

**Spring 2014**

**FIVE COLLEGE VOLCANOLOGY**

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The course involves a systematic discussion of volcanic phenomena, including types of eruptions, generation and emplacement of magmas, products of volcanism, volcanic impact on humans, and the monitoring and forecasting of volcanic events. Case studies of individual volcanoes illustrate principles of volcanology, with particular emphasis on Hawaiian, Ocean-floor, Icelandic and Cascade volcanism.

<b><u>Week Ending</u></b>	<b><u>Topic</u></b>	<b><u>Chapters in text</u></b>
Jan. 31	Organizational Meeting - Videos	1, 2, 4
Feb. 7	Introduction and types of eruptions	5, 6, 16
Feb. 14	Lava flows - Aa, pahoehoe, blocky flows	3, 7
Feb. 21	Hawaiian volcanoes	6, 7
Feb. 28	Even more on Hawaiian volcanism	-
March 7	Mid-Ocean ridge and Icelandic volcanism	15
March 14	Flood Basalts and Large Igneous Provinces	--
March 21	<b>SPRING BREAK</b>	
March 28	Pyroclastic phenomena and ashfall	8, 9
April 4	Pyroclastic flows and surges, debris and mudflows	10, 11, 12, 13
April 11	Mount St. Helens	4
April 18	Large caldera eruptions	14
April 25	Volcanic hazards, volcano monitoring	17

### **Course Requirements**

We will focus on a particular aspect of volcanism each week, with a 2 hour lecture early in the week (probably Monday or Tuesday), followed by a Friday afternoon discussion seminar. Each week, you should read the relevant portions of the assigned chapters in the text . In addition you will select and read **one** paper from the weeks reading list. Come to the Friday session with a **typed, one to two page** summary of your paper, and bring sufficient copies for distribution to the rest of the class. To help defray the cost of copying you may use the Geoscience Department copiers by inputting the code 051. Be sufficiently prepared to discuss your paper in the context of the week's general topic and to join in the discussion on other papers. We will also view and discuss appropriate volcanic videos.

**Textbook** Volcanoes by Francis and Oppenheimer, Oxford University Press.  
ISBN 0 19 925469 9

### **Class Website**

Copies of lectures, reading lists, useful links and current volcanic activity can be found on the course website at [www.geo.umass.edu/courses/volcanology/index.html](http://www.geo.umass.edu/courses/volcanology/index.html).

### **Grades**

There are no exams! Consequently grades will be assigned on the overall quality of your written summaries and upon attendance and class participation.