

## Master in Civil engineering

# Geomechanics, civil engineering and risks 2nd year

## Presentation

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The international GCER program, co-accredited with G-INP, is based on:

- The international 1st year, which is entirely common to the two specialisations Civil engineering and Mechanics and leads to three international programs, including GCER
- At master 2nd level, three specialised courses worth 3 ECTS are common to the HCE program and the ENSE3, one module worth 3 ECTS is common to the HCE, and one specialised course is shared with the STE specialisation. More than 80% of the courses in this program at 2nd years level are part of the Earthquake engineering program of the Erasmus Mundus MEEES (Master in Earthquake engineering and engineering seismology)

The Geomechanics, civil engineering and risks (GCER) program is an international course primarily intended for students wishing to focus on research (PhD thesis) in the field of geomechanics and civil engineering in France or abroad, with a view to pursuing a career as teacher-researcher in a University, researcher in a large public organisation (CNRS etc) or R&D engineer within a company.

## Registration and scholarships

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The first year of master's degree is accessible on file (and / or interview) to candidates with a national diploma conferring the degree of license in a field compatible with that of the master or via a validation of studies or acquired according to the conditions determined by the university or training. The second year is accessible on file (and / or interview) to candidates who have validated the 1st year of a compatible course or through a validation of studies or acquired under the conditions determined by the university or training

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 a formation under the regime formation continues one of the 2 preceding 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 \(VAPP\)](#)

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](#)

## Practicals informations :

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- > Component : UFR PhITEM (physique, ingénierie, terre, environnement, mécanique)
- > level : Baccalaureate +5
- > Duration : 1 year
- > Course type : Initial and Continuing Education

> Location(s) : Grenoble - University campus

## Contacts

### Program director

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### Program administration

Registrar's Office for the Master in Civil Engineering  
phitem.master.gc@univ-grenoble-alpes.fr

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

## Program

Program under construction - awaiting CFVU

### Master 2nd year

#### Semester 9

<b>UE Selected topic in continuum mechanics</b>	6 ECTS
<b>UE Numerical methods for nonlinear mechanics</b>	6 ECTS
1 option(s) to choose from 2	
<b>UE Anglais</b>	3 ECTS
<b>UE French as a foreign language - Semester 9</b>	3 ECTS
6 option(s) to choose from 14	
<b>UE Basic geomechanics</b>	3 ECTS
<b>UE Basic engineering seismology</b>	3 ECTS
<b>UE Mechanics of damage and rupture</b>	3 ECTS
<b>UE Behavior of geotechnical structures</b>	3 ECTS
<b>UE Durability and vulnerability of structures and associated risks</b>	3 ECTS
<b>UE Advanced soil mechanics</b>	3 ECTS
<b>UE Advanced rock mechanics</b>	3 ECTS
<b>UE Advanced concrete mechanics</b>	3 ECTS
<b>UE Strain localization in geomaterials</b>	3 ECTS
<b>UE Mechanics of porous media</b>	3 ECTS
<b>UE Advanced experimental geomechanics</b>	3 ECTS

<b>UE Dynamics of structures</b>	3 ECTS
<b>UE Geomechanics in reservoir and basin systems</b>	3 ECTS
<b>UE Soil dynamics and nonlinear site response analysis</b>	3 ECTS

#### Semester 10

<b>UE Research Project</b>	30 ECTS
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