

Master in Earth, planetary and environmental sciences

Georisks

Presentation

Telluric risks (seismic, gravity-related) are an increasingly important issue for our societies, which have become more and more vulnerable to these risks due to population increases in high-hazard areas. The need to understand, control and manage telluric risks is therefore growing sharply, in France and elsewhere in the world. The Georisks program has been created to respond to this need. The training is organised over two years with a series of modules in common with other programmes in the specialisation, as well as modules specific to this program. Training in the field, in a company or in a research laboratory plays a key role in this program.

The Georisks program has strong links with the international master in Earthquake engineering and engineering seismology (MEEES; Erasmus Mundus master) and shares many elements with this course.

The aim of the Georisks program is to train students in the geophysics of natural risks with a view to them working in research or the private sector, in natural risk assessment or the geophysical reconnaissance of callows.

The training combines theoretical and practical approaches. It provides a range of skills that encompass the different natural risks. Students graduating from this program are considered fully trained. In the area of seismic and gravity-related risks, employment opportunities in the short term may, for instance, be enhanced by implementation of the recent earthquake-resistance regulations, which require studies of soil behaviour calling on geophysical measurements, as well as the future national plan on dams and earthquakes.

Registration and scholarships

- The 1st year is open to students who have obtained a national diploma equivalent to a bachelor degree (licence) in a field compatible with that of the master, or via a validation of their studies or experience
- Entry to the 2nd year may be selective. It is open to candidates who have completed the 1st year of a Master in the field, subject to a review of their application

Public continuing education : You are in charge of continuing education :

- if you resume your studies after 2 years of interruption of studies
- or if you followed training under the continuous training regime one of the previous 2 years
- or if you are an employee, job seeker, self-employed

If you do not have the diploma required to integrate the training, you can undertake a [validation of personal and professional achievements \(VAPP\)](#)

For candidates whose country of residence is not included in the "Studies in France" portal (PEF) scheme, the calendar for the eCandidat application campaigns is available [here](#)

You want to apply and sign up for a master ? Please be aware that the procedure differs depending on the diploma you want to take, the diploma you have already obtained and, for foreign students, your place of residence. Let us be your guide – simply follow this [link](#)

Further studies

This course prepares students either to continue in the private or semi-state sector (consultancies, EPIC, local authorities), or to go on to do a doctoral thesis. The skills acquired in this course will provide the student with the experience needed to successfully pursue either of these two directions.

Practicals informations :

- > Component : UFR PhITEM (physique, ingénierie, terre, environnement, mécanique)
- > level : Baccaureate +5
- > Duration : 2 years
- > Course type : Initial and Continuing Education
- > Location(s) :

Contacts

Program director

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Continuing education manager

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Program

Program under construction - awaiting CFVU
 vote

Solid earth portal 1st year

Semester 7

UE Numerical analysis project	3 ECTS
UE Physics and chemistry of the earth	6 ECTS
UE Geomechanics	3 ECTS

3 option (s) to choose from 8

UE Dynamics of the Lithosphere	6 ECTS
UE Petrology	6 ECTS
UE Geochemical evolution of the earth	6 ECTS

UE Data and models in earth sciences	6 ECTS
UE Earth Surface Dynamics	6 ECTS
UE Field workshop tectonics- metamorphism	3 ECTS
UE Field course Petrology	3 ECTS
UE Intro workshop - professional project	3 ECTS

Semester 8

UE Scientific and professional communication	3 ECTS
UE Remote sensing and GIS project	6 ECTS

4 option (s) to choose from 8

UE Exploration geophysics	6 ECTS
UE Basin analysis	6 ECTS
UE Multidisciplinary field workshop	6 ECTS
UE Mineral resources	3 ECTS
UE Subsurface modelling	3 ECTS
UE Dynamics and volcanic risk	3 ECTS
UE Sedimentary field workshop	3 ECTS
UE Marine geophysical workshop	3 ECTS

Master 2nd year

Semester 9

UE Quantitative seismology	6 ECTS
UE Engineering seismology	6 ECTS

3 option (s) to choose from 8

UE Active faults and remote sensing	6 ECTS
UE Dynamics of the Earth's surface	6 ECTS
UE Advanced gravitational risk	3 ECTS
UE Project on seismic hazard assessment	3 ECTS
UE Risk management: regulatory and alternative approaches	6 ECTS
UE Signal processing	6 ECTS
UE Near surface geophysics	6 ECTS
UE Numerical modeling workshop	6 ECTS

Semester 10

1 option (s) to choose from 2

UE Research internship
UE Company internship