

## 30131 - Project Office

### Información del Plan Docente

Academic Year	2016/17
Academic center	175 - Escuela Universitaria Politécnica de La Almunia 179 - Centro Universitario de la Defensa - Zaragoza
Degree	425 - Bachelor's Degree in Industrial Organisational Engineering 457 - Bachelor's Degree in Industrial Organisational Engineering
ECTS	6.0
Course	4
Period	First semester
Subject Type	Compulsory
Module	---

### 1. Basic info

#### 1.1. Recommendations to take this course

#### 1.2. Activities and key dates for the course

### 2. Initiation

#### 2.1. Learning outcomes that define the subject

#### 2.2. Introduction

### 3. Context and competences

#### 3.1. Goals

#### 3.2. Context and meaning of the subject in the degree

#### 3.3. Competences

#### 3.4. Importance of learning outcomes

### 4. Evaluation

### 5. Activities and resources

#### 5.1. General methodological presentation

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

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A strong interaction teacher/student. This interaction becomes a reality by a division of labor and responsibilities between

## 30131 - Project Office

students and teachers. However, to some extent, the students will be allowed to set up their own pace of learning according to their needs and availability, following the guidelines set by the teacher.

The teaching organization is based on the number of ECTS credits, which represents, in this case 150 hours of student work on the subject during the semester (15 weeks tuition). 60 hours will be held in the classroom and LAB and the rest will be autonomous work.

The organization of the actual teaching will be based on the following guidelines:

- **Theory Classes** : 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** : Theoretical discussion activities or practice work preferably performed in the classroom and requiring high student participation and a performance directed by the teacher.
- **Lab Practice work**: The total group of master classes will be divided into several groups according to the number of students enrolled, but never more than 24 students, so that smaller groups are formed. Computer Application Practical Activities for the production of Project Documents with the relevant software will be made in the Technical Office classroom.
- **Group tutorials**: Scheduled tracking learning activities in which the teacher meets with a group of students to guide their autonomous learning work and consultancy of targeted work or tasks that require a very high degree of advice from the teacher. Essentially a number of hours will be required for such group monitoring (to agree with each of the groups, with at least the specified time in the **Calendar** section of this document).
- **Individual tutorials**: These are made on a one-to-one basis, at the department. They aim to help solving problems that are the students might have, particularly those which for several reasons cannot attend group tutorials or need a more personalized attention. These tutorials may be face-to-face or virtual (Moodle or email).

### Defence profile

The focus of the subject is primary practical and oriented to enable the student with the necessary professional engineering skills.

The subject consist of 6 ECTS representing 150 working hours of the student during the semester (15 weeks). The teaching activities of the subject are structured into the following main points:

- Theory
- Case studies and practical work in class
- Experts seminars
- Group and individual office hours

### 5.2.Learning activities

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

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## 30131 - Project Office

Active participation of the students, so that, to achieve the learning outcomes, no redundancy intended with the above mentioned, the following activities will be developed:

### - Face-to-face Generic Activities:

- **Theoretical classes:** the concepts and procedures of the subject will be developed and practical examples as support will be developed
- **Practical classes:** problems and case studies will be done to complement the theoretical concepts studied
- **Lab practice work:** Students will be divided into several groups not bigger than 20 students / being monitored by the teacher.

### - Non-class Generic Activities:

- Study and assimilation of the concepts and procedures outlined in the laboratory.
- Understanding and assimilation of the problems and practical cases solved in practical lessons.
- Organization of seminars, suggested problems solving, etc.
- Organization of laboratory practice work, development of scripts and reports.
- Individual and group production of the final Project.

- **Monitored autonomous activities:** Although they will rather have a mixed nature between face-to-face and non-class tuition they have been considered separately and will be focused mainly to seminars and tutorials under the supervision of the teacher.

- **Reinforcement activities:** With a remarkable non-class nature, through a virtual learning portal (Moodle, e-mail) several activities that reinforce the basic contents of the subject will be carried out. These activities can be customized or not, and will be monitored through the portal.

The subject consists of 6 ECTS credits, which represents 150 hours of the student work during the semester, i.e. 10 hours per week for 15 tuition weeks.

### Defence profile

The final practical project of the Project Management subject consists of the realization of a practical work applied to the degree context, showing the skills and knowledge acquired by the student in the subject. The project will be a written as an academic report (Pdf format) and an oral presentation explaining the key facts of the project should be done in class (PowerPoint).

The final project will be carried out in groups of 3 or 4 people maximum who will undertake the specific roles of the project. Practical work sessions will be carried out in class with the supervision of the professor after the corresponding project management theory explanation. The remaining work will be self done by the group.

Several control points of the final project will be established by the professor as a continuous assessment during the semester. Soft and hard copies of the final project will be sent to the corresponding professor in the requested dates of presentation.

The oral presentation will be done to an advisory board integrated by multidisciplinary professors of the Centro Universitario de la Defensa. The presentation will take 15 minutes maximum per group and it will finished with a 5 minute round of questions to be carried out by the board. The presentation could make use of a PowerPoint file and additional material such as videos or documents. The language of the presentation will be English.

