Academic Year/course: 2024/25

39640 - Advanced IT

Syllabus Information

Academic year: 2024/25
Subject: 39640 - Advanced IT
Faculty / School: 175 - Escuela Universitaria Politécnica de La Almunia
Degree: 608 -
ECTS: 4.0
Year: 4
Semester: Second semester
Subject type: Optional
Module:

1. General information

The general objective of this course is that the student acquires the knowledge and skills of advanced computing, associated with mechatronics.

In addition, the student will be trained in the use, installation and programming of embedded devices, the operating systems they use and will be given an idea of the fields in which these devices can be applied.

2. Learning results

- Identify and evaluate fundamental criteria for the design of computer systems.
- To know how to select components and elements suitable for the application.
- Implement real-time information processing systems.
- Acquire fundamentals of operating systems, communications and hardware.

3. Syllabus

1. Theoretical contents.

- Operating systems.
- Object-oriented programming.
- Introduction to concurrency and real time.
- Databases.

2. Practical contents.

- Learn the installation, configuration and use of operating systems.
- Learm programming with object-oriented languages.
- Learn the installation, configuration and use of complementary computer tools for the creation of a program

4. Academic activities

Theory classes: 15 hours. The theoretical concepts of the subject are explained and illustrative examples are shown to support the theory when necessary.

Practical classes: 15 hours. Problems and case studies are carried out in addition to the theoretical concepts.

Laboratory sessions: 10 hours. Tutored by the teacher.

Study and understanding of the theory: 20 hours

Understanding and assimilation of the problems: 20 hours

Elaboration of the work: 20 hours

5. Assessment system

The subject will be evaluated only in the **global assessment** modality by means of the following activities:

- Operating Systems Paper 1 (25% of the grade). It will consist of the completion of a short paper, which will demonstrate the use of the operating system under study.

- Programming Paper 2 (50% of the grade). It will consist of the realization of a small program, applying the knowledge and tools seen in class.

- Database Paper 3 (25% of the grade). It will consist of the design of data tables and code that performs various operations with the data.

All tests are individual and mandatory. The correctness and quality of the results will be valued, as well as the approach, management and correct development.

6. Sustainable Development Goals

5 - Gender Equality
8 - Decent Work and Economic Growth
9 - Industry, Innovation and Infrastructure