

Earth Sciences 104 - Geologic Hazards SYLLABUS Winter 2019

Professor: Susan Schwartz, office: E&MS Building A133, phone 459-3133, email syschwar@ucsc.edu, office hours Tuesdays 1:30-3:30

Class: M,W, F 10:40-11:45 E&MS Building D250

TA: Kellen Martin, office hours TBA email: knmartin@ucsc.edu

Text: Natural Disasters, Any Edition, Patrick L. Abbott- on reserve at Sci. Library

Coursework: 2 hazard reports, in-class/homework exercises, and a final class project

Resources: Instructor, TA, Library Resources, Writing in the Discipline Guide, Canvas homepage

Required Field Trip: Monday January 28, 9-1 PM

Grading: SAF Report: 20%; LP Report 20%; Final Project 15%; Exercises 30%, Online quizzes/activities 15%

Academic Integrity Policy: Although you will be collecting data in groups, all of the written work you submit in this course must be completely your own unless otherwise indicated. You should draw your own graphs and tables and write papers by yourself. You may not copy another student's work or use another student's work as a model. Similarly, you may not directly copy or closely paraphrase passages from books or references, including the internet, even if you cite the work. Everything you write must be said in your own words, and **references must be cited.**

UC Santa Cruz is committed to creating an academic environment that supports its diverse student body. If you are a student with a disability who requires accommodations to achieve equal access in this course, please submit your Accommodation Authorization Letter from the Disability Resource Center (DRC) to me privately during my office hours or by appointment, preferably within the first two weeks of the quarter. At this time, I would also like us to discuss ways we can ensure your full participation in the course. I encourage all students who may benefit from learning more about DRC services to contact DRC by phone at [831-459-2089](tel:831-459-2089) or by email at drc@ucsc.edu.

<u>Date</u>	<u>Topic</u>	<u>Reading (9th ed)</u>
1/7 M	Introduction to Geologic Hazards	
1/9 W	Faults, Neotectonics and Geomorphology Review Topographic Maps 50-59) Geomorphology of the San Andreas Fault <i>Ex. 1 Topo Maps in class</i>	Ch. 3 Earthquake Geology (p. Ch. 4 Plate Tectonics And Earthquakes p. (95-108) Ch. 5 Earthquakes in US (p. 110-123)
1/11 F	<i>Ex. 2 SAF Geomorph in class</i>	
1/14 M	Mass movements-Landslides and Soils	Ch. 15 Mass Movements

Ex. 3: Landslides- air and topo maps in class

1/16	W	Air Photo, Geologic Interpretation of SAF in Watsonville	
1/18	F	Air Photo, Geologic Interpretation of SAF in Watsonville	
1/21	M	HOLIDAY- NO CLASS	
1/23	W	Mass movement- Landslides and Soils Continued <i>Ex. 4 Slope Stability in class</i>	
1/25	F	Geologic Reports and Work on Slope Stability Exercise	
1/28	M	SAF IN WATSONVILLE FIELD TRIP 9-1	
1/30	W	Revisit Air Photo, Geologic Interpretation of SAF in Watsonville	
2/1	F	Earthquake parameters <i>Ex. 5: Earthquakes in class</i> SAF Report Due	Ch. 3 (rest)
2/4	M	Earthquake strong motions Loma Prieta earthquake-strong motion measurements SAF Report Peer Review Due	
2/6	W	Loma Prieta strong motions and geology	
2/8	F	Loma Prieta strong motion graphs <i>Ex. 6 Excel in class</i> SAF Report Revision Due	
2/11	M	Work on Loma Prieta Report	
2/13	W	Tsunami generation and hazards <i>Ex. 7: Tsunami in class</i>	Ch. 8 Tsunami
2/15	F	Tsunami Warning	
2/18	M	HOLIDAY-NO CLASS	
2/20	W	Introduction to Flooding	Ch. 13 Floods
2/22	F	Flood Frequency Analysis <i>Ex. 8 Flood in class</i> Loma Prieta Report Due	
2/25	M	Flood Hazards – Manning Equation <i>Ex. 9 Flood Hazard in class</i>	

2/27	W	Flooding- Hydrologic Modeling Introduce/Organize Final Group Projects	
3/1	F	Flooding Continued	
3/4	M	Volcanoes: Diversity and chemistry <i>Ex. 10 Volcano in class</i>	Ch. 6 Volcanic Eruptions
3/6	W	Volcanoes: Hazard and monitoring <i>Ex. 11 Volcano Hazard in class</i> <i>Project Outlines Due</i>	Ch. 7 Volcano Case Histories
3/8	F	Group Project Work	
3/11	M	Group Project Coordination	
3/13	W	Group Project Presentation	
3/15	F	Group Project Presentation	