

Autumn semester

Introducing

Description

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Human Resources Management and Group Work



ECTS
6 crédits



Hourly volume
75h

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts) :

Human Resource Management

Aims and organisation of a Human Resources position, job analysis and forecasting, recruiting, work motivation, skills, salary, training, career management, conflict mitigation, work contract

Social Psychology

Groups, what they are, their influences and dynamics

The student will be able to analyse a group situation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Necessary prerequisites

None

Évaluation

HVAC – Building physics



ECTS
7 crédits



Hourly volume
99h

Introducing

Description

Objectives

At the end of this formation unit, the student will be able to dimension, to conceive and to propose a pertinent regulation of varied air conditioning installations.

Expected skills :

Design an air conditioning installation (HVAC) from determined specifications
Design a control system to optimize this facility
Design main elements of the installation

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit,

évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Future buildings



ECTS
6 crédits



Hourly volume
72h

Introducing

Description

Objectives

This teaching describes some of the great concepts of building and of running of buildings of the future. Namely, High Environmental Quality (HQE), Renewable Energies and Technical Management of Buildings (TMB).

Main goal of this teaching is to make student sensitive to these different concepts.

At the end of this module, the student will have understood and be able to explain (main concepts):

- Targets and areas of HQE , how to take them into account in the labeling of a building project
- The main principles of the methods of controlling an air conditioning system , and the operation of control systems in the HVAC industry
- The physical principles of different renewable energy sources (solar , geothermal, biomass , etc.) and

associated technologies

The student will be able to:

- carry out a HQE study on a simplified building
- describe and analyze a control system of an HVAC installation
- calculate and design a renewable energy system design for a real building project

Expected skills :

calculate energy coming from renewable sources from a CCTP, design the hydraulic and / or ventilation pattern of an HVAC plant using renewable energyimplement the HQE method on a building projectdesign a control system of an HVAC installation

Macro-skills evaluated : 2_1, 2_2, 2_3, 3_1, 3_2, 3_6, 3_8

Necessary prerequisites

- General lectures of semesters 7 and 8 of climatic

engineering - year 4 ;

- Basic physic.

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

📍 Toulouse

Methods and English



ECTS
6 crédits



Hourly volume

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

Elaborating means, planning and budget of a construction operation
Main techniques and methods in various sectors (building, bridges and roads)
Principles of Lean Management applied to Civil Engineering projects
Use specific vocabulary of Civil Engineering to complete reports and discuss key elements of a project

The student will be able to:

Elaborate methods.
Estimate a budget and establish a planning of works.
Pilot a project referring to Lean Management concepts
Communicate in English civil engineering environment

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes :

examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Human Resources Management and Group Work



ECTS
6 crédits



Hourly volume
75h

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts) :

Human Resource Management

Aims and organisation of a Human Resources position, job analysis and forecasting, recruiting, work motivation, skills, salary, training, career management, conflict mitigation, work contract

Social Psychology

Groups, what they are, their influences and dynamics

The student will be able to analyse a group situation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Necessary prerequisites

None

Évaluation

Bridge Project & Conferences



ECTS
7 crédits



Hourly volume
115h

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

Main steps in design and calculation of a prestressed concrete bridge.

The student will be able to:

Define and calculate the main structural components of a concrete bridge.

Necessary prerequisites

Prestressed Concrete Structures & Bridges

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en

continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Road engineering and structures



ECTS
6 crédits



Hourly volume
70h

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

Main road techniques. Methods for boring tunnels
Practice and stakes of bridge management

The student will be able to:

Design of a structural pavement. Elaborate methods for boring tunnels. Participate to bridge management process

Necessary prerequisites

Cours de matériaux de génie civil.

