

39767 - Computer Assisted Design

Syllabus Information

Academic year: 2024/25

Subject: 39767 - Computer Assisted Design

Faculty / School: 175 - Escuela Universitaria Politécnica de La Almunia

Degree: 608 -

ECTS: 6.0

Year: 4

Semester: Second semester

Subject type: Optional

Module:

1. General information

The main objectives of the subject are, on the one hand, to achieve the knowledge and application of CAD/CAM/CAE programs and their use as a representation tool in 2 and 3D, and on the other hand, to deepen in design techniques, simulation, and analysis of the proposed developments. The realization and printing of drawings will be worked according to the current standards referring to Industrial Drawing as well as the development of autonomous work and decision making based on technical criteria applied by means of graphic solution.

2. Learning results

Capacity for :

Model or solve elements/machines based on technical and functional specifications. Understand, order and transmit information obtained from different sources.

Design or analyze, using computer tools, the behavior of parts, subassemblies or systems-processes, against established stresses or operating requirements. Analyze the design for efficient material flow, use of machines and energy consumption.

Motivation and self-learning capacity. Drawing and interpreting of plans and diagrams in accordance with the appropriate regulations and symbology.

3. Syllabus

INTRODUCTION

- Program and Presentation of the Subject

- Design and manufacturing tools.

- Digital Prototypes

- CAD modeling

- Generation of drawings

MODELING OF COMPONENTS AND ASSEMBLIES

- Assembly restrictions

- Special Mechanical Elements

- Plate and Plate Generator

- Documentation

ANALYSIS

- Model pre-processing

- Boundary conditions

- Load assumptions

- Calculation and post-processing of the solution

- Documentation

4. Academic activities

Theoretical-practical classes (60h): The theoretical concepts of the subject will be explained and practical examples will be developed to support the theory when necessary. Concepts and procedures of computertools will be applied , especially CAD-CAE tools.

Tutored practical work -Tutorials-: Tutored practical work, work and exercise follow-up, which includes attendance and individual or group attention, as appropriate, during tutorial hours (schedule published on the EUPLA website).

5. Assessment system

Continuous assessment system:

Participation (20%) - Activities and work proposed in class; Attitude and direct observation of skills and abilities of the subject. Ability to work in a group.

Individual work (80%): Completion of a final project type work individually.

Global final assessment.

Following the regulations of the University of Zaragoza in this regard, in the subjects that have continuous or gradual assessment systems, a global evaluation test will be scheduled for those students who decide to opt for this second type of evaluation.

6. Sustainable Development Goals

4 - Quality Education

5 - Gender Equality