GEOG 322 GEOMORPHOLOGY Winter 2018

Meets Tues. and Thurs. 2:00-3:20pm, 221 McKenzie Hall, plus one lab meeting per week, 206 Condon

COURSE CONTENT:

This course covers surficial geomorphic processes (including landslides, rivers, glaciers, wind, and coastal processes), and landscape development. By the end of the course, you should be able to

1) explain how geomorphic processes, such as river flow, waves on a beach, wind, and glaciers, create specific landforms;

2) recognize and interpret landforms on maps, air photos and in the field; and

3) use basic quantitative techniques of geomorphology to measure and compare landform characteristics and to determine rates and magnitudes of processes.

This course provides a foundation for GEOG 427: Fluvial Geomorphology.

PREREQUISITES:

GEOG 141 or GEOL 102 or 202. GEOG 322 is a challenging course that requires a substantial amount of work on your part. You must be able to do basic algebra and trigonometry.

TEACHING STAFF:

Prof. Pat McDowell: Office hours 1:30-2:30 W at 152 Condon Hall. Other times by appointment. E-mail: pmcd@uoregon.edu

GEs: to be announced

READINGS:

Most required readings will be from Bierman and Montgomery, *Key Concepts in Geomorphology*, 1st edition (W. H. Freeman). The textbook is available for purchase at the UO Bookstore, and there is an ebook version available for purchase or rental online. There will be some additional required readings posted on Blackboard.

LAB MEETINGS:

Weekly lab assignments designed to learn geomorphic interpretation of topographic maps and aerial photos, landform identification, and analysis of geomorphic data. Download the lab assignment from Canvas before your lab meeting, print it, and bring it to lab. Your GE will introduce the topic and help you with the analysis. For some labs, we recommend you bring a computer if you can. No labs in week 1.

GRADING:

Your final course grade will be based on your total course score of 100 maximum points.

	Points	
Test 1	21	
Test 2	20	
Pop quizzes in lect.	10	6 at 2 pts. each, drop lowest score
Labs	49	7 at 7 pts. each, drop lowest score, plus 7 attendance/participation pts.
Total course score	100	

The course grading scale is: 90 to 100 = A range, 80-89 = B, 70 to 79 = C, 60-69 = D, 59 or below = F. Within the A, B and C ranges, the top two points result in a plus grade and the lowest two points result in a minus grade.

COURSE EXPECTATIONS:

- The instructor, GEs and students will all conduct themselves professionally in this course.
- The instructor and GEs are available to help you with any concepts that are difficult for you. Come to office hours, or contact one of us for an appointment.
- Do the assigned reading before each lecture and take notes during lecture. This will make your test preparation will be much easier.
- Attendance and classroom participation is a part of your grade in this course. To participate you must attend class having read the materials for the day. We encourage you to ask questions relevant to the topic during the lectures and labs.
- Turn off all cell phones, pagers and web devices while in class. Let your messages go to voice mail. You may use a computer or tablet computer to take notes, but use of the computer for any other functions is unprofessional. These activities are distracting to the students sitting near you.
- Avoid disturbing others in the class. Be on time and stay until class is dismissed. Leaving during class or coming in late is distracting and disruptive. It is disrespectful to the instructors and your classmates. If you have an appointment of very high priority, tell the instructor before class that you must leave early, sit near the exit and leave quietly to minimize the disruption.
- Turn in assignments and take tests on time. Due dates for exercises will be announced in the lab sections. Late exercises will lose points for each day late. No extra credit projects are allowed.
- The syllabus shows the intended schedule for the term, but the schedule may shift by a day or so. Any changes in lecture or lab topics for each date will be shown in the study guides.
- **No make-up tests will be given** unless you provide documentation in advance and for a reason that is valid in the instructor's judgment, or you provide a medical excuse signed by a physician within a week after the test.

ACADEMIC INTEGRITY:

Violations of academic integrity, such as cheating and plagiarism, will not be tolerated. You may work with other students in lab, but all the work (tests, quizzes and labs) that you turn in for a grade must be your own work, in your own words, and produced exclusively for this course. Violators may receive an F or N, and violations or suspected violations will be reported to the Director of Student Conduct. For the consequences of academic misconduct, or if you are in doubt regarding what constitutes academic misconduct, please consult Academic Misconduct under the Student Conduct Code at http://uodos.uoregon.edu/StudentConductandCommunityStandards, or ask the instructor or GTF.

ACCOMMODATION FOR STUDENTS WITH DISABILITIES:

The University of Oregon is working to create inclusive learning environments. Please notify me if aspects of the instruction or course design result in disability related barriers to your participation or you have a notification letter. You are also encouraged to contact the Accessible Education Center (164 Oregon Hall; 541-346-1155; http://aec.uoregon.edu).

FIELD TRIP:

There will be an optional field trip on a Saturday or Sunday in week 6 or 7. If you go on the field trip, you may do the field trip assignment (answering questions about sites visited) in place of one other lab assignment. There will be a transportation fee of $10.

LECTURE SCHEDULE: Textbook reading assignments are shown below by page numbers. Some other short required readings may be posted on Canvas. Do reading assignments **before** the lecture.

Week	Lecture topic	Reading
1	Introduction to the course and basic concepts of geomorphology	Ch. 1, p. 5-30
	Geomorphic systems	Ch. 2, p. 43-59, 63-68
2	Weathering	Ch. 3, p. 77-90, 101-105
	Hydrology and karst	Ch. 4, 111-137
3	Hillslopes and mass movements 1: introduction to mass movement processes, analysis of forces, and types of mass movement	Ch. 5 p. 145-158
	Hillslopes and mass movements 2: types of mass movements (con.), mass movement morphology, hazards	Ch. 5 p. 159-176
4	Fluvial I: sediment transport, channel morphology	Ch. 6, p. 179-199
	Fluvial II: equilibrium and time; floodplains, terraces, alluvial fans, deltas	Ch. 6, p. 199-209
5	Drainage basins I	Ch. 7, p. 217-227
	Drainage basins II	Ch. 7, p. 223-250
6	TEST 1	
	Coastal I	Ch. 8, p. 253-265
7	Coastal II	Ch. 8, p. 266-281
	Eolian I	Ch. 10, p. 329-345, 352-353
8	Eolian II	Ch. 10, p. 345-351
	Glacial I	Ch. 9, p. 291-314
9	Glacial II	Ch. 9, p. 309-327
	Quaternary climate change and geomorphology	Ch. 13, p. 425-444,
10	Quaternary and long-term geomorphology	Ch. 13, p. 447-52 Ch. 14, p. 461-487
	TEST 2 in class	
Finals	No final during finals week	

LAB SCHEDULE:

Week	Topic
1	No lab meeting
2	Lab 1: Geomorphic materials
3	Lab 2: Hydrology
4	Lab 3: Mass movements
5	Review for Test 1; start Lab 4: Fluvial processes and landforms
6	Finish Lab 4: Fluvial processes and landforms
7	Lab 5: Coastal processes and landforms
8	Lab 6: Eolian processes and landforms
9	Lab 7: Glacial processes and landforms
10	Review for Test 2