

28830 - Mechatronics Systems Design Project

Syllabus Information

Academic year: 2023/24

Subject: 28830 - Mechatronics Systems Design Project

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

Degree: 424 - Bachelor's Degree in Mechatronic Engineering

ECTS: 6.0

Year: 4

Semester: First semester

Subject type: Compulsory

Module:

1. General information

The main objective of the project office subject is to provide the student with the necessary knowledge and training tools for the development of their professional activity as an engineer.

The objectives of the subject are:

- Knowledge and use of Industrial Drawing standards.
- Realization and interpretation of industrial projects, using CAD and office automation.
- Classification of documentation.
- Organization, management and supervision of production systems.

Alignment with the SDGs:

These approaches and objectives are aligned with the Sustainable Development Goals (SDGs) of the 2030 Agenda of the United Nations (<https://www.un.org/sustainabledevelopment/es/>). The subject provides training and competence in these objectives:

- Goal 4: Quality education (M 4.3, M4.4 and M4.7)
- Goal 7: Affordable and non-polluting energy (M 7.2)
- Goal 8: Decent work and economic growth (M 8.2)
- Goal 9: Industry, innovation and infrastructure (M 9.4)

2. Learning results

In order to pass this subject, the students shall demonstrate they has acquired the following results:

- Understanding of concepts related to the areas of knowledge of the degree.
- Develop, plan and manage technical projects.
- Understand, order and transmit information obtained from different sources.
- To present coherently, orally and in writing, the work done.
- Motivation and self-learning capacity.
- Knowledge of current regulations.
- Drawing and interpreting planes and diagrams according to the appropriate standards and symbology.

3. Syllabus

"If this teaching could not be done in person due to health reasons, it *would be done telematically*" **THE TECHNICAL OFFICE**

- Technical function and organization in the company (design, production, maintenance, etc.)
- Documentation management
- Standardization and legislation

TECHNICAL REPORT / TECHNICAL REPORT

- The technical report: Concepts and Classification.
- Preparation of a technical report.

THE PROJECT

- The project: Concepts and Classification
- Project documents
 - Memory (descriptive and constructive)

- Drawings (assemblies, exploded views, fabrication, etc.)
- Specifications
- Measurements
- Budgets
- Other project documents

4. Academic activities

Theoretical classes (1h/week): The theoretical concepts of the subject will be explained.

Classroom practice/seminars/workshops (3h/week): Practical examples will be explained by the teacher, where concepts and procedures will be applied, as well as the use of computer tools..

Tutored practical work-Tutorials (5h/week): Individual and group practices, carried out by the students and supervised by the teacher. (Dedication of the students to the subject)

Work and personal study (1h/week): Individual dedication to assimilate learning. (Dedication of students to the subject)

5. Assessment system

Continuous Assessment

- **Participation.**
 - Classroom attendance > 75%.
 - Attendance at visits and talks > 90%.
- **Individual theoretical and/or practical evaluation tests (50%).**

To average between tests	Minimum in each 40%
Regular Call	Maximum recovery 25% of the tests
Extraordinary Call	Single global test
To compute with works	Only if the average of the tests is higher than 40%

- **Individual work 1 (10%):**
 - Lay_out on product to be manufactured.
- **Individual work 2 (10%):**
 - Mechanism drawing (assembly, exploded view and manufacturing).
- **Group work 1 (30%): Technical Project**
 - Teacher assignment
 - Document (15%)
 - Individual defense (15%).
 - Expulsion from the group means passing to final assessment.

In order to be counted, each of the activities must reach 40% of its overall weight.

Subject grade = Sum of all grades, subject passed > 50% of total value

Submission of work

- One week before call. Group work, the date of defense will be agreed upon.

Final Assessment (Call)

When the student is unable to adapt to the continuous assessment or is expelled from the group in continuous assessment. The papers must be submitted 10 days prior to the date of the call for papers, and the date of the defense will be agreed upon.

- **Individual theoretical assessment test (50%).**
 - Students must pass a theoretical and/or practical test of the entire subject.
- **Individual work 1 (10%):**
 - Mechanism drawing (assembly, exploded and manufacturing drawings).
- **Individual work 2 (40%): Technical Project**
 - Teacher assignment
 - Document (20%)
 - Defense (20%).

In order to be counted, each of the activities must reach 40% of its overall weight.

Subject grade = Sum of all grades, subject passed > 50% of total value