

29988 - Graphical documentation for industrial projects

Información del Plan Docente

Academic Year	2016/17
Academic center	110 - Escuela de Ingeniería y Arquitectura
Degree	436 - Bachelor's Degree in Industrial Engineering Technology 438 - Bachelor's Degree in Telecommunications Technology and Services Engineering 440 - Bachelor's Degree in Electronic and Automatic Engineering 430 - Bachelor's Degree in Electrical Engineering 470 - Bachelor's Degree in Architecture Studies 558 - Bachelor's Degree in Industrial Design and Product Development Engineering 434 - Bachelor's Degree in Mechanical Engineering 476 - 435 - Bachelor's Degree in Chemical Engineering 439 - Bachelor's Degree in Informatics Engineering
ECTS	4.0
Course	XX
Period	Half-yearly
Subject Type	Optional
Module	---

1. Basic info

1.1. Recommendations to take this course

The student should have passed the subject of Graphic Expression and Computer Aided Design of any specialty Grade (6 ECTS).

1.2. Activities and key dates for the course

Students must submit and present an academic directed work at the end of the semester. Work monitoring will be done during the contact sessions of the course.

Detailed realization of activities and delivery dates will be set by professors, once the University of Zaragoza and EINA have approved the academic calendar. This schedule may be consulted on the website of the Centre and on bulletin boards.

2. Initiation

2.1. Learning outcomes that define the subject

The student, overcoming this subject, achieved the following results ...

29988 - Graphical documentation for industrial projects

1.- Introduces and familiarizes the student in the use of graphic and industrial applications Computer Aided Design in the field of projects.

2. Evaluation of the potential presented by different document generation software tools compared to conventional methods.

3. Use of these tools on a concrete work environment in the design and development of an industrial project, adhering at all times to the rules and regulations in force.

2.2.Introduction

Presentation brief of the subject

The subject Documentation Chart for Industrial Projects is an important complement to introduce and familiarize students (of all industrial specialties) in the use and applications of Graphic Engineering techniques in the industrial field. Currently the importance and validity of knowledge associated with Computer Aided Graphic Design is growing in all industrial work environments; especially considering the attributes and skills that should have Graduates in Engineering: Mechanical, Electrical, Chemical, Electronics and Industrial Technologies.

The increasing complexity that have acquired the Industrial Projects and the forced reduction in development time to launch new equipment, systems and facilities, have outstandingly boosted the intensive use of these tools.

In addition, through the proposed practical examples, students will have knowledge of how to obtain and link the different planes and documents relating to the industrial project, as well as the legal and regulatory implications of the project.

3.Context and competences

3.1.Goals

The subject and expected results meet the following approaches and objectives:

- Complementary knowledge of the profession in the field of industrial specialty.

- Application to a real industrial project.

29988 - Graphical documentation for industrial projects

- Ability to learn.
- Ability to organize and plan.
- Ability to manage information.
- Capacity for analysis and synthesis.
- Decision making.
- Oral and written communication skills.
- Capacity for teamwork.
- Ability to work independently.
- Interpersonal skills.
- Concern for quality and improvement.
- Basic management of tools from aided engineering skills.

3.2.Context and meaning of the subject in the degree

The subject aims to train students to develop and manage all technical documentation necessary for the development and practical implementation of an industrial project, based on the laws and regulations in force.

3.3.Competences

29988 - Graphical documentation for industrial projects

Once the student pass the course, will be more competent to...

Generic competences:

1. Ability to conceive, design and develop engineering projects (C1)
2. Ability to solve problems and make decisions with initiative, creativity and reasoning (C4)
3. Ability to analyze and assess the social and environmental impact of solutions, acting with professional responsibility and social commitment, always looking for quality and continuous improvement (C8)
4. Ability to work in a multidisciplinary group and in a multilingual environment (C9)
5. Ability to manage information, handling and application the technical specifications and legislation necessary for the engineering (C10)

Specific skills:

1. Ability to apply the engineering graphical techniques. Basic knowledge of the potential and use of graphic engineering aided programs.
2. Capacity to manage documentary information and handling of specifications techniques and regulations necessary for the execution of the Industrial projects.
3. Ability to link information provided by the various documents of the industrial project.

3.4.Importance of learning outcomes

4.Evaluation

Evaluation activities

Professors will use the appropriate combination of the following models to evaluate the acquisition of skills by the student:

1. Directed work.
2. Project Explanation performed individually or in groups.

Following the rules of the University of Zaragoza in this regard, global test will be available for students who decide to opt for this second system.

5.Activities and resources

5.1.General methodological presentation

The learning process designed for this subject is based on develop three types of training activities:

1. Resolution of specific industrial projects problems.
2. Practices using Engineering aided tools.
3. Individual tutored practices.

5.2.Learning activities

The program that is offered to the student to help achieve the expected results includes the following activities...

1. Teaching type A 0 . 2: Resolution of problems and practical cases (10 h) that will address the peculiarities and documentary requirements of industrial projects.

29988 - Graphical documentation for industrial projects

2. Teaching type A 0 3: Laboratory practices (. 30 h) using specific software.
3. Teaching type 06: Tutored practical work. Tutored practices monitoring and controlling the proposed work, individually for each group and by mandatory appointment at the professor's office.
4. Teaching type A 07: Personal study. Individually dedication necessary to consolidate a correct learning process.
5. Teaching type A 08: Evaluation tests. In addition to the assess function, the evaluation is a learning tool with which the student tests the degree of understanding and assimilation that has reached in the matter.
6. Other activities: Tutoring. Direct student attention, learning problems identification, orientation in the subject, exercises advising etc.

5.3.Program

The main contents are summarized in the following sections:

- General concepts and applications of computer aided design software in industrial projects.
- Elaboration of the graphic documentation for systems, equipment and industrial installations.
- Generation and correlation of the Plans and Document related to industrial project.

5.4.Planning and scheduling

The problem classes, practical sessions and case studies schedule will be held according to schedule established by the EINA, and will be published prior to the start date of the course on the website of the Centre and on the boards ad.

At the beginning of the course will be informed of delivery dates of the academic work as well as the exposure of the final project.

Other activities will be planned depending on the number of students and will be announced in advance.

5.5.Bibliography and recomended resources