25882 - Design Workshop IV: Product Development

Información del Plan Docente

Academic Year	2018/19
Subject	25882 - Design Workshop IV: Product Development
Faculty / School	110 - Escuela de Ingeniería y Arquitectura
Degree	558 - Bachelor's Degree in Industrial Design and Product Development Engineering
ECTS	6.0
Year	3
Semester	First semester
Subject Type	Compulsory
Module	---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

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

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

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

In the subject involved professors of the Area of Graphic Expression with a teaching load of 4 credits, and the Area of Manufacturing Processes, with a teaching load of 2 credits respectively.

Through the realization of a practical project in a most realistic environment, students can progressively acquire the experience in the development of projects necessary to incorporate in the future to the labor market. The theoretical classes provide the necessary knowledge for adequate progress in the development of the project.

25882 - Design Workshop IV: Product Development

This subject is related, as has been said, to the subjects of previous courses Design Workshop I: Fundamentals and Product Communication, Design Workshop II: Methods and Design Process and Workshop III: Creativity, having continuity in the subjects of Workshop of Design V: Product and Service and Workshop VI: Professional Practice; being able to exist points of link and continuation with Processes of Manufacture, Resistance of Materials, Design Assisted by Computer II and Ergonomics.

4.2.Learning tasks

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

The subject will consist of the development by groups of a practical project (30 hours), which will be tutored in the classes and where various practical activities will also be included.

The subject will have 30 theoretical classes, which will include the presentation of contents with presentations and examples, and which will allow the learning of definitions, concepts, and diverse work methodologies and theoretical approaches to the discipline.

Students will develop the project with a degree of autonomy greater than that developed so far in the previous subjects and also with a higher level of responsibility. It is intended that the project consist of a real approach made by an industrial company. The work to be developed for this, between the development of practical and theoretical study, will be around 90 hours.

6 ECTS credits: 150 hours / student
30 h. of master class, theory and problems (15 sessions of 2 hours)
30 h. of practical class (15 sessions of 2 hours)
20 h. of theoretical study (on behalf of the student)
65 h. of practical work (on behalf of the student)
5 h. of examination and presentation of the project

4.3.Syllabus

The general contents that are worked in the subject Design Workshop IV: Product Development are the following:

1. The importance of technical development in the design process.
2. Realization of technical monographs as a tool for analyzing and identifying opportunities in product design.
3. Design for production.
4. Design for assembly.
5. Deepening in the Functional Analysis Technique.
6. Deepening the drafting of specifications of product design (EDPs).
7. Patents, utility models and other industrial registers.
8. Concept of product portfolio.

4.4.Course planning and calendar

The subject consists of a series of theoretical classes, where the theoretical knowledge related to the work methodology related to product development, explanation of design criteria associated with materials and manufacturing processes, explanation of work techniques, terminology are provided. , etc., and a series of practical classes, some of which are of work and others of presentation and evaluation of results.

25882 - Design Workshop IV: Product Development

The subject, of a practical and projective nature, has a workload uniformly distributed throughout the semester.
Each course is published the schedules and the start and end dates of the subject and the specific hours of delivery, which can be found on the EINA website: https://eina.unizar.es/

Content of face-to-face sessions and work presentation calendar:

The theoretical content program is as follows:

1. Product Design Specifications
2. Functional analysis
3. QFD (Quality Function Deployment)
4. Graphic documentation in Product Engineering: Technical monograph
5 Design criteria for sheet metal processing
6. Design criteria in the processing of plastics and composites
7. Design criteria for additive manufacturing (3D printing)
8. Manufacturing processes associated with design: Selection and Application of Materials
9. Manufacturing processes associated with design: Selection and Application of Processes
10. Manufacturing processes associated with design: Assembly
11. Homologation, verification, certification of industrial products (1/2).
12.- Homologation, verification, certification of industrial products (2/2).
13. Patents, utility models and industrial designs.

The calendar of practical classes for the realization of the project is the following:

Exercise Week

Subject Project 1st the 15th

4.5.Bibliography and recommended resources