

HOW VOLCANOES WORK — GEOLOGY 308
Course Outline, Spring 2003, TuTh 9:30-10:45 a.m.

Dr. Vic Camp:	Office -- CSL-402 E-mail -- vcamp@geology.sdsu.edu
Office Hours:	Room. CSL-402; MWF 11:00-12:00 p.m., or by appointment
Optional Text:	<i>Volcanoes</i> , 3 rd edition (1998) by Decker and Decker W. H. Freeman & Co.
Website:	http://www.geology.sdsu.edu/how_volcanoes_work

COURSE DESCRIPTION: This is a general education course for upper-division students. The course will examine the inner workings of the earth, the science behind volcanoes and volcanic processes, and the impact of volcanic eruptions on humankind.

GUIDELINES: This is a science course which requires critical thinking and analysis. However, it is largely descriptive in that concepts and connections are studied through words and diagrams, generally without recourse to mathematical formulas and chemical equations. Please feel free to ask questions and invoke discussion at any time.

EXAMINATIONS AND GRADING: Final grades will be based on four exams worth 100 points each, and a research paper, or project, worth 50 points. Guidelines for the paper/project will be handed out in class; the due date is **April 22**. When calculating the final grades, your lowest exam score will be dropped and the final grade will be based on a class curve established for the remaining 350 total points. There will be ***no make-up exams***. If you miss an exam, it will be dropped as your lowest score; however, you ***cannot drop the final examination***. If you are taking the course CR/NC, you must obtain a "C" grade for Credit. Purchase *one* large red Parscore Scantron (F-288) for the first exam, and *three* normal-sized Parscore Scantron (F-289) for the remaining exams.

*"Giant smoking volcanoes
stand in a row
like the pipes of a cosmic organ
through which the mighty breath of the earth
blows its roaring music"*

Robert Scholten

PRELIMINARY CLASS SCHEDULE

(Very tentative: changes may be made to this schedule as necessary)

WEEK	LECTURE TOPIC	WEBSITE SECTIONS
Jan. 21/ 23	Introduction / Formation of the Earth /	
Jan. 28/30	Energy for Volcanism / Geologic Time	
Feb. 4/6	Plate Tectonics	
Feb. 11/13	EXAM 1 (Feb. 11) / Volcanic Rocks / Eruption Dynamics /	ERUPTION DYNAMICS: Controls / Variability / Eruption model
Feb. 18/20	Intro. to Volcanic products / Volcanoes Types	ERUPTION PRODUCTS: Tephra ERUPTION LANDFORMS: Volcano
Feb. 25/27	Volcanoes and Eruption Types / Lava Domes / Calderas / <i>Vulcanian</i>	ERUPTION LANDFORMS: Volcano / Calderas / Domes / ERUPTION TYPES: all but
March 4/6	Santorini (~1636 B.C.) / Mt. St. Helens (1980)	HISTORIC ERUPTIONS: Santorni / St. Helens
March 11/13	Exam 2 (March 11?) / Lava flows	ERUPTION PRODUCTS: Lava flow types
March 18/20	Flow Features / Lava-water	ERUPTION PRODUCTS: Lava flow features / Lava and water
March 25/27	Hawaii / Pyroclastic Flows Mt. Pelée	ERUPTION PRODUCTS: Pyroclastic Flows / HISTORIC ERUPTIONS: Mt. Pelée
April 1/4	<i>SPRING BREAK</i>	
April 8/10	Montserrat eruption / Lahars	ERUPTION PRODUCTS: Lahars
April 15/17	Nevado del Ruiz / Mt. Rainier / Laki (1783) / Krakatau (1883)	HISTORIC ERUPTIONS: Nevado del Ruiz HISTORIC ERUPTIONS: Krakatau
<i>PAPERS / PROJECT: Due on or before <u>APRIL 22</u></i>		
April 22/24	Pinatubo (1991) / EXAM (April 24?)	
April 29/May 1	Giant Volcanic Eruptions / Long Valley, CA / Volcanic Gas Hazard / Lake Nyos (1986) / Mammoth Mtn., CA / Kilauea gas hazards	ERUPTION PRODUCTS: Volcanic gases HISTORIC ERUPTIONS: Lake Nyos

Apr. 29 / May 1 Climate Effects of Volcanic Eruptions

ERUPTION PRODUCTS: Climate effect

May 6/8 Climate / Planetary Volcanism

VOLCANISM ON OTHER WORLDS

May 14 (Tuesday) **FINAL EXAM – 10:30 a.m.**

Note: Final exam must be taken at this time - no exceptions.