

SIO 45GS- Volcanoes
Instructor: Geoffrey Cook
Email: gwcook@ucsd.edu

Hello! I am thrilled to be introducing you to the exciting world of volcanology, from a volcanically-fascinating location in New Zealand! This class is designed to give students from a diverse array of backgrounds a general understanding of earth science and the earth system using volcanoes as a teaching tool. You need not have a background in geology to enjoy the class, and during the quarter you will learn a lot about Earth materials and Earth processes in addition to how volcanoes work. Regardless of your background, I believe you will find the class both interesting and informative. Please do not be inhibited to seek help/guidance, or discuss any concerns or issues you may have. I always encourage questions and discussion in class and am happy to re-address or clarify concepts. I very much want this to be a positive and useful learning experience for each and every one of you!

Class Organization and Grading:

This class will include weekly lectures and discussions that will take place during the regularly assigned class periods. In addition, we will have field excursions to local (around Auckland) volcanic sites and one overnight trip to Rotorua and Lake Taupo to see some spectacular field geology.

Your grade will be based on the following:

- 75% In-class assignments, homework, quizzes; field exercises
- 25% Final exam

Textbooks and Readings

The textbook is *Volcanoes* 3rd edition by Oppenheimer and Francis. Chapters from the book will be assigned in class. Please be sure to complete the assigned readings as you will need them to participate in class; you will also find the class more enjoyable with an introduction to the background materials.

SIO 45GS Schedule- Summer Session 2017

<u>Date</u>	<u>Lecture Topics</u>
Week 1: 7/3-7/6	Introduction to volcanology Introduction: rocks and minerals, plate tectonics and geologic processes What is a volcano? How are they defined? Why do volcanoes erupt? Volcano taxonomy: types of volcanic structures

Week 2:

7/10-7/13

Types of eruptive activity
Products of volcanic eruptions
Calderas and supervolcanoes
Volcanic hazards and monitoring

Week 3:

7/17-7/20

Volcanoes and influence on climate
Volcanic geology of New Zealand

Week 4:

7/24-7/27

Volcanic geology of New Zealand
W/TH Field trip to Rotorua and Lake Taupo

Week 5:

7-31-8/3

Case studies of some famous volcanoes:
Kilauea (Hawai'i, U.S.A.); Mt. Vesuvius (Italy); Mt. St. Helens (U.S.A.)

8/3

Final exam