

EASC 421 - 3 Volcanology

Section: D100 - 2011 Fall

Instructor: Dr. Glyn Williams-Jones

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Description Topic:

General:

This course is designed to give students an introduction to physical and chemical volcanology through a comprehensive examination of volcanic eruptions and their consequences. The main topics covered are the rheological properties of magmas and lavas, structure of volcanic landforms, eruption dynamics, monitoring and hazard assessment, the emplacement of volcanic deposits, extraterrestrial volcanism and the effects of eruptions on the environment.

Course Topics:

- Properties of magmas and lavas
- Volcanic eruption dynamics
- Structure of volcanic landforms
- Types of volcanic deposits and emplacement mechanisms
- The hazards, monitoring techniques and mitigation of volcanic events
- Extraterrestrial volcanism and environmental effects of large eruptions

Course Organization:

One 2-hour lecture and 3-hour lab per week.

Three compulsory field trips - September 10th, 18th and October 1-2.

Each field trip day replaces one week of lab exercises.

Grading:

Lab / Field trip assignments 15%

In Class Debate 15%

Term project 25%

Final Exam (Theory & Lab) 35% (during last class)

Overall participation 10%

Required Text:

Volcanism by Hans-Ulrich Schmincke, 2004, Springer, New York, 329 p., ISBN 978-3-540-43650-8

Recommended Text:

None.

Material List:

None.

Prerequisite/Corequisite:

Prerequisite - EASC 207

Co-Requisite - EASC 301

Notes:

Be aware that during the field trip there will be period of strenuous hiking, hiking close to cliffs and crossing roads with busy traffic. Appropriate clothing and footwear should be worn. Further details regarding safety, food, housing and field supplies will be discussed prior to the field trip.

There will be a supplementary fee.