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Methods and English



ECTS

6 crédits



Hourly volume

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

Elaborating means, planning and budget of a construction operation
Main techniques and methods in various sectors (building, bridges and roads)
Principles of Lean Management applied to Civil Engineering projects
Use specific vocabulary of Civil Engineering to complete reports and discuss key elements of a project

The student will be able to:

Elaborate methods.
Estimate a budget and establish a planning of works.
Pilot a project referring to Lean Management concepts
Communicate in English civil engineering environment

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes :

examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Human Resources Management and Group Work



ECTS
6 crédits



Hourly volume
75h

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts) :

Human Resource Management

Aims and organisation of a Human Resources position, job analysis and forecasting, recruiting, work motivation, skills, salary, training, career management, conflict mitigation, work contract

Social Psychology

Groups, what they are, their influences and dynamics

The student will be able to analyse a group situation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Necessary prerequisites

None

Évaluation

Frames and Composite steel and concrete structures



ECTS
6 crédits



Hourly volume
75h

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

Elaborating methods, planning and budget for a construction project. Designing and calculating an steel structure and timber component

The student will be able to:

Foresee the execution methods. Establish a projected budget and planning. Design the framework and stability of a steel structure. Calculate members and components according to EC3 and EC5.

Necessary prerequisites

Steel & timber structures

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Concrete structures 2 & masonry



ECTS
7 crédits



Hourly volume
105h

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

The principles of design for building concrete structures under earthquake and under fire, the principles of design of masonry structures according to EC6.

The student will be able to:

Design and check simple concrete structures in case of fire, or built in seismic zone.

Write a calculation note and justify the structural elements.

Know the limits of EUROCODE 6 and justify a masonry wall. Calculation and design of buildings in seismic area according to Eurocode 8, design of beams, walls with and without openings, foundations, design project.

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Évaluation

Methods and English



ECTS

6 crédits



Hourly volume

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

Elaborating means, planning and budget of a construction operation
Main techniques and methods in various sectors (building, bridges and roads)
Principles of Lean Management applied to Civil Engineering projects
Use specific vocabulary of Civil Engineering to complete reports and discuss key elements of a project

The student will be able to:

Elaborate methods.
Estimate a budget and establish a planning of works.
Pilot a project referring to Lean Management concepts
Communicate in English civil engineering environment

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes :

examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Eco building & Environmental impact



ECTS
5 crédits



Hourly volume
60h

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

- Interest and principles being used to establish a diagnosis of energetic performance (DPE).
- Interest and the principle of a thermal dynamic simulation for buildings to help with the design - renovating of the buildings in a bioclimatic approach
- Interest and principles of methods to evaluate global environmental impacts in a project of new or renovated building: life cycle analysis (LCA), Bilan Carbone and other methods.

The student will be able to:

- carry out the DPE and the thermal dynamic simulation of a project of building, analyze results obtained and propose improvements with the studied project

- analyze and take into account a study report on the environmental impacts of a project

- carry out a simplified LCA to study a building

Expected skills :

To optimize a building according to bioclimatic principles, using a dynamic thermal simulation software To assess the environmental impact of a building (or part of a building) via LCA and / or a Carbon Footprint analyze.

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

BIM Environment



ECTS

5 crédits



Hourly volume

Introducing

Description

Objectives

At the end of this module, the student will have understood and be able to explain (main concepts):

Organisation of a collaborative work thanks to the numerical model
Role, limit and responsibilities of the stakeholders in a BIM project

The student will be able to:

Give principles of the process for elaborating the numerical model as function of the invitation to tender
Participate to a BIM construction project
Know how to interact with the participants of a BIM construction project

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

Project ownership assistance



ECTS
5 crédits



Hourly volume

Introducing

Description

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse

ID-RIMS



ECTS
30 crédits



Hourly volume

Introducing

Description

Évaluation

L'évaluation des acquis d'apprentissage est réalisée en continu tout le long du semestre. En fonction des enseignements, elle peut prendre différentes formes : examen écrit, oral, compte-rendu, rapport écrit, évaluation par les pairs...

Practical info

Location(s)

 Toulouse