## 30131 - Project Office

### 5.3.Program

Essential Contents of the subject for the achievement of learning outcomes

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As discussed above, the subject to be developed along the course is divided in **2 well-differentiated parts**:

#### 1.- Theory Contents

Part 1: Theory on Methodology, Planning and Project Standards	
Unit 0	<p><b>PROGRAM AND PRESENTATION OF THE COURSE</b></p> <p>0.1 Introduction to the Subject and general presentation of the theoretical and practical contents</p> <p>0.2 Scheduling of classroom lessons, blended learning and autonomous classes</p> <p>0.3 Group and individual tutorials timetable</p> <p>0.4 Assessment Criteria and Ratings. CEVA table</p> <p>0.5 Introduction and purpose of the Software and Hardware to use</p> <p>0.6 Delivery of cards for the call for papers. Work group Distribution</p>
Unit 1	<p><b>TECHNICAL OFFICE</b></p> <p>1.1 Technical role in the company</p> <p>1.2 T.O. Functions: Demand forecast and upon request</p> <p>1.3 T.O Organization</p> <p>1.4 T.O. Relation with Departments.</p>

## 30131 - Project Office

	1.5 T.O. Role in the client-company relation
Unit 2	<p>THE PROJECT</p> <p>2.1 The project: Concepts and Classification</p> <p>2.2 Project Factors</p> <p>2.3 Project Stages</p> <p>2.4 Methodology</p>
Unit 3	<p>PROJECT DOCUMENTS</p> <p>3.1 UNE Standards</p> <p>3.2 Project Documents: Memory, Plans, P.C., Budget Annexes, and Planning</p>
Unit 4	<p>DRAWING IN THE PROJECTS</p> <p>4.1 General Plans</p> <p>4.2 Systems and Subsystems</p> <p>4.3 Group Drawings (UF). Lists</p> <p>4.4 Subgroup Drawings. Lists</p> <p>4.5 Workshop Drawings. Lists</p> <p>4.6 Welded Parts. Lists</p> <p>4.7 Information and Basic Engineering</p>

## 30131 - Project Office

Unit 5	<p>PROJECT MANAGEMENT</p> <p>5.1 General Issues</p> <p>5.2 Tasks and Dependencies. Reports</p> <p>5.3 Resources and Workloads. Reports</p> <p>5.4 Monitoring and Control. Reports</p>
Unit 6	<p>QUALITY AND LEGAL ISSUES</p> <p>6.1 Regulations for Industrial Engineering Projects 1 and 2</p>

## 2. Theoretical and Practical Contents

<b>Part 2: Theory-Practice Knowledge and Application of Computer Tools for the Design Drawings</b>	
Unit 7	<b>APPLICATIONS IN THE DEVELOPMENT OF CAD / CAE (I): Plant Design</b>
Unit 8	<b>APPLICATIONS IN THE DEVELOPMENT OF CAD / CAE (II): Solid Modeling</b>
Unit 9	<b>APPLICATIONS IN THE DEVELOPMENT OF CAD / CAE (III): Schemes</b>

## Defence profile

The syllabus of the subject is following explained:

- Unit 1: Introduction.
- Unit 2: Project integration analysis.
- Unit 3: Stakeholders management.
- Unit 4: Project scope definition.
- Unit 5: Time management.
- Unit 6: Risk management.

## 30131 - Project Office

- Unit 7: Procurement management.
- Unit 8: Quality management.
- Unit 9: Cost management.
- Unit 10: Human resources management.
- Unit 11: Communication management.

### 5.4.Planning and scheduling

#### Classroom session schedule and presentation of works

#### SPECIALIZATION IN BUSINESS:

For the presentation of papers the students will be informed either during the development of the classroom activities or through the Moodle platform: <http://moodle.unizar.es>.

In the following table, the schedule which includes the development of the activities and work is shown and may vary depending on the teaching progress:

#### Defence profile

The planning and calendar of the subject will be announced by the professor of the subject via Moodle platform. Project management is a compulsory subject to be taught in the first semester of the fourth year of the study plan, being common to all the branches offered in the degree. It consist of 6 ECTS credits.

This subject focuses on project management methodology as a key tool for an engineer. This methodology provides the student with the necessary skills to be able to understand, plan and solve any technical or management project in the industrial, civil or military field. It fosters the development of general competences like team work, self-learning and the capacity for theoretical concept application. Case studies and practical work will be carried out in class or by the students (self-study) during the term. They will be used for discussion in the practical sessions so that the students could have an active role in their learning curve process. The analytical and synthesis skills developed by the student, being able to analyze obtained results within a project, will be key points to take into account for their assessment.

According the syllabus included in the chapter 5.3, the hourly distribution of the theory units and practical sessions is explained in the following schedule:

ID	Unit	Hours	Total hours	
1	Introduction	1	3	
2	Introduction	2	3	
3	Introduction	3	3	
4	Project integration analysis	1	2	
5	Project integration	2	2	

## 30131 - Project Office

	analysis		
6	Stakeholders management	1	1
7	Gestión del alcance	1	2
8	Gestión del alcance	2	2
9	Time management	1	4
10	Time management	2	4
11	Time management	3	4
12	Time management	4	4
13	Risk management	1	3
14	Risk management	2	3
15	Risk management	3	3
16	Procurement management	1	2
17	Procurement management	2	2
18	Procurement management	3	3
19	Quality management	1	2
20	Quality management	2	2
21	Cost management	1	3
22	Cost management	2	3
23	Cost management	3	3
24	HR management	1	1
25	Communication management	1	2
26	Communication management	2	2
<b>Theory</b>			26
<b>Practicum</b>			24
<b>Total</b>			50

### 5.5. Bibliography and recommended resources

- Echeverría Jadraque, Daniel. Manual para Project managers. Cómo gestionar proyectos con éxito. Madrid: Wolters Kluwer, 2013
- A guide to Project management body of knowledge (PMBok guide). - 5th ed. Project Management Institute Inc., 2013
- Mulcahy, Rita. PMP Exam Prep: Rita's Course in a Book for Passing the PMP Exam. Project Management Institute Inc., 2013
- Cano Fernández, Juan Luis. Curso de gestión de proyectos : manual del alumno / J. L. Cano, R. Rebollar, M. J. Sáenz Zaragoza : Copy Center, D.L. 2003