

Civil engineering



ECTS credits
2 credits



Semester
Fall

In brief

> **Course language:** French

Presentation

Prerequisites

Continuum mechanics (see 1st year [Mechanics](#) course)

Learning objectives

- Give a general overview of the different types of projects and trades in the field of civil engineering
- Know the main phases of a construction project
- Acquire a general overview of:
 - regulations ;
 - Construction technologies, particularly reinforced concrete;
 - Principles of dimensioning.
- Sensitize to the problems of sustainable development within the framework of the design and the realization of a work

Description of the programme

- General introduction
 - The actors of the project
 - The engineer - architect operation
 - Timeline of a project (the different steps of a project)
- Regulations (of the building mainly) :
 - Urban planning
 - Fire safety
 - PMR

- Earthquake
- DTU
- Fascicules...
- Construction technologies: earthworks, foundations, different structures, other trades
- Load carrying capacity and bracing
- Dimensioning of structures (buildings and current engineering structures, such as bridges)
- Environmental quality and sustainable development in construction

Generic central skills and knowledge targeted in the discipline

- Know all the steps and actors of a project
- Know the regulatory constraints related to a project
- Know how to dimension the main elements of current works
- Know how to integrate the notion of sustainable development into a project

How knowledge is tested

CC : Report on a mini-project (100%)

Bibliography

- Course handout
- Course slides

Teaching team

Didier Bruneel (engineer, Bouches-du-Rhône department, Marseille)

Sustainable Development Goal



Sustainable cities and communities



Responsible consumption and production



Climate action

Total des heures

CM	Master class	12h
TD	Directed work	12h
Total des heures		24h

Useful info

Name responsible for EU

Lead Instructor

Emmanuelle Sarrouy

✉ emmanuelle.sarrouy@centrale-med.fr