

25808 - Graphic expression II

Syllabus Information

Academic year: 2023/24

Subject: 25808 - Graphic expression II

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

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

ECTS: 6.0

Year: 2

Semester: First semester

Subject type: Compulsory

Module:

1. General information

The objective of the subject is to provide the student with the necessary knowledge to interpret and develop a mechanical assembly in all aspects related to graphic expression. In addition, they must be able to use prouaries and tables on standardized elements to correctly define the most common standardized elements, integrating them into a technical project.

The necessary knowledge must also be acquired to correctly establish and represent surface finishes and tolerances and to properly select materials.

In addition, knowledge related to the representation of welded assemblies, springs, sheet metal parts, plastic parts and simple metal structures will be acquired.

Finally, knowledge related to computer-aided design and the generation of subsequent drawings, parts lists, etc., will be acquired.

SDGS 8: Objective 8.2

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 subject consists of the following topics:

1. Standardization in Industrial Drawing.
2. Assembly drawings and exploded views.
3. Standardized threaded elements.
4. Elements of union and security.
5. Bearings and their accessories.
6. Gears. Surface roughness and quality.
7. Tolerances and adjustments.
8. Designation of materials.
9. Springs and springs.
10. Plastic parts.
11. Soldier Sets.
12. Metal structure.

4. Academic activities

6 ECTS credits: 150 hours / student

- 28 h. of lectures (theoretical)

- 14 h. of problem solving and case studies
- 18 hours of laboratory practice
- 25 h. of personal study
- 60 h. of personal work
- 5 h. of assessment tests

5. Assessment system

The subject will be evaluated by global assessment and is composed of three parts with different percentages in the final grade:

- **45% Group technical project:** it will consist of a practical work of the subject to be delivered during the global test . Students who wish to do so may submit it in advance, before a date set by the teacher. The projects will be different for each of the calls unless the student has presented the project in the first call and obtained a grade lower than 4. In that case students will be allowed, if they wish, to do the same project for the second call, but they will only be eligible for a grade of 5 onit.
- **15% Laboratory practices.** It will be evaluated by means of a single practice exam. Students who wish to do so may take two tests in the practice sessions that will account for half of this grade instead of the exam of practices, although they will be entitled to it on the date of the comprehensive exam. In this case, the grade of will be taken as the grade of the corresponding global exam.
- **40% Subject exam.** It will consist of a practical part (70%) and a theoretical part (30%)

It is necessary to pass all three parts of the course (grade equal to or higher than 5.0): practical work, practical and laboratory work and subject exam. In case of not passing the three parts, the final grade will be the minimum value obtained between the average of the parts and 4.9.

The various parts are composed of different activities; a minimum of 4.0 will be required for averaging in all the activities that compose each part of subject. Otherwise, the final grade for this part will be the minimum value obtained between the average of the various activities of the part and 3.9

In case offailing any of the parts, it will be recorded in the minutes, but the grade of the passed part will be kept for the next exam within the same academic year, although the student may take the parts they deem appropriate in the second call. In this case, the grade to be taken will be that of the second call.

In the case of failing a part of the subject and passing any activity or assignment of the same, the grade of that activity or assignment will not be maintained, being necessary to pass the corresponding part of the subject.