

**COURSE DATA****Data Subject**

Code	34931
Name	Project management
Cycle	Grade
ECTS Credits	6.0
Academic year	2023 - 2024

Study (s)

Degree	Center	Acad. year	Period
1404 - Degree in Industrial Electronic Engineering	School of Engineering	3	First term

Subject-matter

Degree	Subject-matter	Character
1404 - Degree in Industrial Electronic Engineering	14 - Projects	Obligatory

Coordination

Name	Department
ESPERANTE PEREIRA, DANIEL	242 - Electronic Engineering

SUMMARY

The Technical Office subject matter is part of projects whose overall objective is that students gain the ability to properly apply all previously acquired knowledge to the design, development and evaluation of projects and reports, applying the methodology and the basic principles of economics, management, quality and business organization as well as legislation, regulation and standardization in the field of industrial engineering. To do this, the subject addresses both aspects of organization and management of production and technical department. It is a compulsory subject that is taught quarterly basis in the third year of the Degree in Industrial Engineering, Industrial Electronics Branch, during the first quarter. The curriculum consists of a total of 6 ECTS. The basic objective of the Course is to introduce students to the concepts and techniques commonly used in the Management and Industrial Project Management, including documentary techniques used in the development of projects and the submission of the applicable law relating to industrial projects field of Industrial Electronics. Project Management is the directing and coordinating human and material resources, throughout the life cycle of a project to achieve the goals set d scope, cost and time and satisfaction of stakeholders in the project. In short, this is a set of methodologies and tools that aim to effectively managing a set of activities to achieve customer satisfaction. The course aims to teach students these methodologies and tools for their professional future



solvency can deal with an industrial project.

PREVIOUS KNOWLEDGE

Relationship to other subjects of the same degree

There are no specified enrollment restrictions with other subjects of the curriculum.

Other requirements

The course, given its general nature, does not need a specific background, although it is recommended to have completed the courses "Engineering, University and Business and Society," in order to have an initial perception of the world of the Company. On the contrary, it does provide very direct connections in areas in which the work is embodied in a project.

COMPETENCES (RD 1393/2007) // LEARNING OUTCOMES (RD 822/2021)

1404 - Degree in Industrial Electronic Engineering

- CG1 - Ability to write, sign and develop industrial engineering projects in the field of industrial electronics, aimed at the construction, refurbishment, repair, conservation, demolition, manufacture, installation, assembly and operation of structures, mechanical equipment, energy facilities, electrical and electronic installations, industrial installations and plants, and manufacturing and automation processes, in accordance with the knowledge acquired using a specified industrial electronic technology.
- CG2 - Ability to manage the activities involved in the engineering projects described in the previous heading.
- CG4 - Ability to solve problems with initiative, decision-making skills, creativity and critical reasoning and to communicate and transmit knowledge, abilities and skills in the field of industrial engineering (with specific industrial electronics technology).
- CG6 - Ability to deal with specifications, regulations and mandatory standards.
- CG9 - Ability to organise and plan work in companies and in other institutions and organisations.
- CG11 - Knowledge, understanding and ability to apply the necessary legislation for practising professionally as a qualified industrial engineer.
- CG28 - Applied knowledge of business organisation.
- CG29 - Knowledge and ability to organise and manage projects. Understand the organisational structure and the functions of a project office.



LEARNING OUTCOMES (RD 1393/2007) // NO CONTENT (RD 822/2021)

1. Understand the basic principles of Industrial Electronics and apply them to create, analyze and choose the best solutions to solve problems related to its profession. (CG1, CG2, CG4)
5. Know the organizational structure and functions of a project office. (CG29)
8. Perform economic evaluation of processes and projects. (CG2)
9. Write and develop projects in the field of Industrial Engineering. (CG1, CG11)
10. Know the professional organization and basic track procedures. Understand current legislation and in particular that concerning prevention and equality. (CG6, CG11)
13. Possess organizational skills and planning, particularly in the field of business. Have applied knowledge of business organization. (CG9, CG28).

DESCRIPTION OF CONTENTS

1. THE CONCEPT, CONTEXT, CHARACTERIZATION AND STAGES OF A INDUSTRIAL PROJECT

- LESSON 01: The concept of an industrial project
- LESSON 02: The context of an industrial project
- LESSON 03: Characterization of external projects
- LESSON 04: Characterization of internal projects
- LESSON 05: The Quality Plan for the management of an industrial project

2. THE DRAFT

- LESSON 06: The management of an industrial project
- LESSON 07: The specifications of an industrial project
- LESSON 08: The basic techniques of project planning
- LESSON 09: Advanced techniques of project planning
- LESSON 10: Feasibility studies and project risk
- LESSON 11: The economic evaluation of a project
- LESSON 12: The decision theory

3. THE PROJECT

- LESSON 13: The implementation of industrial projects
- LESSON 14: Validation of industrial projects
- LESSON 15: Project monitoring and controlling
- LESSON 16: Project closure
- LESSON 17: Agile methodologies



4. THE PROFESSIONAL ACTIVITY

LESSON 18: The self-employment

5. LABORATORY

The purpose of the laboratory classes is that the student learns the use of computer programs for the planning, management and control of projects. This section is organized by means of several lab exercises in which the following contents will be addressed:

1. MS PROJECT.
2. Project planning with unlimited resources.
3. Project planning with limited resources. Cost and load diagrams. Computerized project control.
4. Development of a practical project.
5. Economic and financial viability of a project.

