Technical Office

**Academic Year: ( 2023 / 2024 )** **Review date: 25/04/2023 20:00:34**

**Department assigned to the subject: Electronic Technology Department**

**Coordinating teacher: PLEITE GUERRA, JORGE**

**Type: Compulsory ECTS Credits : 3.0**

**Year : 4 Semester : 2**

## REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Since students must face the preparation of a project document for industrial engineering in electronics, the student will have an easier time developing this course and get better use of it if you have passed all the subjects of the specialty of 1 , 2 and 3 of the degree.

## OBJECTIVES

By the end of this subject, students will be able to have:
1. knowledge and understanding to develope, execute and manage industrial engineering projects, according to good practises, standards and regulations
2. awareness of the wider multidisciplinary context of engineering.
3. the ability to apply their knowledge and understanding to analyse engineering products, processes and methods;
4. the ability to apply their knowledge and understanding to develop and realise designs to meet defined and specified requirements;
5. the ability to conduct searches of literature, and to use data bases and other sources of information;
6. an awareness of the non-technical implications of engineering practice.
7. function effectively as an individual and as a member of a team;
8. demonstrate awareness of the health, safety and legal issues and responsibilities of engineering practice, the impact of engineering solutions in a societal and environmental context, and commit to professional ethics, responsibilities and norms of engineering practice;
9. demonstrate an awareness of project management and business practices, such as risk and change management, and understand their limitations

## DESCRIPTION OF CONTENTS: PROGRAMME

1. INDUSTRIAL PROJECT.
1.1 DEFINITION.
1.2 PHASES.
1.3 LIFE CYCLE OF A PROJECT.

2. PROJECT FLOWCHARTS.
2.1 ORGANIZATION TECHNICAL OFFICE.
2.2 RESPONSIBILITIES.

3. DESIGN PHASE PREVIOUS STUDIES. PROJECT FEASIBILITY.
3.1 TECHNICAL FEASIBILITY
3.2 ECONOMIC FEASIBILITY

4. DEFINITION PHASE. PROJECT DOCUMENTS.
4.1 MEMORY.
4.2 FLAT.
4.3 SPECIFICATION.
4.4 BUDGET.

5. IMPLEMENTATION PHASE I.
5.1 PROJECT LEGALIZATION AND TRAMITACIONES.
5.2 NORMATIVE.
5.3 VISAS
5.4 PERMITS

6. THE DIRECTOR OF THE PROJECT.
6.1 CONTROL OF DEADLINES. TOOLS
6.2 COST CONTROL. TOOLS.
6.3 QA. TOOLS

7. IMPLEMENTATION PHASE II. ACTUAL IMPLEMENTATION
7.1 RECRUITMENT AND SHOPPING
7.2 TECNICAL MANAGEMENT
7.3 THE MAIN CONTRACTOR
7.4 OVERRIDE PROJECT

8. HEALTH AND SAFETY.
8.1 STUDY HEALTH AND SAFETY
8.2 COORDINATOR OF SAFETY AND HEALTH
8.3 LEGALIZATION

9. DISABLING THE PROJECT
9.1 SUPPLIES
9.2 LEGALIZATIONS
9.3 TESTS

## LEARNING ACTIVITIES AND METHODOLOGY

- Theoretical classes. basics involved in the preparation of an Industrial Project will be considered, in a range from the legal aspects to the most practical ones, including the process of formalizing a Project to be endorsed in the Official Association.

- Practical Sessions. In them, students will be guided on the elaboration of the specific Project that they will have to elaborate as part of the work of the subject. To do this, Project Teams (PT) of 3 or 4 people will be defined who will work on a common project. Throughout the practice sessions, students will be asked to present different advances of their projects, on which they will be evaluated. They will also be given support in questions about which they have doubts, which arise in the natural process of developing the project. This activity is guided in the Practice Guide section.

- Tutorials. There are 3 collective tutorial sessions of an hour and a half hour each, which are distributed as follows:

1 Tutoring session with the Theory's teacher. In it, the student will be supported in all those aspects that have to do with the theoretical foundations of the subject and, particularly, on specifications and budget.

2 sessions with the Practice's teacher. In them the PT will receive guidance on those aspects of their project on which doubts arise, usually of a more technical nature focused on memory and plans.

- Intermediate Exam and Final Exam. These are written evaluation tests, focused mainly on the evaluation of the fundamentals taught in the theoretical classes. The Intermediate Exam is part of the teaching activity of the course, taking place within one of the class sessions.

- Presentation of the Project. It is an act in which the different PTs will make an oral presentation of the project supported by a Powerpoint-type presentation. Each group will have a maximum of 15 minutes to make their presentation, after which the teachers will be able to ask questions. Previously, all the documentation will have been uploaded to Aula Global in electronic format (Report, Plans, Specifications and Budget, as well as the presentation). On the day of the presentation, a paper copy will be delivered at the beginning of the session of Memory, Plans, Specifications and Budget.

## ASSESSMENT SYSTEM

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| **% end-of-term-examination/test:** | 25 |
| **% of continuous assessment (assigments, laboratory, practicals…):** | 75 |

Practice Sessions 10 %
Project Document 25 % (minimmum 5/10)
Project Presentation 20 % (minimmum 5/10)
Intermediate Exam 20 %
Final Exam 25 % (minimmum 4/10)

## BASIC BIBLIOGRAPHY


- Manuel de Cos Castillo Dirección de Proyectos, Project Management., Universidad Politécnica de Madrid. E.T.S. de Ingenieros Industriales de Madrid. Sección de Publicaciones .

- Rafael Heredia Scasso Dirección Integrada de Proyectos, Project Management. , Universidad Politécnica de Madrid. E.T.S. de Ingenieros Industriales de Madrid. Sección de Publicaciones .

- Rafael Heredia Scasso y Juan Ramón Catalina Calle Un caso de aplicación de D.I.P. (Project Management) ¿La construcción de las instalaciones del INSIA de la UPM¿, Universidad Politécnica de Madrid. E.T.S. de Ingenieros Industriales de Madrid. Sección de Publicaciones..