

# UE Basic geomechanics



Level  
Baccalaureate  
+4



ECTS  
3 credits



Component  
UFR PhITEM  
(physique,  
ingénierie, terre,  
environnement,  
mécanique)



Semester  
Tous les ans

- **Teaching language(s):** English
- **Open to exchange students:** Yes
- **Code d'export Apogée:** PAX7MEAK / PAX8MEAD

## Presentation

### Description

The course aims to provide the students with the basic concepts of geomechanics, that is the theoretical and applied science dealing with the mechanical behavior of geomaterials (soil and rock). The first part of the course covers the basic subjects of geomechanics such as stress and strain, permeability and consolidation, compressibility, shear strength, testing techniques, etc. The course then focuses on the mechanical behaviour of geomaterials and provides a basic understanding of the features that are specific to geomaterials (dilatancy, friction, pressure dependence) and the modelling of such complex phenomena. In particular, an introduction is given to the ideas and concepts of elastoplasticity, this subject being of critical importance to geomechanics and geotechnical engineering.

### Objectives

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to provide the students with the basic concepts of geomechanics

#### Course program:

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## Course parts

UE Basic geomechanics - CMTD

Lectures (CM) & Teaching Unit (UE)

20h

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## Recommended prerequisites

continuum mechanics

## Useful info

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### Place

› Grenoble

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### Campus

› Grenoble - University campus