WORKLOAD

ACTIVITY	Hours	% To be attended
Classroom practices	30,00	100
Theory classes	20,00	100
Laboratory practices	10,00	100
Attendance at events and external activities	5,00	0
Development of group work	40,00	0
Study and independent work	10,00	0
Readings supplementary material	5,00	0
Preparation of evaluation activities	10,00	0
Resolution of case studies	20,00	0
TOTAL	150,00	

TEACHING METHODOLOGY

The development of the course is structured around the theory classes, practical classes, seminars and workshop classes and labs.

The *theoretical activities (T)* will be exposed by the classes of theory. In those classes, we will use the lecture model. The teacher will present on presentation and / or explain the contents of each issue impacting on key aspects for understanding. (CG4, CG6, CG9, CG11, CG28, CG29)

The seminar-workshop (S) will be developed according to the following methodology: Each student will choose a topic that may constitute future project to grade and develop the corresponding draft project, prepare the corresponding presentation (Power-Point), and I will defend in public presentation. Following the presentation will proceed to a round of questions and discussion by the teacher and other students. (CG1, CG2, CG4, CG6, CG11)



For the **laboratory sessions (L)** will be scheduled activities for introducing the practice to perform the development activities of experimentation and analysis activities and treatment results. Students will have scripts for practice and testing will be conducted strictly by them under the supervision of the teacher. (CG6, CG9, CG11)

EVALUATION

The knowledge gained by the student may be assessed in two ways: On the one hand by continuous assessment or by a final exam (single evaluation system).

Continuous Assessment System

This system will be used to evaluate those students who regularly participate in the regular teaching activities, evaluating the theoretical activities, the seminars-workshops and the laboratory activities.

The knowledge acquired in the theory classes will be evaluated by means of a series of short questionnaires throughout the course and an individual objective test, consisting of a final theory exam. This exam will consist of theoretical-practical questions of what has been exposed both in the Theory classes and the Seminars-Workshops throughout the course. **The grade of the short quizzes will contribute to 10 % of the grade and the final theory exam will contribute to 30 % of the final grade.**

The evaluation of the Seminar-Workshop activities will be obtained through the quality of preparation of a report and public exposition of the topic presented by the student. **The grade of the seminars-workshops will contribute to 40 % of the final grade.**

The practical knowledge acquired in the laboratory classes will be evaluated through a final individualized test. **The grade of the laboratory practices will contribute to 20 % of the final grade.**

Summary of the final grade breakdown of the course

Activity or Concept to be evaluated	Method of grading	% Final Grade
Theoretical Activities 1 (T)	Final theory exam	30 %
Theoretical Activities 2 (T)	Periodic short quizzes	10 %
Seminar-Workshop activities (S)	Report and exposition	40 %



Laboratory classes (L)	Final individual test	20 %
Total		100 %

In order to estimate the final grade, a **minimum grade of 4 in the sections "Theoretical Activities 1" and "Seminar-Workshop Activities" is compulsory.**

Alternative Evaluation System

For those students who for any reason cannot attend classes regularly or have not passed the continuous evaluation, in any of its different evaluations, the evaluation of the acquired knowledge can be done by means of a final exam of theory that will include the contents of all the classroom activities carried out (theoretical activities, and seminar-workshop activities) as well as by means of a laboratory exam. The grade of the theory exam will contribute to 75% of the final grade while the grade of the exam and the grade of the Laboratory exam will contribute to 25% of the final grade.

Summary of the final grade breakdown of the course

Activity or Concept to be evaluated	Method of grading	% Final Grade
Theoretical Activities (T) and Seminar-Workshop activities (S)	Final theory exam	75 %
Laboratory class (L)	Final laboratory exam	25 %
Total		100 %

To estimate the final grade, a **minimum grade of 4 in any of the sections is compulsory.**

In any case, the regulation established by the University of Valencia related to the evaluation process of Degrees and Master studies apply.



REFERENCES

Basic

- Pereña, J. "Dirección y Gestión de Proyectos". Ed. Díaz de Santos (1991).
- Gómez, J. F; Coronel, A.J; Martinez de Irujo, L; Lorente, A. "Gestión de proyectos". FC Editorial. Madrid, 2000. ISBN 8428317747.
- Lock, D. "Gestión de proyectos". Ed. Paraninfo. Madrid, 1994. ISBN 8428317747.
- Ruiz M., Mandado, E. La innovación Tecnológica y su Gestión Ed. Marcombo (1989) ISBN 84-267-0733-5

Additional

- SERCOBE Gestión de la I+D+i- Normas UNE (2008) ISBN 978-84-8143-567-2.
- Amándola, L.J. Gestión de Proyectos de Manufacturera Editoril UPV, ISBN 84-9705-311-7
- Reglamento Electrotécnico de Baja Tensión. Ed. Paraninfo (1997) ISBN 84-283-2109-4