

5th YEAR THEME URBAN ENGINEERING_SEMESTER 9

Practical info

Location(s)

 Toulouse

Urban engineering and decision making



ECTS

8 crédits



Hourly volume

62h

Introducing

Objectives

This course will gradually implement three levels:

1. Lectures to analyze the role of experts, from the point of view of technicians and the techniques they use, in urban decision-making and action.
2. Tutorials to deepen the multi-thematic modeling of the city (socio-demographic and economic data, water management, energy-microclimate, mobility, architecture)
3. An inter-universities workshop in the form of a 5-day intensive to compare knowledge related to various universities (engineering, architecture, geography, visual arts, political sciences, economics, communication) on a joint urban project with Toulouse Métropole.

The expected scientific skills are as follows:

- awareness of the diversity of urban, architectural, landscape, economic, social, environmental and regulatory approaches
- ability to integrate a multidisciplinary teams (understand the interplay of actors and the underlying issues)
- set up a project method on an urban scale (multi-criteria and multi-scale diagnosis, positioning, iterative design approach)
- use GIS software for urban projects, use image processing software to make sense of project information

Practical info

Location(s)

 Toulouse

Urban ecology



ECTS

8 crédits



Hourly volume

156h

Introducing

Location(s)

 Toulouse

Objectives

Cities are places of high density of people, of goods and of services but also places of high resources consumption. This class will address this peculiar situation by thematic entry points in the complexity of the urban system, to develop a common methodological knowledge on urban ecology.

The entry points selected are: Energy and the city, Water and the City, Transport and mobility, urban waste and contaminated soil. All these courses are mandatory.

Knowledge on energy will focus on energy management in the city, eco-districts, and the link between urban form and energy consumption; on urban water management; on management of urban processes and key characteristics of urban waste.

Expected competencies are to be able:

- to develop comprehensive approaches to take into account the complexity of the city and urban networks,
- to evaluate the energy consumption of a neighbourhood,
- to scale various water networks, and systems management of storm water,
- to design strategies of urban mobilities
- or to be able to participate in the organization of waste management for communities, knowing the key recovery and treatment processes.

Practical info

Urban project



ECTS

8 crédits



Hourly volume

190h

Introducing

Objectives

This course allows crossing advanced technical knowledge on various key areas addressed in the other classes, in an urban project linked to the development of a neighborhood in the urban area of Toulouse. It is about understanding how technical constraints can become an element of design. It is also a question of integrating interdisciplinary approaches to make a global diagnosis, define territorial issues, and make coherent development proposals.

2. This workshop helps to understand the process of developing an urban project, from the diagnosis to the public space design. In particular, it involves understanding two important elements: the interference of scales (the need to work at the same time on a large and a small scale) and the issue of an iterative work process (need to pose early working hypotheses, project "intuitions" at the same time as a diagnosis is drawn up).

Practical info

Location(s)

 Toulouse

Human relations



ECTS

6 crédits



Hourly volume

78h

Introducing

Location(s)

 Toulouse

Objectives

L'étudiant devra être capable de :

- Analyser des situations de groupe avec des concepts issus de la psychologie sociale
- Identifier les dimensions éthiques de ces situations et prendre position
- Repérer et comprendre des informations liées aux RH
- Analyser une situation de management d'équipe en référence à un cadre théorique
- Formuler et argumenter des solutions managériales
- Agir dans un milieu naturel : analyser, décider, agir ; mettre en œuvre la sécurité, utiliser du matériel spécifique. découvrir un site.
- Respecter et s'intégrer dans un environnement différent de ses habitudes
- S'engager avec cohérence dans le projet d'activités
- Prendre part activement au collectif
- Valider son projet professionnel et construire une stratégie pour trouver un emploi

Necessary prerequisites

None

Practical info