29636 - Air Conditioning

Syllabus Information

Academic Year: 2019/20
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: Second semester
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)

The student must demonstrate that he/she has achieved the expected learning outcomes through the following assessment activities:

1st Call: the evaluation will consist of the following tests: Practice, which will be carried out during the teaching period and corresponds to the assistance and delivery of scripts of the practical activities of type 3 and type 6 (tutoring work).

The final grade will be calculated by weighting the notes of each of the parties, according to the following weights: 50% tutored work, 25% practical activities, 25% attendance and exercises in class.

2nd Call: the procedure identical to that of the first call.

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The learning process that has been designed for this subject is based on the following:

- Lectures, given to the whole group, in which the teacher will explain the basic principles of the subject and solve some representative problems of the application of the subject to real cases The participation of students in this activity will be sought. At the same time, the student must do personal study work for a better comprehension of the classes.
- Computer simulation and laboratory practices that are distributed throughout the semester and whose assessment will be part of the final grade of the subject. Groups of two or three students will be formed, thereby promoting collaborative learning and teamwork.
- Tutored works. The critical and non-dogmatic attitude will be strengthened, as well as raising awareness of the

need for continuous training and autonomous learning.

- Proposal for exercises, questions, and problems in addition to those solved in class. This encourages autonomous work, studying the subject and applying it to the resolution of the exercises. This directed activity, but of autonomous execution, is fundamental in the learning process of the student and for the overcoming of the evaluation activities.
- Academic tutorials: the teacher will make available to the student certain procedures for the resolution of doubts. The use of these tutorials is highly recommended to ensure adequate progress in learning.

The learning process that has been designed for this subject is based fundamentally on applying the knowledge seen in class and in practice to the development of a climate project.

4.2.Learning tasks

The learning activities are related to the methodology described in the previous methodology section. Being an optional subject, usually, with a small number of students, the participation of students is encouraged to detect their level of learning.

The students of this subject will have to work with different bibliographical sources and technical documentation. It is important that they learn to perform 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:

1. Introduction
2. Regulations
3. Basic principles of heat transfer
4. Estimation of thermal demand
5. Humid air
6. Air conditioning cycles
7. Air conditioning systems
8. Energy saving in air conditioning: renewable energies and bioclimatic architecture

4.4.Course planning and calendar

Schedules and key dates will be detailed in class.

4.5.Bibliography and recommended resources

http://biblos.unizar.es/br/br_citas.php?codigo=29636&year=2019