Universidad Zaragoza

Academic Year/course: 2024/25

29806 - Graphic expression and computer-assisted design

Syllabus Information

Academic year: 2024/25
Subject: 29806 - Graphic expression and computer-assisted design
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 440 - Bachelor's Degree in Electronic and Automatic Engineering
444 - Bachelor's Degree in Electronic and Automatic Engineering
ECTS: 6.0
Year: 1
Semester: 435-First semester o Second semester
107-First semester
Subject type: Basic Education
Module:

1. General information

Basic knowledge of the profession. Ability to learn. Ability to analysis and synthesis. Ability to generate new ideas . Ability to solve problems. Ability to apply knowledge to practice. Ability to oral and written communication. Responsibility at work. Motivation for the work. Ability to work independently . Interpersonal skills. Concern for quality and improvement.

This is a subject whose evaluable contents alone do not yet provide the student with direct capabilities to contribute to the achievement of the 2030 Agenda , however, they are essential to base the subsequent knowledge of the rest of the degree that is more directly related to the SDGs and therefore to the 2030 Agenda.

2. Learning results

Master the resolution of graphical problems that may arise in Engineering. Develop skills and abilities that allow expressing with precision, clarity and objectivity graphic solutions. Acquires the capacity of abstraction to be able to view an object from different positions in space.

3. Syllabus

The program of the subject is as follows:

1.-Standardization and Industrial Drawing. -Introduction to Graphic Expression. -Standardization and Computer Aided Design. -Tools and equipment for drawing. -Formats, scales, types of lines and writing. -Dihedral views - Representation of threads. -Cuts, sections. -Dimensioning.

2.-Dihedral System. -Straight point and plane. -Intersections. -Parallelism and perpendicularity. -Changes of projection planes projection planes. -Simple and double auxiliary views. -Turns. -Downsizing. -Measurement of distances.

3.-Surfaces. -Apparent contour, representation and generation. -Planar sections -Transforms and geodesics. - Intersection with straight line. -Developments.

4.- Practices. - CAD package commands. -Use of symbol libraries. - Explanation of CAD package commands . -Use of symbol libraries with blocks and attributes. -Realization of 2D application exercises of increasing complexity.

4. Academic activities

The teaching process will be developed in four main levels: theory classes, problems, work and laboratory, with an increasing level of student participation

In the theory classes (14 hours) the contents of Industrial Drawing Standardization and Representation Systems will be presented illustrating each topic with numerous examples.

In the problem-solving classes (28 hours) students will solve the exercises under the supervision of the teacher.

For the proposed assignments the student will work individually with the guidance of the teacher.

The laboratory practices (15 hours) will be developed in small groups, where the student will use the Computer Aided Design software for the execution of the proposed exercises.

5. Assessment system

A.- During the term:

1.- Continuous Assessment: 30% of the total of the subject. The assessment will be based on two tests carried out during the term on the date and time indicated by the teacher and on assignments that must be handed in. will be graded from 0 to 10, and the student must obtain a minimum grade of 5 in order to obtain an averagegrade.

2.- Laboratory practices: 10% of the total of the subject. The grade will be awarded on the basis of the exercises performed during the internship. It will be graded from 0 to 10, having the student to obtain a minimum grade of 5 to average a.

B.- Global Examination:

Case 1.- Student with passed continuous assessment. It will have a weight of 60% of the total of the subject and must solve, from the proposed exercises, only those indicated by the teacher. The student must obtain a minimum grade of 5 in order to obtain an average grade ; otherwise the final grade for the subject will be a maximum of 4.0(failure) for not complying with the conditions required for averaging.

Case 2.- Student with continuous assessment without passing. It will have a weight of 90% and 100% of the proposed exercises must be solved. The student must obtain a minimum grade of 5 in order to obtain an average; otherwise, the final grade for the subject will be a maximum of 4.0 (failure) due to failure to comply with the conditions required for averaging.

There will also be a Computer Aided Design test, with a weight of 10%, for those students who have not obtained the minimum grade during the term who have not obtained the minimum qualification during the term, and the student must obtain a minimum grade of 5.