Universidad Zaragoza

Year : 2020/21

25890 - Undergraduate Dissertation

Syllabus Information

Academic Year: 2020/21
Subject: 25890 - Undergraduate Dissertation
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 558 - Bachelor's Degree in Industrial Design and Product Development Engineering
ECTS: 12.0
Year: 4
Semester: Second semester
Subject Type: ---
Module: ---

1.General information

1.1.Aims of the course

The main objective of the degree is to provide students with the skills necessary for insertion into the labor market. By the Final Project the student will test all the knowledge acquired in previous courses and subjects, and acquire the experience and confidence necessary to move to real professional environment.
The development of projects in collaboration with companies are promoted, in the context of placemanet practices, so that the experience gained through the development of the Final Project would be as realistic as possible.

1.2.Context and importance of this course in the degree

This is the last subject of the degree, overcoming it will credit for obtaining Graduate in Industrial Design Engineering and Product Development.

1.3.Recommendations to take this course

The student should have completed and passed all the subjects/courses of the degree, notwithstanding that in any case must meet the requirements set out in the rules ?Final Project Degree? of the School of Engineering and Architecture, University of Zaragoza.

2.Learning goals

2.1.Competences

BASIC COMPETENCES

CB01. Students have demonstrated knowledge and understanding in a field of study that is part of the general secondary education curricular, and is typically at a level which, although it is supported by advanced textbooks, includes some aspects that involve knowledge of the forefront of their field of study.

CB02. Students can apply their knowledge to their work or vocation in a professional manner and have competences typically demonstrated through devising and defending arguments and solving problems within their field of study.

CB03. Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include an important reflection on social, scientific or ethical issues.

CB04. Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences.

CB05. Students have developed those skills needed to undertake further studies with a high degree of autonomy.

GENERAL COMPETENCES

GC01. Able to acquire basic knowledge of the profession of industrial design, to combine that generalist knowledge and expertise with those who generate innovative and competitive proposals.

GC02. Ability to analyze and assess social and environmental impact of technical solutions, acting with ethics, professional responsibility and social commitment.

GC03. Ability to design and develop design projects in aspects related to the nature of products and services, their relevance to the market, usage environments and user, and based on their manufacture, the selection of materials and processes most appropriate in each case considering relevant aspects such as quality and product improvement.

GC04. Ability to organize time effectively and coordinate activities to acquire new knowledge quickly and perform under pressure.

GC05. Capacity to collect, manage, analyze and synthesize information from various sources for the development of design projects and product development. Capacity to use this documentation to obtain conclusions aimed at solving problems and making decisions with initiative, creativity and critical thinking, in order to generate new product concepts, new ideas and solutions.

GC06. Ability to generate the necessary documentation for the proper transmission of ideas through graphics, reports and technical documents, models and prototypes, oral presentations in Spanish and other languages.

GC07. Ability to use and master techniques, skills, tools and techniques and communication and others specific of design engineering needed for design practice.

GC08. Ability to learn continuously, to develop autonomous learning strategies and to work in multidisciplinary groups with motivation and determination to achieve goals.

GC09. Knowing the industries, organizations, regulations and procedures and other elements to be considered in industrial design projects.

GC10. Ability to plan, budget, organize, direct and control tasks, people and resources.

SPECIFIC COMPETENCES FOR THE FINAL PROJECT

SC27. An original piece of work to be done individually and to be presented and defended in front of a university assessor panel. The work will consists of a project in the field of specific technologies in Engineering in Industrial Design and Product Development, of professional nature in which the student must synthesize and integrate the skills acquired along the learning process.

2.2.Learning goals

The student, for passing this subject, should demonstrate the following results ...

- That is able to develop, present and defend individually an original piece of work of professional nature in the field of Engineering Design and Product Development as a demonstration and synthesis of the skills acquired.
- Can apply the skills acquired to perform a task autonomously. Identifies the need for continuous learning and develops its own strategy to carry it out.
- That is able to plan and use the information required for a project or academic work from a critical reflection on the information resources used.
- It is able to use the techniques, skills and tools as befits the Engineering Design and Product Development necessary to practice it.
- Communicates clearly and efficiently in oral and written presentations on complex subjects, adapting to the situation, the type of audience and communication objectives.

2.3.Importance of learning goals

The results for this subject are of high importance and relevance, the final project must show the results of the overall degree.

3.Assessment (1st and 2nd call)

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

The student must develop a project in accordance with the requirements, and should make a presentation before a university assessor panel, established by the University of Zaragoza and the School of Engineering and Architecture of Zaragoza.

The student will proceed to the presentation and public defense of the Final Project to the appropriate university assessor panel, relying on the elements that are deemed appropriate, within the periods that each center established for the purpose, at least two per year, which may not coincide with the periods of examination.

The evaluation of the Final Project will be based on the following aspects:

- The quality and depth of the work itself, according to the scope and objectives outlined in the proposal and the deposit made by the student, and considering the expected workload.
- The assessment made by the director or co-directors
- The quality of public presentation and defense of the work.

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

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

The student must agree with the director the training activities, depending on the proposed theme and scope of the project.

The project represents 12 ECTS, equivalent to 300 hours of student work. Carrying out basic research application and development activities for about 285 hours. Tutela in personalized teacher-student work for about 10 hours. And 5 hours for

evaluation and assessment.

4.2.Learning tasks

Learning activities will depend on the format and type of Final Project

The Final Project corresponds to the following formats:

1. Specific academic papers.
2. Specific work is done in the laboratory.
3. Specific work is done as a result of practices in companies or institutions.
4. Equivalent work is done as a result of a stay at another university, Spanish or foreign, through an agreement or mobility program.

From the point of view of its content and objectives, the Final Project correspond to the following types:

- Type A: Technical projects. The project according to their type may have different degrees of depth: previous studies, blueprints, generic projects or execution projects. The minimum content of the projects will be established in each case by the legislation, regulations, general regulation and specific that may apply in each area. In the case of basic projects must contain the following documents: memory (with the mandatory annexes), budget and technical drawings. For the case of execution project: memory (with the mandatory annexes), technical drawings, specifications, measurements, and budget.
- Type B: Containing a piece of work adapted to a set of specific characteristics and objectives. It may consist of technical studies, economic studies, management, development and implementation of software, research, etc, in the field of the degree.

In any case, the Final Project will materialize in memory or project in written form accompanied with the material is deemed appropriate, in accordance with the procedures and formats established by the School of Engineering and Architecture.

4.3.Syllabus

The content and theme of the Final Project must be agreed in each case with the director of the project.

4.4.Course planning and calendar

The program and the stages of the project will be agreed with the director of the project.

The Schedule sessions and presentation of work must be agreed in each case with the director of the project.

Dates and schedules will be agreed with the Director of the project, but in any case, should take into account the deadlines for the final project contained in the "Rule of Permanence and Policy Evaluation" at the University of Zaragoza and deadlines and dates set for submission and defense of the final project at EINA.

Information, TFG offers, dates, rules and documentation can be found at:

https://eina.unizar.es/trabajos-fin-de-estudios/

4.5.Bibliography and recommended resources

Several examples of Final Projects can be found at: http://zaguan.unizar.es/?ln=en