

## 25868 - Graphic Expression I

### Syllabus Information

**Academic year:** 2024/25

**Subject:** 25868 - Graphic Expression I

**Faculty / School:** 110 - Escuela de Ingeniería y Arquitectura

**Degree:** 558 - Bachelor's Degree in Industrial Design and Product Development Engineering

**ECTS:** 6.0

**Year:** 1

**Semester:** Second semester

**Subject type:** Basic Education

**Module:**

### 1. General information

This subject aims to develop the student's spatial vision and abstraction capacity, to be able to solve graphic problems using different representation systems and to be able to elaborate graphic documentation associated with the development of a product.

The contents developed are the foundation of knowledge and abilities to be acquired in the rest of the degree program.

### 2. Learning results

1. Master the basics of industrial drawing to apply them to the realization and interpretation of drawings, both as a whole and as an exploded view, and to develop reasoned solutions to geometric problems in the plane and in space.
2. Value standardization as the ideal conventionalism to simplify not only production but also communication, giving it a universal character.
3. Develop spatial vision.
4. Develop the capacity for conception and precise definition of complex shapes and geometries.
5. Be able to represent and communicate complex shapes and geometries by means of standardized graphic language.

### 3. Syllabus

The program of the subject is structured in two blocks of contents in which the following topics are developed:

Block 1. Representation systems:

- Axonometric system.
- Dihedral system:
  - Representation of basic entities. Parallelism and perpendicularity.
  - Representation of polyhedral solids and solids of revolution.
  - Methods: changes of plane, turns, and abatiments.
  - Representation of sections and intersections.
  - Development of surfaces.
  - Shadows.
- Conical system.

Block 2. Graphic documentation in projects:

- Application of Standards.
- Formats, scales, line types and writing.
- Main views and special views.
- Cuts and sections.
- Annotation.
- Introduction to set drawing.

### 4. Academic activities

The teaching/learning activities comprise 150 h of student work (6 ECTS) and are distributed as follows:

1. Lectures (14 horas). Dedicated to developing concepts.
2. Problem solving (28 hours). Dedicated to analyzing and solving problems by applying knowledge.
3. Practices (18 hours). Sessions to elaborate graphic documentation using CAD.

4. Individual study (60 h). Study of contents. Completion of exercises and proposed problems.
5. Teaching assignments (24h): Development of works related to the subject.
6. Tests (6 h). Performance of evaluation tests.

## **5. Assessment system**

The assessment and final grade of the subject will be based on:

A) Performance of Assignments and Practices. These assignments are prepared and delivered during the class period, at the dates indicated at the beginning of the term. They are graded from 0 to 10, according to the criteria of application of knowledge, correct execution and careful presentation. It will be equivalent to 50% of the final grade of the subject. The student will have to obtain a minimum grade of 4.5 to average.

B) Knowledge tests. The student will have two calls, on the dates scheduled by the Center, for to take these tests. These tests will consist of exercises related to each of the thematic blocks of the subject. They will be graded from 0 to 10, according to criteria based on correct execution and presentation. It will be equivalent to 50% of the final grade of the subject. The student will have to obtain a minimum grade of 4.5 for averaging.

The global Evaluation Tests will consist of the realization of exercises, graphic problems and similar works to those in sections A and B.

## **6. Sustainable Development Goals**

4 - Quality Education