-7
<b>Exam 1 – Thursday Oct. 28</b>			
6	Nov. 2, 4	Morphometric Techniques / Alluvial Fans	Instructor Handout
<b>Friday Nov. 5 - Last Day to Drop Class w/o Grade Penalty</b>			
7	Nov. 9, 11	Volcanic Landforms	Handouts
<b>No Class Thursday November 11 – Vet’s Day</b>			
8	Nov. 16, 18	Tectonic Geomorphology	Handouts
9	Nov. 23	Coastal Geomorphology	Chap. 13
<b>No Class November 25, Thanksgiving Break</b>			
10	Nov. 30, Dec 2	Coastal (Cont.), Quaternary History	Chap 13
11	Dec. 6-10	<b>Finals Week - EXAM 2 (check schedule)</b>	

### **Lab Exercises (to be scheduled as time permits)**

Lab No.	Topic
1	Review of Map Basics
2	Air Photo Interpretation I - In Class
3	Air Photo Interpretation II - On Line
4	Field Trip to Monmouth Cemetery (Historic Weathering Rates)
5	Hillslope Analysis / Computer Methods
6	Soil Surveys as a Tool for Geomorphic Mapping
7	Field Fluvial Geomorphology (Parts 1 and 2)
8	Alluvial Fan Morphometry
9	Tectonic Geomorphology of Steens Mountain
10	Neotectonics of Western Oregon and the Pacific Northwest
11	Coastal and Beach Processes of Oregon