mardi, juillet 18, 2023

Fiche UE Master

Intitulé de l'UE 2022-23	Physics of Natural Sites: Concepts and Methods
Nom du responsable de l'UE	GIRAULT Frédéric
Equipe pédagogique	GIRAULT Frédéric, CARAZZO Guillaume
Cycle	M2

Résumé du programme

The natural places around us offer many scientific questions. What is happening in front of us? What will happen after a disturbance? While these questions are generally considered to be applied problems, e.g. related to economic resources or polluted sites, the underlying problems and the understanding of the processes taking place are fundamental and delicate questions, and to be able to provide tentative answers it is necessary to mobilise the latest concepts and the most sophisticated technologies. The aim of this course is to introduce some of the concepts and methods used to address the physics of natural sites. Lectures will cover heuristic methods from applied geophysics, environmental geochemistry and fluid mechanics. Experimental methods will include methods for characterising and monitoring active faults, active volcanoes, hydrothermal systems and their application to industrial and environmental problems. The course consists of 10 units. Eight units consist of a 2-hour lecture and a 2-hour practical session including exercises and experiments. The last two units consist of a full day in the field and student presentations.

Compétences visées

The aim of this module is to introduce some of the concepts and methods used to address the physics of natural sites. Lectures will cover heuristic methods from applied geophysics, environmental geochemistry and fluid mechanics as applied in IPGP in the Physics of Natural Sites team. Lectures will be linked to other MASTER courses (seismology, geochemistry, water chemistry, remote sensing) and to research carried out in IPGP. Experimental methods will include the characterisation and monitoring of active faults, active volcanoes, hydrothermal systems and their application to industrial and environmental problems.

Nombre ECTS	3

Volume horaire / étudiant

Volume horaire CM	24
Volume horaire TP/Terrain	7
TOTAL Volume horaire de l'UE / étudiant	31

Modalités de Contrôle des Connaissances et des Compétences (MCCC)

Session 1

100% CC	OUI
Si 100% CC, combien de CC ?	>5 (optionnels)
100% ET	OUI

Session 2