



UNIVERSITÀ
degli STUDI
di CATANIA

DEPARTMENT OF BIOLOGICAL, GEOLOGICAL AND
ENVIRONMENTAL SCIENCES
Master's Degree in Geophysical Sciences
Academic Year 2017/2018 - 2° Year

PHYSICAL VOLCANOLOGY

GEO/10 - 6 CFU - 1° Semester

Teaching Staff

STEFANO GRESTA

Email: gresta@unict.it

Office: Corso Italia 57

Phone: 095-7195709

Office Hours: martedì-venerdì 8-10

LEARNING OBJECTIVES

Provide adequate knowledge and understanding of the physics of volcano hazard assessment for the prediction of eruptions.

DETAILED COURSE CONTENT

Physical properties of magmas. Elements of the structure of the Earth. Physical characteristics of magmas. Formation and ascent of magmas. Physical processes in magma chambers. Transport of magma in volcanic conduits. Lava flows. Earthquakes, deformation, gravity, magnetic as precursors of eruptions. Characteristics of a precursor. Objectives of a prediction. Energy balance of a volcano: Heat. Potential energy. Kinetic energy (earthquakes and tremor). Deformation energy. Historical cases of recent eruptions of Etna.

TEXTBOOK INFORMATION

Vulcanologia - Scandone e Giacomelli - Liguori Editore
