

## 28803 - Engineering Drawing

### Syllabus Information

**Academic year:** 2023/24

**Subject:** 28803 - Engineering Drawing

**Faculty / School:** 175 - Escuela Universitaria Politécnica de La Almunia

**Degree:** 424 - Bachelor's Degree in Mechatronics Engineering

**ECTS:** 6.0

**Year:** 1

**Semester:** First semester

**Subject type:** Basic Education

**Module:**

### 1. General information

The main objectives of the subject are, on the one hand, to develop the student's capacity for spatial vision, and on the other hand, to transmit skills that allow them to express with precision and clarity graphic solutions in the different systems of representation. The knowledge and use of Computer Aided Design (CAD) will provide students with communication tools applicable in all stages of their professional life. These approaches and objectives are aligned with the following Sustainable Development Goals (SDGs) of the United Nations Agenda 2030, so that the acquisition of the learning results of the subject provides training and knowledge, skills and competencies to contribute to some extent to their achievement: SDGS 4 AND 5.

To take this subject the student should have a previous general knowledge of the contents of the subject of Technical Drawing of Bachillerato.

### 2. Learning results

- Interpret and elaborate multidisciplinary plans.
- Knowledge of regulations.
- Handling CAD tools.
- Gather information from a variety of sources and formats, and comprehensively understand that information.

### 3. Syllabus

#### 1- Technical Drawing and Representation Systems

1-1.- Geometric Drawings. Basic Metric Normalization and Geometric Drawings Sketching Dimensioning Cutting and Sections Thread Representation Taper, Convergence, Inclination and Slope

1-2.- Industrial Technical Drawing. Advanced Standardization of Removable and fixed connecting elements. Surface Marks and Tolerances, Toothed Wheels, Bearings Assemblies and Parts. Materials

#### 2.- Knowledge and Application in CAD-CAE Development

2-1 Knowledge and Application in CAD-CAE Development (I) Introduction to the Modeling Process Working with Sketches Introduction to 3D Operations Assemblies (Assemblies, Groups, U.F.) Exploded Documentation 2-2 Knowledge and Application in CAD-CAE Development (II) Schematic Development Software

### 4. Academic activities

Theoretical-practical classes (30h): The theoretical concepts of the subject will be explained and practical examples will be developed to support the theory when necessary.

Laboratory practices (30h): The students will be divided into several small groups, where the concepts and procedures corresponding to CAD-CAE tools will be explained and applied..

Tutored practical work -Tutorials-: Tutored practical work, work and exercise follow-up, including attendance and individual attention, during the schedule published on the EUPLA website.

Personal study. Individual dedication necessary to consolidate a correct learning process.

Assessment test: Individual test where the student, in addition to the grading function, will be able to identify their degree of understanding and assimilation of the subject.

### 5. Assessment system

#### CONTINUOUS ASSESSMENT SYSTEM

Participation (20%): Activities and work proposed in class; Attitude and direct observation of skills and abilities in the subject.

Individual/Group Work -CAD-CAE- (40%): Proposed work.

Assessment test (40%): Test of practical application of concepts and procedures.

All items will have a summative value as long as the value in each one of them is  $> 4$

The students that in the continuous assessment have not passed some of the sections will have to present themselves in the corresponding callings ONLY of that part not passed or, if necessary, make the appropriate corrections.

#### OVERALL FINAL ASSESSMENT TEST

The student must opt for this modality when, due to their personal situation, they cannot adapt to the pace of work required in the continuous assessment system, has failed or would like to raise their grade after having participated in the continuous assessment system.

Individual work: CAD-CAE- (50%): Schematic, plan and assembly works.

Assessment test (50%): Test of practical application of concepts and procedures.

All items will have a summative value as long as the value in each one of them is  $> 4$