

## Master in Earth, planetary and environmental sciences

# Geodynamics

### Presentation

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The Geodynamics program is a research-oriented course (whose primary purpose is to prepare students for doctoral studies) that aims to teach a high level of knowledge and skills in the field of lithosphere dynamics, including formation, deformation and interactions with deep and surface processes. 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 programme. The course is based on theoretical, practical and field modules, as well as research internships.

The aim of the Geodynamics program is to train students for academic and industrial research professions in all the fields of Earth sciences that relate to the dynamics of the lithosphere, in particular its formation (petrology-geochemistry), deformation (tectonics at different spatial and temporal scales) and interactions with deep and surface processes.

### Registration and scholarships

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- 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

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Doctoral thesis, in the field of Earth, planetary and environmental sciences

### Practicals informations :

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- > Component : UFR PhITEM (physique, ingénierie, terre, environnement, mécanique)
- > level : Bacalauréat +5

- > Duration : 2 years
- > Course type : Initial and Continuing Education
- > Location(s) :

## Contacts

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### Program director

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### Program administration

Registrar's Office of the Master in Earth, planetary and environmental sciences  
 phitem.master.stpe@univ-grenoble-alpes.fr

Application  
 phitem.candidature.etudiant@univ-grenoble-alpes.fr

### Continuing education manager

Contact FC STS  
 fc-sts@univ-grenoble-alpes.fr

## Program

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Program under construction - awaiting CFVU vote

### Solid earth portal 1st year

#### Semester 7

<b>UE Numerical analysis project</b>	3 ECTS
<b>UE Physics and chemistry of the earth</b>	6 ECTS
<b>UE Geomechanics</b>	3 ECTS
3 option (s) to choose from 8	
<b>UE Dynamics of the Lithosphere</b>	6 ECTS
<b>UE Petrology</b>	6 ECTS
<b>UE Geochemical evolution of the earth</b>	6 ECTS
<b>UE Data and models in earth sciences</b>	6 ECTS
<b>UE Earth Surface Dynamics</b>	6 ECTS
<b>UE Field workshop tectonics-metamorphism</b>	3 ECTS
<b>UE Field course Petrology</b>	3 ECTS
<b>UE Intro workshop - professional project</b>	3 ECTS

#### Semester 8

<b>UE Scientific and professional communication</b>	3 ECTS
<b>UE Remote sensing and GIS project</b>	6 ECTS
4 option (s) to choose from 8	
<b>UE Exploration geophysics</b>	6 ECTS
<b>UE Basin analysis</b>	6 ECTS
<b>UE Multidisciplinary field workshop</b>	6 ECTS
<b>UE Mineral resources</b>	3 ECTS
<b>UE Subsurface modelling</b>	3 ECTS
<b>UE Dynamics and volcanic risk</b>	3 ECTS
<b>UE Sedimentary field workshop</b>	3 ECTS
<b>UE Marine geophysical workshop</b>	3 ECTS

### Master 2nd year

#### Semester 9

5 option (s) to choose from 14	
<b>UE Dynamics of the lithosphere</b>	6 ECTS
<b>UE Petrology</b>	6 ECTS
<b>UE Tectonic field workshop-metamorphism</b>	3 ECTS

<b>UE Petrology field workshop</b>	3 ECTS
<b>UE Active faults and remote sensing</b>	6 ECTS
<b>UE Geochemical evolution of the Earth</b>	6 ECTS
<b>UE Deep earth-surface coupling in mountain belts</b>	3 ECTS
<b>UE Planetology</b>	3 ECTS
<b>UE International field school</b>	6 ECTS
<b>UE Dynamics of the Earth's surface</b>	6 ECTS
<b>UE Numerical modeling workshop</b>	6 ECTS
<b>UE Predoctoral school on the internal Earth</b>	6 ECTS
<b>UE Predoc school / seminar 1</b>	3 ECTS
<b>UE Predoc school / seminar 2</b>	3 ECTS

### Semester 10 research internship

<b>UE Short internship</b>	6 ECTS
<b>UE Long internship</b>	24 ECTS

### Semester 10 company internship

<b>UE Short internship</b>	6 ECTS
<b>UE Long corporate internship</b>	24 ECTS