

Academic Year/course: 2021/22

30131 - Project Office

Syllabus Information

Academic Year: 2021/22

Subject: 30131 - Project Office

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

Degree: 425 - Bachelor's Degree in Industrial Organisational Engineering

ECTS: 6.0

Year: 4

Semester: First semester

Subject Type: Compulsory

Module:

1. General information

1.1. Aims of the course

The main objective of the Project Office course is to provide the student with the necessary skills and training tools for the development of their professional activity as an engineer.

Also the course and its expected results respond to the following approaches and goals:

- ? Knowledge and use of current regulations regarding Industrial Drawing, all of which are necessary for their representation in the blueprint document.
- ? Production of Functional Units, Systems, Sets and Sub-sets, according to current standards and techniques.
- ? Know how to read and interpret industrial projects.
- ? Acquire the necessary skills for the searching, filing and classification of documentation.
- ? Application of CAD systems, peripherals and other means and computer supports to produce the necessary technical documents in a T.O. (plans, memories, budgets, etc.).
- ? Carry out organization, management and monitoring tasks of production systems.
- ? Be able to carry out tasks related to proper attention to didactic aspects in the teaching-learning process.
- ? Develop critical ability and ethical responsibility in professional activities.

These approaches and objectives are in line with the following Sustainable Development Goals (SDGs) of the United Nations 2030 Agenda (<https://www.un.org/sustainabledevelopment/es/>), in such a way that the acquisition of the course learning outcomes provides training and competence to contribute to their achievement to some degree.

Goal 4: Quality Education

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy

Goal 8: Promote inclusive and sustainable economic growth, employment and decent work for all

Goal 9: Build resilient infrastructure, promote sustainable industrialization and foster innovation and, specifically, with the targets:

4.3 By 2030, ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university.

4.4 By 2030, substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship.

4.7 By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture?`s contribution to sustainable development.

7.2 By 2030, increase substantially the share of renewable energy in the global energy mix.

8.2 Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors.

9.4 By 2030, upgrade infrastructure and retrofit industries to make them sustainable, with increased resource-use efficiency and greater adoption of clean and environmentally sound technologies and industrial processes, with all countries taking action in accordance with their respective capabilities.

1.2. Context and importance of this course in the degree

This course is part of the IOI Degree (Management) offered by EUPLA. It is a 4th year course, taken in the 7th semester and classified, within the Projects module, as compulsory, with a teaching load of 6 ECTS credits, equivalent to 150 hours of student work, out of which, 60 will be spent on face-to-face activities (theory, problems, laboratory, computer tools ...) and 90 non-class activities (problem-solving, study, seminars, final group work ...).

The course will be divided into two major parts, both developed in section 4.3 of this document:

? Part 1.- Theory on Methodology, Planning and Project Regulations. Project Documents.

? Part 2.- Theory-Practice in Knowledge and Application of Computer Tools in Projects

Both parts, in the design of the course, have an application nature and lead to the making of a project-like work, trying to enable students to carry out any technical documentation necessary for the planning, development, implementation, manufacture and maintenance of a project in engineering.

The objective of the course is that the students of the Bachelor's Degree in Industrial Management Engineering acquire the basic knowledge of the profession by learning the concepts, terminology, theory and methodology necessary to understand, suggest and carry out an industrial project. The development of general skills and competences such as teamwork, self-learning and the ability to apply knowledge to practice is also encouraged.

According to this, we can say that it is cross-curricular course itself, where the knowledge that has been learned in previous subjects will be applied in the Final Degree Project and the production of Projects in Engineering.

1.3. Recommendations to take this course

It is recommended to have passed the course on Graphic Expression (Year 1), and completed the compulsory courses of the 2nd and 3rd years

2. Learning goals

2.1. Competences

Upon passing the course, the student will acquire the competences explained on page 87 of the verification report of the Industrial Management Engineering Degree

https://academico.unizar.es/sites/academico.unizar.es/files/archivos/ofiplan/memorias/grado/ingenieria/mv_143.pdf

BASIC

C01 - Ability to conceive, design and develop Engineering projects

C02 - Ability to plan, budget, organize, direct and control tasks, people and resources

C04 - Ability to solve problems and make decisions with initiative, creativity and critical thinking.

