

SIO 170- Introduction to Volcanology

MWF 9:00-9:50

(Remote)

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Welcome to the wonderful and spectacular (remote) world of volcanoes! I am thrilled to be able to offer you this experience, and I hope it is educational and stimulating throughout. The class will introduce you to the science of volcanology, including fundamental principles and processes of volcanic eruptions. I hope to give you a better understanding of what volcanologists do and why volcanology is an important scientific discipline from a societal standpoint. Please let me know if you have questions or concerns and remember that I am here to help at all times.

Class Organization and Grading:

This class will include weekly lectures, demonstrations, and discussions that will take place during the regularly assigned class periods. Your grade will be based on the following components:

Midterm exam (take-home): 20%

Final exam (take-home): 25%

Weekly Canvas quizzes: 25%

Assignments: 15%

Volcano report: 15%

Textbooks and Readings

The class text is *Volcanoes* 2nd edition by Francis and Oppenheimer. It is required and you will need to read the assigned chapters that are keyed to the topics we will be discussing in class. There will be weekly Canvas quizzes based on the reading that you will be responsible for.

SIO 170 Schedule

Note: This syllabus is an outline of proposed events. It is subject to change; however, never without notification, and never to advance the due dates of assignments.

<u>Date</u>	<u>Lecture Topic</u>	<u>Chapter in Volcanoes</u>
10-2	Introduction to volcanology	1, 2
10-5	Four classic eruptions	3
10-7	Tectonics and volcanic structures	2, 13
10-9	Tectonics and volcanic structures	2, 13
10-12	Magmas and volcanic rocks	4
10-14	Magmas and volcanic rocks	4
10-16	Magmas and volcanic rocks	4
10-19	Styles of eruption: eruptive classification	5
10-21	Styles of eruption: eruptive classification	5
10-23	Lava flows	6

10-26	Lava flows	6
10-28	Introduction to pyroclastic density currents	7
10-30	Pyroclastic eruptions and pyroclastic density currents	7-10
11-2	Pyroclastic deposits from mafic eruptions	7-10
11-4	Pyroclastic eruptions and pyroclastic falls	7-10
11-6	Domes and block and ash flows	7-10
11-9	MIDTERM EXAM	
11-11	VETERANS DAY (NO CLASS)	
11-13	Supervolcanoes and calderas	11
11-16	Supervolcanoes and calderas	11
11-18	Lahars and mudflows	12
11-20	Volcanic hazards and monitoring techniques	17
11-23	Volcanic hazards and monitoring techniques	17
11-25	Volcanic risk and society	18
11-27	THANKSGIVING HOLIDAY (NO CLASS)	
11-30	Volcanoes and Climate	16
12-2	Case studies of famous eruptions (St. Helens)	N/A
12-4	Case studies of famous eruptions (Hawai'i)	N/A
12-7	Case studies of famous eruptions (TBA)	N/A
12-9	Case studies of famous eruptions (TBA)	N/A
12-11	Case studies of famous eruptions (TBA)	N/A

Final Exam: Wednesday, December 16, 8:00-11:00AM (remote)