

GEOLOGY 202

Dynamic Earth: Surface

CRN 41230 (3 credits), Winter 2024

Location: Portland State University

Lecture: CH 71 11:30-13:05 MW

Remote access at canvas.pdx.edu

Instructor:

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Office Hours: By Arrangement



Class website: <https://web.pdx.edu/~ruzickaa/G202/index.html> This website will include a copy of the syllabus and, if needed, announcements. Other class materials, including the syllabus, regular announcements, quizzes and tests, and Powerpoint handouts, will be accessible through the Canvas learning management system (canvas.pdx.edu) following PSU login.

Informal Course Description: Introduces physical geology which deals with geologic surface processes (weathering, mass wasting, streams, groundwater, glaciers, wind and desert processes, coastal processes, mountain building, ocean floor) in a geologic time and plate tectonics framework. There is no prerequisite for this course, although there is a required laboratory section (G205, 1 credit; or G207, 2 credits). G207 together with G202 can also be used for Sophomore Inquiry credits.

Learning outcomes: After successful completion of this course, students should be able to: 1) Explain the processes of weathering and erosion, formation and transport of sediments, and formation of sediments and sedimentary rocks in the context of various sedimentary transport and depositional environments; 2) Use knowledge of Earth's interior and plate tectonics to describe the processes involved in mountain building, developing relief, and formation of various geologic structures on the Earth's surface; 3) Describe how water/ice moves throughout each reservoir within the hydrologic cycle (land surface, atmosphere, oceans, groundwater) and how sediments are eroded, transported, and deposited in these systems; 4) Discuss factors that affect slope stability, and identify, describe, and compare the mechanisms associated with various landslides and mass wasting events, and identify triggers and unique hazards associated with each; 5) Compare and contrast sedimentary processes based on weathering/transport agent (wind, water, ice, gravity); 6) Identify major, key events in Earth's geologic history, and describe how geologic principles can be used to interpret the geologic rock record and geologic history.

Text: A Textbook is recommended to supplement the lectures. The designated text for this course is *Essentials of Geology*, by Marshak, Sixth Edition (any recent edition will be largely equivalent).

Communication: Canvas should be the primary means of sending emails to the instructor. Please use the built-in Canvas email to contact the instructor regarding personal issues that should be kept private. A Discussion Board in Canvas will be available for topics of general interest to the class. This can include any topic of shared interest, such as questions about the content, Canvas, tests or test questions, student study groups, etc. I will get back to you when I can, within 3 days. As with all online communication, it is especially important to keep messages respectful.

Exams: There will be different online exams, all multiple choice. They include a Syllabus Quiz in the first week, Weekly Quizzes, as well as a Comprehensive Final during Finals Week. Quizzes will

be timed (time limits 40 minutes) and can be taken twice, with the best score used for grades. Given that two tries for each quiz are allowed, a potential strategy would be to review Powerpoint handouts and notes for any missed question after the first try. Each quiz will be made available for one week + 1 day (Sun 12:01 AM to Monday 11:59 PM 8 days later, except for the last weekly quiz, which will close one day earlier) and can be taken at any time during this period. The best 8 of 10 quizzes will be used for the quiz grade. To be equitable and for course management, *quizzes will not be re-opened for individuals after the deadline has passed.* (If you have a family or medical emergency that causes you to miss more than a week, please contact me.) In addition, a Comprehensive Final Exam (2 hrs) will be held during Finals Week (Tuesday 12:01 PM-Thursday 11:59 PM). This Final will consist primarily of selected questions from the weekly quizzes. Students should make sure that they have a good computer connection and a relatively distraction-free environment before taking the online exams.