C08 ? Ability to analyze and assess the social and environmental impact of technical solutions acting with ethics, professional responsibility and social commitment, always seeking quality and continuous improvement

C09 - Ability to work in a multidisciplinary group and in a multilingual environment

C10 - Capacity for information management, handling and application of the technical specifications and legislation necessary in the Engineering world

SPECIFIC

C24 - Knowledge and skills to organize and manage projects. Learn about the organizational structure and functions of a project office

2.2. Learning goals

Students, to pass this subject, must produce the following results. They?

- Understand the interconnections between all the agents involved in the project.
- Interpret the major concepts and standards involved in industrial projects.
- Understand the issues and characteristics that take part in the technical studies of industrial activity.
- Carry out the project design, planning, development and monitoring.
- Interpret and prepare the specific technical documentation of a project.

2.3. Importance of learning goals

This subject has a remarkably engineering character offering training for the production of reports, technical documents and projects. It is therefore a cross-curricular subject, of major relevance, particularly in those subjects with content of graphic design and / or management and, mainly, in the Degree Essays and Projects.

Regardless of the field of technology in which the project is framed and, particularly, in multidisciplinary environments, such as Degree Project and the production of Projects in Engineering , achieving the learning goals will lead us to reach the best results in relation to the three basic pillars of any project: QUALITY, DEADLINE and COST.

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

Students must show that they have achieved the expected learning outcomes through the following assessment activities
Continuous Assessment System

? **Participation.** - Attendance, at least 80%, to face-to-face activities (practice tasks, classes, etc.); Attitude and direct observation of skills and request-presentation of the project.

? **Individual theoretical assessment test (10%).** The student must pass a short question or a test type theoretical test in which the knowledge acquired during the explanations will be assessed.

? Individual work 1 (10%):

- o Plant distribution works based on the research on a product to be manufactured

? **Individual work 2 (10%):**

- o Mechanism design and report.

? **Group work 1 (20%): Technical Report**

- o Computer-based technical report delivery (10%)

- o Individual presentation of the technical report delivered (10%).

? **Group work 2 (50%): Technical Project**

- o Computer-based project delivery (25%)

- o Individual presentation of the documentation delivered (25%).

All the tasks must be passed individually (**getting at least 50% of their global value**), the final grade being the result of the sum of all of them when the above-mentioned requirement is met.

Students who, in the continuous assessment, have not passed any of the above sections, must sit an exam ONLY about those failed parts

? In the case of practical tasks, they must be delivered one week before the date of the call, agreeing with the teacher, if applicable, the date of presentation.

? In the case of theory assessments, they will take a test that will include stuff from all those that have been done during the course on the date and time of the assessment call.

Global Final Assessment Test

Students must choose this option when they cannot adapt to the working pace required in the continuous assessment system. In order to be assessed in one of the official calls he must have delivered the work 10 days before the date of the call, which is posted on the EUPLA Webpage, agreeing on a date for the presentation with the teacher

<http://eupla.unizar.es/asuntos-academicos/examenes>

? **Individual theory assessment test (30%).** The student must pass a short question or a test type exam in which the knowledge acquired during the explanations will be assessed.

? **Individual work 1 (70%):**

- o Computer-based Project Delivery (30%)
- Plant distribution (Component Manufacturing or Activity)

- o Presentation of the documentation delivered (40%).

All the tasks must be passed individually (getting at least 50% of their global value) the final grade being the result of the sum of all of them when the above-mentioned condition is fulfilled.

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

"If classroom teaching were not possible due to health reasons, it would be carried out on-line"

The learning process that is designed for this subject is based on the following:

? **Lectures:** theoretical activities conducted by the teacher, so that the theoretical support of the subject is given, highlighting the major issues, structuring them on chapters and / or sections and connecting them to each other.

