

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