GEOMORPHOLOGY
GEOGRAPHY 322, SPRING 2021

Synchronous Remote Class Lectures: Tuesdays and Thursdays 12:15pm – 1:45pm
Instructor: Mark Fonstad, fonstad@uoregon.edu, Office Hours: Thursdays 11am – 12pm
Labs: Synchronous remote labs, Thursdays 2:00pm-3:00pm (CRN: 37041), Thursdays 3:30pm-4:30pm (CRN: 37042), Fridays 9:30am-10:30am (CRN: 37043), Fridays 11:00am-12:00pm (CRN: 37044)
GE: TBA
CRN: 36737 (4cr.)

Required Prerequisites: GEOG 141 (The Natural Environment) or instructor-approved alternate

Lab Requirement: To take this class, you must enroll in both the lecture section (CRN: 36737) as well as one of the lab sections (CRNs 37041, 37042, 37043, 37044).

Content Management System: University of Oregon’s Canvas System (GEOG 322)
The Canvas site will contain:
(1) Announcements
(2) Syllabus
(3) Modules – a) Lecture Stuff [Slides, Class Outlines, Unedited Transcripts], b) Weekly Labs, c) etc.
(4) Quizzes – Exams are online
(5) Grades
(6) Zoom Meetings – links to our class lectures, office hours, video recordings of classes, etc.

Textbook: Key concepts in geomorphology, 2\textsuperscript{nd} Edition (2020) by Paul Bierman and David Montgomery. This will be available through the University Book Store; there is also an ebook version available for purchase or rental online which is fine. Do NOT use the 1\textsuperscript{st} edition – many things have been changed with the introduction of the 2\textsuperscript{nd} edition.

Course Description and Learning Objectives: Geography 322 covers surficial geomorphic processes (including landslides, rivers, glaciers, wind, and coastal processes), landform development, and landscape evolution. 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, as well as other related classes in Geography and Earth Sciences.

Division of Labor:
Fonstad: Class presentations, Exam management
GE: Lab instruction, Lab evaluation, Lab Content Development
**Tentative Class Schedule (Subject to Change):**

Week 1 (March 30 & April 1): Weekly Topics – Intro, History, and Nature of Geomorphology (Ch. 1, 2)

Week 2 (April 6 & April 8): Weekly Topics – The Geomorphic Toolkit, Geomorphic Hydrology (Ch. 3, 4)

Week 3 (April 13 & April 15): Weekly Topics – Weathering, Soils, and Geomorphology (Ch. 5, 6)

Week 4 (April 20 & April 22): Weekly Topic – Hillslopes (Ch. 7)

Week 5 (April 27 & April 29): Weekly Topic – Channels (Ch. 8)

Week 6 (May 4 & May 6): Exam 1 (Tuesday); Weekly Topic – Drainage Basins (Ch. 9)

Week 7 (May 11 & 13): Weekly Topics – Coastal, Submarine, and Wind Geomorphology (Ch. 10, 11)

Week 8 (May 18 & 20): Weekly Topics – Volcanic, Glacial, and Periglacial Geomorphology (Ch. 12, 13)

Week 9 (May 25 & May 27): Weekly Topics – Climate, Tectonics, and Geomorphology (Ch. 14, 15)

Week 10 (June 1 & 3): Weekly Topic – Landscape Evolution (Ch. 16)

**Final Exam:** June 7 (Monday), 8:00am

**Lab Topics (Subject to Change):**

Lab 1: Geomorphic Materials (Introduced Week 1, Due Week 2) – “The Angle of Repose”

Lab 2: Hydrology (Introduced Week 2, Due Week 3) – “Goldilocks and the Effectiveness of Floods”

Lab 3: Weathering (Introduced Week 3, Due Week 4) – “The Lessons of a Tombstone”

Lab 4: Mass Movements (Introduced Week 4, Due Week 5) – “From Earthquake Lake to Oso”

