Universidad Zaragoza

Academic Year/course: 2024/25

25878 - Computer Aided Design II

Syllabus Information

Academic year: 2024/25
Subject: 25878 - Computer Aided Design II
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

The subject seeks to deepen in the use of advanced parametric 3D CAD tools that allow them to support the technical development of products based on standardization.

It is intended that in this subject students will be able to create 3D virtual models involving more complex geometries, with advanced curves and smoother shapes, as well as the design of modular products in which different configurations are presented.

The student will capture the geometric definition of a design in the form of a three-dimensional virtual model, being able to generate the technical and graphic documentation of the product definition (plans, renders, animations). It will provide flexibility in the design process, opening it to possible modifications, redesigns, alternatives, analysis and model checks. The products designed in this subject may be the starting point for further treatments and complementary technical analyses such as finite element analysis, tolerance calculations, manufacturingprocesses , etc.

2. Learning results

The student must demonstrate the following results in order to pass this subject:

1. Ability to generate geometric models using 3D CAD surface modeling tools in the environment of formal and technical development of a product and an industrial design project.

2. Ability to use computer programs to obtain realistic images.

3. Knowledge of the different formats and types of CAD models and possible integration between them.

4. Knowledge of the different formats and types of CAD modeling programs and their files, and possible ways of import / export.

5. Critical and analytical skills based on observation, to be applied to presentations, modifications and simulations of the models generated, and also for their subsequent application, within the context of a project methodology, to tests of various types.

3. Syllabus

Content of the subject:

The content of the subject is structured in the following topics:

1.- Introduction to Solidworks

2.- Advanced operations

3.- Parameterization

4.- Part configurations

5.- Assemblies

6.- Assembly configuration

7.- Intelligent components

8.- Drawings

9.- Surfaces

10- Visualization

11- Animation

4. Academic activities

The total teaching load of the subject is 6 ECTS credits with an equivalence of 150 hours for the student, of which:

- 15 hours of lectures (15 sessions of 1 hour)

- 45 hours of practical class (15 sessions of 3 hours)
- 20 hours of personal study.
- 65 hours of personal work.
- 5 h of evaluation tests.

5. Assessment system

The evaluation of the student's learning results will be based on the assessment of the following evaluation activities by means of a global test, on the date fixed by the Center within the examination period, and which will consist of the following parts:

- Practical exam of the subject with a weight of 50%.
- Development of individual and/or group work, which must be delivered on the day of the global test and with a weight of 50%.

Each of these activities must be passed individually in order to pass the subject.

The subject exam must be passed in order to pass the subject. When it is subdivided in several differentiated parts, the student must pass each one of them independently to pass the subject.

The work may include projects to be carried out individually or in groups. These assignments will be assigned by the teacher in the first weeks of the term. Each of the individual papers must be passed independently for to be averaged with the rest of the sections. The weight assigned to each of them will appear in the statements.

The different parts of exams and papers that have been passed in the first exam session will be kept for the following following call.