

Master in Earth, planetary and environmental sciences

Georesources

Presentation

To meet the energy and material demands of the 21st century, sustainable exploration of our planet's resources is necessary, managed by exploration specialists with solid knowledge in geology and geophysics. The Georesources 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 programs 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.

Objectives

The aim of the Georesources program is to train students in geology and geophysics, with a view to working in research and/or the private sector in mining exploration or energy resources.

The Georesources+ option gives students the opportunity to take additional courses in the economics of energy and resources, offered by the master in Economy for energy and sustainable development.

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 first 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 sector working for a mining or oil company or in the services sector of this industry, 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 :

- > **School** : UFR PhITEM (physique, ingénierie, terre, environnement, mécanique)
- > **Duration** : 2 years
- > **Course type** : Initial and Continuing Education
- > **Location(s)** : Grenoble - University campus
- > **Contacts** :

Programme director

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Programme administration

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Program

Solid earth portal 1st year

Semester 7

UE Numerical analysis project	3 ECTS	12h
UE Physics and chemistry of the earth	6 ECTS	48h
UE Geomechanics	3 ECTS	24h
3 option (s) to choose from 9		
UE Dynamics of the Lithosphere	6 ECTS	42h
UE Petrology	6 ECTS	42h
UE Data and models in earth sciences	6 ECTS	48h
UE Geophysical prospecting	6 ECTS	30h
UE Geochemical and mineralogical exploration methods	6 ECTS	48h
UE Field workshop tectonics-metamorphism	3 ECTS	30h
UE Field course Petrology	3 ECTS	30h
UE Intro workshop - professional project	3 ECTS	6h
UE Geochemistry of pollution	3 ECTS	24h

Semester 8

UE Scientific and professional communication	3 ECTS	24h
UE Remote sensing and GIS project	6 ECTS	48h
UE Mineral resources	3 ECTS	24h

4 option (s) to choose from 7

UE Exploration geophysics	6 ECTS	48h
UE Basin analysis	6 ECTS	48h
UE Multidisciplinary field workshop	6 ECTS	60h
UE Subsurface modelling	3 ECTS	30h
UE Sedimentary field workshop	3 ECTS	30h
UE Marine geophysical workshop	3 ECTS	30h
UE Induced seismicity	3 ECTS	21h

Master 2nd year

Semester 9

UE Field geology workshop	3 ECTS	30h
UE Geomechanics in reservoir and basin systems	6 ECTS	42h
3 option (s) to choose from 10		
UE Dynamics of the lithosphere	6 ECTS	42h
UE Petrology	6 ECTS	42h
UE Geochemical and mineralogical exploration methods	6 ECTS	48h
UE Drilling and borehole geophysics	3 ECTS	12h
UE Tectonic field workshop-metamorphism	3 ECTS	
UE Petrology field workshop	3 ECTS	
UE Tutored project in mineral resources	3 ECTS	6h
UE Advanced mineral resources	3 ECTS	18h

UE Energy markets and geopolitics of resources	3 ECTS	21h
UE Transition énergétique	3 ECTS	25h

Semestre 10

1 option (s) to choose from 2

UE Research internship

UE Company internship