Lab 5: River Channel Change (Introduced Week 5, Due Week 6) – “Mr. Fisk & the Oxbows”

Lab 6: Basin Dynamics (Introduced Week 6, Due Week 7) – “Driftless Area Drainage Basin Drama”

Lab 7: Coastal Change (Introduced Week 7, Due Week 8) – “The Rise and Fall of the Oregon Coast”

Lab 8: Wind and Eolian Forms (Introduced Week 8, Due Week 9) – “Dune”

Lab 9: Glacial Dynamics (Introduced Week 9, Due Week 10) – “Global Glacier Google-Earthing”

**Weekly Labs:** Labs provide practical experiences for completing geomorphic analyses. The labs are designed be done at home, though we will have regularly-scheduled, synchronous lab meetings. You are free to work with others on these exercises, but make sure that you do your own calculations and your own write-ups for these exercises. Do not copy each others’ written answers. I expect the exercises to be written up with a professional level of writing quality and presentation. In the schedule in this syllabus, there are specific dates for when each exercise will be introduced, and for when each is due.

**Evaluation and Grading:**

1. Weekly Labs -- 60% (9 total, drop lowest score lab, each of remaining 8 worth 7.5%)
2. Exams – 40% (2 total, each worth 20%)

Late weekly labs are deducted 25% of total possible after the deadline, +25% deducted for each additional week late.

Exams are on May 4 and June 7. Exams are open-book, but are limited by time (90 minutes for Exam 1, 120 minutes for Exam 2). If you have an official AEC request for this (for example, longer time for quizzes), let me know at the beginning of term and I can set up Canvas to give you the extended time. 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.

The final grade scale is as follows: A+: >98; A: 92-98; A-: 90-92; B+: 88-90; B: 82-88; B-: 80-82; C+: 78-80; C: 72-78; C-: 70-72%; D+: 68-70; D: 62-68; D-: 60-62; F: <60.
**Participation:** While synchronous attendance at lecture and labs is not mandatory (other than exams), you are strongly encouraged to attend every lecture in order to gain the knowledge crucial for understanding the course material and for doing well on course exercises and quizzes. During lectures please be respectful of everyone’s learning experience. This includes: (1) Following my instructions during class about whether to have microphones and video off or on, (2) keeping audio-visual and chat-based discussions in class professional and respectful, and as an obvious corollary, (3) Zoom-bombing, should it occur and found to be from a registered student, will lead to formal action by the University of Oregon.

**Contacting us:** The fastest way to contact us is via email. When asking questions about the policies of the class, remember that the exercise and quiz dates, as well as policies on late/make-up work, are clearly stated in this syllabus. We may not be able to be contacted on evenings, weekends, and holidays.

**Academic Dishonesty:** We will not tolerate cheating or academic misconduct/dishonesty in my courses; examples of these behaviors include (but are not limited to):
• Plagiarism (passing off the work of another as that of your own)
• Any other actions that might give you an unfair advantage over your classmates.
All cases of academic dishonesty/misconduct will be referred immediately to the Student Judicial Affairs Office. The penalties for engaging in academic dishonesty and/or misconduct can range from a grade of “F” for an exercise or quiz to an automatic failure of the course. Please consult the university policy at https://dos.uoregon.edu/social-misconduct

**Disability Services Notice:** I work hard to ensure a quality learning experience for all students. If you need specific accommodations to get the most out of this class, please let me know by (1) informing me of your particular needs, and (2) providing the appropriate documentation from the university’s AEC office. I will make every effort to accommodate your needs, but you must notify me by the first week of class if you need special arrangements.

**Note:** I consider this syllabus a contract between myself and the students in this course. In writing this syllabus, I have obligated myself to follow the policies and procedures contained herein. You are responsible for understanding and following these policies as well. I reserve the right to make changes to this syllabus. You will receive verbal and written notification of major changes to course policies, procedures and content.