28842 - Industrial Projects: Standardization and Legislation

Información del Plan Docente

Academic Year	2017/18
Faculty / School	175 - Escuela Universitaria Politécnica de La Almunia
Degree	424 - Bachelor's Degree in Mechatronic Engineering
ECTS	4.0
Year	4
Semester	Second semester
Subject Type	Optional
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

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

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

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

- **Theory/Practice Lectures:** Theoretical activities carried out mainly through exposition by the teacher, where the theoretical supports of the subject are displayed, highlighting the fundamental, structuring them in topics and or sections, interrelating them.
- **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.
- **Autonomous works:** Activity to be undertaken by the student personally. Usually done outside the classroom. Consultations in other media, application in OT-lab with the relevant software, laboratory or at home . Professor , at the request of the student , tracks the students work.
- **Individual / group tutorials :** These are the ones done through personalized attention, individually or in groups, from the teacher in the department. They aim to help to solve the problems that students come across, following a schedule published in the Web of the EUPLA. These tutorials can be on-site or virtual (Moodle).

5.2.Learning tasks

- **Theoretical / practical lessons (20h):** The theoretical concepts of the subject will be explained and illustrative practical examples will be developed as support for the theory when it is deemed necessary.
- **Classroom practice (20h):** Students will, individually or in groups, perform part of the Practical Exercises and will be monitored by the teacher.
- **Study and personal work** : This off-site part is given about 60 hours of work, necessary for the study of theory, problem solving and the production of school work (Practical Exercises) valid for assessment.
- **Tutorials and generic off-site activities** : Each teacher will publish a schedule of Studentservice throughout the semester.

5.3.Syllabus

- **THEORETICAL CONTENTS**

UNIT 1. Drawings and plans in projects
Chapter 1- Project DrawingStandardization
Standardization in Sketching, Dimension drawing, Threads and Sections and Representation of pieces.
Chapter 2- Standardization in metrology
Roughness and surface finish. Tolerances.
Chapter 3- Standardization in design elements
Joint Components. Bearings
Chapter 4 . Set and detail view. (Content and distribution in the drawings)
Standardized elements in a set. Conventions used in a set. How to present a Set and detail view plan. Exploded View plans. Representation and distribution.

UNIT 2- Laboratory standardization.
Chapter 5- Metrology, calibration and testing.
Introduction. Standards and Metrology Organization. Evaluation of uncertainties. Calibration Certificates.

UNIT 3- DOCUMENT ORGANIZATION IN A PROJECT.
Chapter 6-General criteria for the production of documents which make up a technical project.
Basic documents (Plans, Specificatios, Budget...). UNE 157001.

Chapter 7-Licence Processing

UNIT 4- Standardization and regulation of projects
Chapter 8- Standardization and regulation
Organizations for Standardization. Standardized and legislative documents. Useful Standards and regulationsfor industrial projects.
Chapter 9- Introduction to CE Marking
New Approach Directives. Essential requirements. Technical documentation.

- **PRACTICAL CONTENTS**

Practice Block 1.
1.1 Sketching. Views and sections. Metrology in laboratory
1.2 Fittings (Tolerances). Selecting and calculating fittings.

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1.3 Sets and Detail View . Based on a cross-sectional view: Making plans according to current standards and a report describing the system.

Practice Block 2.
2.1 Application in laboratory of a standard test method.
Standardization. Standard Testing Procedure. Instrument Calibration Plan. Records. Testing Setup
2.2 Production of a Specifications Document. Based on the documentation of a project.

Practice Block 3.
3. Working Regulations and legislation applicable to a project. Technical report about the regulations and legislation to be applied in a project.

5.4.Course planning and calendar

The lectures and practical sessions in the laboratory are distributedfollowing the schedule set up by the University, published, prior to the start date of the course, on the EUPLA website, as well as theTutorials.

The rest of the activities (handing-in of practice tasks, presentations, etc.) will depend on the planning of the Subject and will be communicated to the students at the beginning of the year.

5.5.Bibliography and recommended resources

THE UPDATED BIBLIOGRAPHY OF THE SUBJECT CAN BE CONSULTED THROUGH THE LIBRARY WEB PAGE
http://psfunizar7.unizar.es/br13/eBuscar.php?tipo=a

BB	España. Ministerio de Industria. Ministerio de Industria.(2009). Reglamento de Aparatos de Elevación y Manutención, e ITC. Madrid.(6ªed). Centro de publicaciones.. - 6ª edición Madrid : Ministerio de Industria Miner , 2003
BB	Mata, Julián. Dibujo mecánica 2 : Formación Profesional Primer Grado / Julián Mata, Claudino Alvarez, Tomás Vidondo . - [1a. ed., reimp.] Barcelona : EDEBE, 1986
BC	Larburu Arrizabalaga, Nicolás. Maquinas prontuario : técnicas, máquinas, herramientas / Nicolás Larburu Arrizabalaga Madrid : Paraninfo, 1989
BC	Martinez de Pisón, Francisco J.. La oficina técnica y los proyectos industriales / Francisco Javier Martínez de Pisón. - 1ª edc. Logroño : Universidad de La Rioja : AEIPRO, D.L. 2002
BC	Rodríguez de Abajo, F.Javier. Dibujo técnico / F.Javier Rodríguez de Abajo, Víctor Alvarez Bengoa San Sebastián : Editorial Donostiarra, D.L.1990