29636 - Air Conditioning

Información del Plan Docente

Academic Year	2018/19
Subject	29636 - Air Conditioning
Faculty / School	110 - Escuela de Ingeniería y Arquitectura
Degree	430 - Bachelor's Degree in Electrical Engineering
ECTS	6.0
Year	4
Semester	Half-yearly
Subject Type	Optional
Module	---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

3.1.Assessment tasks (description of tasks, marking system and assessment criteria)

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The learning process is based on the following methodology:

Lecture. The teacher explains the basic principles of the subject and resolves some representative problems.

Practice: computer simulation and laboratory activities are distributed throughout the semester.

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Tutored work (project). Critical and non-dogmatic attitude is encouraged. The student needs continuous training and independent learning because technology is constantly advancing.

Academic tutoring: the teacher provides the student certain procedures for approach and resolving doubts.

The methodology that is designed for this course is mainly based on applying knowledge to the development of a HVAC project.

4.2.Learning tasks

Learning activities are in relation to the methodology described in the previous section about methodology. HVAC is an optional subject, usually with a small number of students; participation of students in order to detect the level of learning is encouraged.
The order in which the topics are developed is important. It is intended that students apply each chapter to their project for early identification of questions or issues more difficult.
Students should handle different bibliographic sources and technical documentation of equipment. It is important to make a critical analysis of such information.

4.3.Syllabus

The program will be detailed by the teacher at the beginning of the course. It includes the following aspects:
Psychrometric
Indoor air quality (IAQ)
Load calculations. Cooling and Heating Load Factors
HVAC System Selection Criteria
Central Plant Equipment (Air-Handling Units, Chillers, Boilers, Cooling Towers, Heat Exchangers)
Air distribution and piping systems
Auxiliary Equipment (Fans, Pumps, ...)
HVAC projects. Design documentation--drawings and specifications. Technical report writing
Energy Efficiency. Sustainable HVAC systems
Standards

4.4.Course planning and calendar

Schedules and key dates will be detailed in classes

4.5.Bibliography and recommended resources