Universidad Zaragoza

Academic Year/course: 2024/25

29730 - Project Office

Syllabus Information

Academic year: 2024/25
Subject: 29730 - Project Office
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 434 - Bachelor's Degree in Mechanical Engineering
ECTS: 6.0
Year: 4
Semester: First semester
Subject type: Compulsory
Module:

1. General information

1.1. Objectives of the subject

The subject and its expected results respond to the following approaches and goals:

- Basic and complementary knowledge of the professional activity.
- Application to a practical case.
- Ability to learn.
- Ability to organize and plan.
- Information management skills.
- Ability to analyse and synthesise
- Decision making.
- Ability to communicate orally and in writing
- Work responsibility
- Motivation for the work.
- Ability to work as part of a team.
- Ability to work independently .
- Interpersonal skills.
- Concern for quality and improvement.
- Basic skills for handling new technologies.

1.2. Context and meaning of the subject in the degree program

The subject aims to enable students to prepare and manage all the technical documentation necessary for the development of a project related to a mechanical system

It also aims to enable students to analyse the feasibility of a proposal and to plan, coordinate and manage the execution of a project.

1.3. Recommendations for taking the subject

The student should have passed the 1st year subject, Graphic Expression and Computer Aided Design (6 ECTS) and the 2nd year course, Industrial Drawing (6 ECTS)

2. Learning results

2.1. Learning Results

1. Understands the interrelationships between all the agents involved in the project.
2. Interprets the fundamental concepts and standards related to industrial projects.
3. Understands the aspects and characteristics involved in the technical studies of the industrial activity.
4. Performs and carries out the definition, design, planning, development and monitoring of a project.
5. Interprets and prepares the specific technical documentation of a project in their specialty.

2.2. Importance of learning results

Learning results are important because they enable students to:

- Understand the organization and functions of the technical office.

- Acquire the ability to develop the professional activity in the field of Mechanical Engineering.
- Carry out the practical application of theoretical contents through the development of a project specific to the specialty.
- Study the technical and economic feasibility of the projects.
- Interpret and develop project documentation, as well as other related technical documentation.
- Understand the relationship between the documentation managed, as well as the contractual nature of the project documents
- Perform and carry out the planning, scheduling, control and monitoring of a project.
- Know and interpret the fundamental regulations and legislation related to projects and in matters of health and safety
- Use and apply technical specifications.
- Understand the concepts of intellectual and industrial property, product homologation and certification.
- Acquire the ability to make budgets, relating costs to project valuation.

3. Syllabus

3. Program

T.1.- PROJECT MANAGEMENT

1.1. INTRODUCTION TO PROJECT MANAGEMENT

1.2. PROJECT INTEGRATION

1.3. PROJECT DEFINITION AND SCOPE

1.4- PROJECT DEADLINES

1.5. GRAPHIC TECHNIQUES FOR PROJECT MANAGEMENT

T.2.- GENERAL CRITERIA FOR PROJECT DEVELOPMENT

2.1- STANDARD UNE 157001:2002. GENERAL CRITERIA.

2.2- STRUCTURE OF A TECHNICAL PROJECT

2.3- TECHNICAL PROJECTS IN THE FIELD OF MECHANICS

2.4- SPECIALTY PROJECTS

T.3.- NORMATIVE APPLICATION IN THE DESIGN OF MECHANICAL PROJECTS.

3.1.- COMPETENCES OF THE GRADUATE - INDUSTRIAL TECHNICAL ENGINEER.

3.2.- APPLICATION OF THE OFFICIAL REGULATIONS OF THE MECHANICAL FIELD.

3.3.- APPLICATION OF COMPLEMENTARY REGULATIONS.

T.4.- PROJECT EXECUTION.

4.1.- COMPETENCES, AUTHORIZATION, LEGALIZATION AND COMMISSIONING OF INDUSTRIAL INSTALLATIONS

4.2.- AGENTS INVOLVED IN THE LEGALIZATION OF INDUSTRIAL FACILITIES.

4.3- CONTROL AND TECHNICAL DIRECTION OF THE PROJECTS.

T.5.- REGULATIONS ON THE REPRESENTATION OF DIAGRAMS AND DRAWINGS IN ENGINEERING PROJECTS.

5.1.- RULES OF CONSULTATION AND GENERAL RULES OF REPRESENTATION.

5.2.- TYPES OF DRAWINGS USED IN MECHANICAL PROJECTS.

-PLANS OF INDUSTRIAL BUILDINGS.

-LAYOUT PLANS

-MACHINE AND EQUIPMENT DRAWINGS

-INSTALLATION DRAWINGS

5.3.- DRAWINGS REQUIRED DEPENDING ON THE TYPE OF PROJECT.

4. Academic activities

4.1 Planning of learning activities and calendar of key dates

The schedule of classroom and problem sessions and practical sessions in the laboratory are given according to the timetable established by EINA. It is published prior to the beginning of the term on the Centre's web page and on the bulletin boards.

At the beginning of the term, the dates for the delivery of the partial reports of the project as well as the delivery and presentation of the final project will be announced. Other activities will be planned according to the number of students and will be announced well in advance

At the end of the four-month period, students must submit and present a paper and take an exam on theoretical contents. The work will be monitored through the delivery of periodic reports.

Detailed dates for completion and delivery of activities will be established by the teacher once the University and EINA have approved the academic calendar. This calendar will be available on the Centre's website, on the bulletin boards and on the Digital Teaching Ring platforms.

5. Assessment system

5. Type of tests and their value on the final grade and evaluation criteria for each test

To verify that the student has achieved the expected learning results, the following evaluation procedures will be used:

1) Theoretical Exam (25%).

Composed of short questions and/or problems that assess the learning results of the subject. There will be an exam at each official call.

The grade for this activity will be from 0 to 10 points and will represent 25% of the student's overall grade.

The theoretical exam is intended to evaluate the learning results previously exposed.

2) Work (75%).

Throughout the four-month period, students will carry out a project in working groups.

The topic of the project will be related to a mechanical system and can be proposed by the group.

The following documents must be included: Memorandum, Plans, Specifications and Budget. If applicable, it will also include a Health and Safety study.

At the beginning of the term, the parts that make up the work and the specific weighting applicable will be established and communicated in class and through the means established by the teachers responsible of the subject.

Throughout the term, there will be two revisions of the work, which may be graded for the final grade of the work.

The project will be delivered, depending on the specific conditions of the academic year, in the form defined for it (paper, computer support, or work tools such as Moodle)

In addition to the delivery of the project on paper and computer support, an oral presentation may be proposed by the teachers in charge, to those groups in which it is considered necessary due to the magnitude of the work or to show the participation in the work of each member of the group

The project is intended to assess the learning results of points 1, 2, 3, 4 and 5.

The subject will be considered passed when both the grade of the exam and the grade of the projects are equal to or higher than 5

The global evaluation test will consist of a theoretical exam and the realization of a project according to the specifications of the teacher. The percentage of each of the parts is equal to 25% for the exam and 75% for the project. This test will take place during the period established by the centre in the academic calendar.

6. Sustainable Development Goals

9 - Industry, Innovation and Infrastructure