? **Classroom practice work/seminars/workshops:** Theoretical discussion activities or practice work preferably performed in the classroom and requiring high student participation and monitored by the teacher

? **Individual/Group tutorials:** These are made on a one-to-one or group basis, at the department. They aim to help solving problems that the students might have.

4.2. Learning tasks

The program that the students are offered to help them achieve the expected results involves the following actions...

? Lectures (30h): The concepts and procedures of the subject will be developed and practical examples as support will be developed when convenient

? Classroom practice work/seminars/workshops (30h): Students will be divided into several groups being monitored by the teacher and they will develop the concepts and procedures in the computing tools, particularly, CAD-CAE

Tutorials: Supervised practice tasks, which include attendance and individualized or group attention, with a calendar published on the EUPLA website (Included in the 6 weekly hours that the student must dedicate to the course)

? Personal Study: Individual work needed for the assimilation of the concepts and procedures for a proper learning process. (Included in the 6 weekly hours that the student must dedicate to the course)

4.3. Syllabus

TRAINING ACTIVITY

- ? Study and understanding of concepts and procedures on project planning and management.
- ? Study and understanding of concepts and procedures on the technical project office.
- ? Study and understanding of concepts and procedures on project methodology and morphology.

CONTENTS

Contents of the subject essential to obtain the learning outcomes

- ? Planning and project management.
- ? The technical project office.
- ? Methodology and morphology of the project.

Part 1.- Theory on Methodology, Planning and Project Regulations

1 THE TECHNICAL OFFICE

- ? Technical role in the company
- ? T.O. Functions: Demand forecast and upon request
- ? T.O Organization
- ? T.O. Relation with Departments.
- ? T.O. Role in the client-company relationship

2 DOCUMENT MANAGEMENT

- ? General Issues
- ? Tasks and Dependencies. Reports
- ? Resources and Workloads. Reports
- ? Monitoring and Control. Reports

3.- STANDARDIZATION

- ? Structure of standardization
- ? UNE regulations
- ? CTE
- ? Urban planning

4.- TECHNICAL REPORT

- ? The technical report: Concepts and Classification.
- ? Production of a technical report.

5.-THE PROJECT

- ? The project: Concepts and Classification
- ? Project integrating factors
- ? The phases of the Project
- ? Methodology

6.- PROJECT DOCUMENTS

6.1 REPORT

- ? The descriptive report.
- ? Constructive report.

6.2 DRAWINGS

- ? The plan as a technical document.
- ? General Plans, Systems and Subsystems
- ? Piece drawings.

- ? Manufacturing plans.
- ? Additional information on the plans
- ? Information and Basic Engineering

6.3 MEASUREMENTS AND BUDGET

- ? The importance of knowing how to measure and what to measure.
- ? Parts that make up a budget.
- o Single prices, decomposed prices, auxiliary prices.
- o Budget for material execution and contractors.
- ? Certifications.

6.4 SPECIFICATIONS

- ? General specifications.
- ? Particular specifications

6.5 PREVENTION OF LABOR HAZARDS (PRL)

- ? Machine Safety - CE marked.
- ? Safety and health studies (ESS).
- ? Basic health and safety study.
- ? Health and Safety plan

6.6 APPENDIXES

Part 2: Practice Knowledge and Application of Computer Tools for Project and Technical Report Design

- ? Application in the development of CAD / CAE (Plants)
- ? Application in the development of CAD / CAE (Diagrams)
- ? Documentation

4.4. Course planning and calendar

The lectures and practical sessions in the laboratory are given according to the schedule set up by the School and it is published, prior to the start date of the course, on the EUPLA website, as well as the tutorial schedule.

The most relevant dates - **Course Planning** - (Initial test, task proposal, delivery and presentation etc.) will be given to the students in the classroom at the beginning of the course.

The weekly schedule of the course will be posted officially at

<http://www.eupla.unizar.es/asuntos-academicos/calendario-y-horarios>

The dates of the global assessment test (official calls) will be those posted officially at

<http://www.eupla.unizar.es/asuntos-academicos/examenes>

4.5. Bibliography and recommended resources

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30131>

Resources:

- Access to the subject documentation using the Moodle platform