


UE Volcanic dynamics and hazards

 ECTS
3 credits

 Component
UFR PhITEM
(physique,
ingénierie, terre,
environnement,
mécanique)

 Semester
Printemps

- > **Teaching language(s):** French, English
- > **Open to exchange students:** Yes
- > **Code d'export Apogée:** PAX8SRAH

Presentation

Description

The aim of this module is to provide a basic understanding of the physics of magmatic and eruptive processes occurring in volcanoes and of the main methods of volcanological study and monitoring. In particular, the forces and parameters controlling the transport and storage of magma from the production zones to the surface will be explained and illustrated with the help of tutorials. In the context of the study of eruptive dynamics, the different modes of eruption of volcanic products (plume, pyroclastic flow, dome, lava flow) and their physical mechanisms will be discussed. The most commonly used geophysical monitoring methods (seismology, deformation, gas emission studies) will be presented, showing their contribution to the prediction of eruptions and the knowledge of volcanic processes. The different remote sensing methods used in this field (optical, thermal and radar imagery) will be described, with emphasis on the specificities of these techniques for their application to volcanology and monitoring. Teaching language: English.

Course parts

UE Volcanic dynamics and hazards - CM/TD

Lectures (CM) & Teaching Unit (UE)

21h

Useful info



Campus

➤ [Grenoble - University campus](#)