Extra Credit (optional): Students may earn additional points in an extra credit assignment. Extra credit projects include: (1) Read three or more geology-related articles in a popular magazine, and provide a 3-page typed critique of the articles, including the titles and authors of the articles, their length, and the name and date of the magazines in which they appeared, focusing your critique on what you liked and didn't like about the articles, and whether you would recommend them to your peers [up to 1% extra for your total score for this class]; (2) Participate in a "Geoscavenge hunt" by traveling and obtaining good pictures of various geological features discussed in this class [up to 2% extra for your total score for the class; see the class website or Canvas for more details]; (3) Describe a past geology field trip that you took for course credit, including the name and date of the course, describing whether and how this course provided a different perspective on the geology of the field area compared to what you have learned from the current lecture (G202), lab (G205/G207), and Textbook, and whether you would recommend this to others [up to 1% extra for your total score of this class]; (4) Attend a virtual geology field studies course offered this term as G200-001 (Willamette Valley), G200-002 (Coast), or G200-003 (Mt. St. Helens South), and provide a typed 2-page evaluation that lists the course and centers on the following, namely on whether and how this course provided a different perspective on the geology of the field area compared to the lecture (G202), lab (G205/G207), and Textbook, and whether you would recommend this to others [up to 1% extra for your total score for this class]. Multiple extra credit can be obtained, up to 4% maximum. Extra credit will be graded on a subjective basis and is due no later than the beginning of class on March 13. Extra credit turned in after this time will not be accepted.

Grades: Grading is done on a straight scale although curves will be used at my discretion. Grades will be assigned based on scores as follows: 95% or above = A, 90-94.99% = A-, 87-89.99% = B+, 83-86.99% = B, 80-82.99% = B-, 77-79.99% = C+, 73-76.99% = C, 70-72.99% = C-, 67-69.99% = D+, 63-66.99% = D, 60-62.99% = D-, less than 60% = F. Grades will be determined from performances on Weekly Quizzes (best 8 of 10, 60%), the Syllabus Quiz (2%), and the Comprehensive Final (38%).

Other policies & resources: (a) If you feel you have a disability and need an accommodation, contact the Disability Resource Center (drc@pdx.edu, 503-725-4150). DRC students potentially can obtain extended time on exams in Canvas. (b) Each student is responsible for all lecture content, whether they participate in the class or not. (c) A culture of professionalism and mutual respect is expected. Any incident of discrimination or discriminatory harassment, including sexual harassment, can be reported to the Office of Equity and Compliance, or the Office of the Dean of Student Life. For resources, see <http://www.pdx.edu/sexual-assault/get-help> (d) Students are expected to follow PSU policies for academic integrity, which means not engaging in academic misconduct; see <https://www.pdx.edu/dos/academic-misconduct>. Examples of misconduct include cheating on an exam, copying someone else's work, submitting for credit work done by someone else, or knowingly and intentionally assisting another student in any of the above. (e) Students will

complete a Syllabus Quiz in the first week, which covers the content of this syllabus. The completion of this quiz by the student will serve as an acknowledgment that the student has read and understands the contents of the syllabus. The syllabus quiz also serves as an indicator of participation by the student. Students who do not complete the Syllabus Quiz may be withdrawn. (f) Other PSU resources can be found at <https://www.pdx.edu/academic-resources>.

COURSE OUTLINE & CHAPTERS COVERED IN BOOK:

COURSE OUTLINE

Week	Topics	Lecture Dates	Text	Activities
1	Syllabus; Introduction and Sedimentary Rocks	1/8 & 1/10	Parts of Ch. 3,4,6,7, Interludes B, C	Attend 'Week 1' lectures, study notes, and take the syllabus quiz and Week 1 quiz.
2	Plate tectonics	MLK holiday 1/15 NO CLASS; 1/17	Ch. 2, Interlude D	Attend 'Week 2' lectures, study notes, take the quiz.
3	Geologic time	1/22 & 1/24	Ch. 10, 11, Interlude E	Attend 'Week 3' lectures, study notes, take the quiz.
4	Mass wasting	1/29 & 1/31	Ch. 13	Attend 'Week 4' lectures, study notes, take the quiz.
5	Streams & floods	2/5 & 2/7	Ch. 14, Interlude F	Attend 'Week 5' lectures, study notes, take the quiz.
6	Groundwater	2/12 & 2/14	Ch. 16	Attend 'Week 6' lectures, study notes, take the quiz.
7	Shorelines & coastal processes	2/19 & 2/21	Ch. 15	Attend 'Week 7' lectures, study notes, take the quiz.
8	Deserts	2/26 & 2/28	Ch. 17	Attend 'Week 8' lectures, study notes, take the quiz.
9	Glaciers & climate change	3/4 & 3/6	Ch. 18	Attend 'Week 9' lectures, study notes, take the quiz.
10	Ocean floor, mountains & continents	3/11 & 3/13	Ch. 2, 4, 9	Attend 'Week 10' lectures, study notes, take the quiz.
Finals				Study, take the Final Exam, and then a well-earned Spring Break!