

Geologic Catastrophes (G107) – Syllabus

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Materials: *Natural Hazards and Disasters*, Hyndman & Hyndman, 4th edition

Student Learning Outcomes

After completing this course, you should be able to demonstrate: 1) Knowledge about geologic hazards and risks both locally and globally; 2) the ability to evaluate personal and community risk from geologic events in written form; 3) knowledge of the geologic setting of the Pacific Northwest and the relationship to major geologic hazards; 4) knowledge of mitigation techniques to reduce personal risk; 5) ability to access information, synthesize it into a research paper and cite sources correctly; 6) ability to correctly make calculations relevant to the course including probabilities and recurrence intervals; and 7) ability to articulate what risk is, what factors influence risk, how to calculate risk and how to mitigate risk.

Course Outline

Week	Topic Covered
Week 1	Introduction: Hazard and Risk
Week 2	Plate Tectonics: Geologic Processes and Associated Hazards
Week 3	Volcanoes: Causes of volcanism, magmas and eruptive styles, volcanic products
Week 4	Volcanoes: Volcanic hazards, hazard assessment, risk mitigation, monitoring
Week 5	Volcanoes: hazards in the Cascades, Mount Rainier
Week 6	Tsunami: Three sources of tsunami in the Pacific Northwest
Week 7	Earthquakes: Origin, stress/strain and elastic rebound, seismic waves
Week 8	Earthquakes: Magnitude, intensity, acceleration and wave behavior, hazards
Week 9	Earthquakes: Preparedness, PNW earthquakes
Week 10	Landslides: Causes and controlling factors of landslides, classification of landslides
Week 11	Landslides: Risk mitigation strategies, Landslides in the Puget Sound, glacial geology
Week 12	Final Week/Final Hazard and Risk Paper Due

Course content may vary from this outline to meet the needs of this particular group of students.

Final Research Project (and drafts)

The final project consists of an independent research paper on the geologic hazards of the Puget Sound region and on the specific risks of the area where you live and work. The research will include consultation of several scientific and public sources on the geologic hazards on the entire region and to your local neighborhood as well. You will receive a detailed packet and plenty of instructions and assistance on how to write this paper. You will be required to turn in partial drafts of your paper at intermediate dates during the quarter in order to receive feedback in the process of writing the final paper. Each draft (2) is worth 20 points. The final paper is worth 250 points. **The final paper replaces a final exam and is due at the time of the normal final exam period. It will not be accepted more than 24 hours late.**

Course Grading

Tentative Point Totals: about 900 points

In-Class Tests (4 @ 40 pts)	160 pts
Assignments from Workbook	375 pts
In-Class Assignments	75 pts
Earthquake Draft Paper	20 pts
Volcano Draft Paper	20 pts
Final Hazard and Risk Paper	250 pts

Course Policies

For reasons of fairness and consistency I will conform to the following policies throughout the quarter. Please be sure you read and understand the course requirements and these policies. Late policies for assignments and missed exams will **always** be applied.

Attendance

If you miss more than 3 consecutive class periods in a row without contacting me in advance, I will assume you wish to drop the course and will not grade any subsequent work. As a result, you should officially withdraw from the course.

Classroom etiquette and academic behavior

The classroom is a place of learning. I will not tolerate disruptive behavior that interferes with the learning of your classmates. This includes consistently walking in late, talking off-subject in class and using cell phones or texting in class. Turn off the ipods, mp3 players, and phones and put them away where they are not visible. Failure to do so may be grounds for disciplinary consequences.

Academic Integrity

Do your own work. Cheating (copying other's work and claiming it as your own) and plagiarism (copying phrases or sentences from books, articles, or the Internet into your papers and/or using other people's ideas without citing them) are not acceptable and may result in failure in the assignment, a failing grade in the class, or even more serious disciplinary action.

Group work or work with a partner is allowed and encouraged in class activities. If you decide to work with others on homework assignments you must cite your partner(s) as contributors to your work. This will avoid unpleasant suspicions of cheating.

Work Submitted Late

Late assignments will have 20% deducted the first day, 40% for 2 days late, 40% for 2-5 days late. Assignments more than 5 days late **will not** be accepted. Extensions are given in most cases if discussed with me 24 hours IN ADVANCE. You may also receive some "coupons" to turn in a **homework** assignment up to 2 days late without penalty. These are only useable for homework, not in-class activities, drafts, or the final paper.

Missed in-class activities cannot be made up.

Exams may be made up only under extreme emergency conditions. You must notify me immediately when you know that you will not be there. Missed exams that are excused will be made up with an oral exam at a time convenient for the instructor.

Math

Please show all work on mathematically based problems. A correct answer without evidence of how you got that answer will not receive credit. Partial credit is given on almost everything, so it is in your best interest to document completely what you did.

Accommodation

Both Highline Community College and I are committed to providing access to education for students with disabilities. If you need course adaptations or accommodations because of a disability, please provide me with the Letter of Accommodation you have received from the Office of Access Services within the first week of class. *All accommodation requests will be held in complete confidentiality.* No accommodations will be made until the correct documentation is received in my office.

Tutoring Center use is encouraged

For advice with any stage of drafting your writing assignments, visit the Writing Center, in the Highline Tutoring Center--Building 26, Room 319. Writing consultants can help you understand assignments, brainstorm ideas, develop thesis statements, organize your writing, learn to edit your papers, and more! The Center also offers workshops on grammar, style, and writing cover letters. Stop by and make an appointment with a student who's been where you are now and knows how to succeed.