Academic Year/course: 2024/25

39827 - Operating systems

Syllabus Information

Academic year: 2024/25
Subject: 39827 - Operating systems
Faculty / School: 326 - Escuela Universitaria Politécnica de Teruel
Degree: 634 - Joint Programme in Computer Engineering - Business Administration
ECTS: 6.0
Year: 3
Semester: First semester
Subject type: Compulsory
Module:

1. General information

This is the first operating systems course of the computer science degree. It provides a complete view of what an operating system is, from various points of view. It is therefore a subject designed to present the concepts of operating systems in breadth rather than depth, and serves to give perspective to other subjects related to operating systems and networks, which are developed in the rest of the curriculum.

It is recommended to have taken and passed Computer Architecture and Organization 1 and Programming 1.

2. Learning results

Have an understanding of the function of an operating system, its levels of use and management, and the common objects it provides.

Understand and know how to use the most important services of an operating system as a user and through the programming interface with system calls.

3. Syllabus

Introduction

    Structure and function of an Operating System

    Classification of Operating Systems

    Review of basic concepts

Use of command interpreters and basic utilities

Processes

    Process management

    UNIX: Process-related system calls

    Implementation of a command interpreter

Input/Output

    Input/output management

    UNIX: File-related system calls

    Elementary communication between processes: pipelines

Report.

    Memory management

    UNIX: Memory-related system calls

4. Academic activities

- Lectures: the main aspects of each concept will be presented and the readings to be done will be introduced.
- Problem solving classes: problems related to the syllabus will be solved. These classes will be interspersed with the lectures.
- Assisted laboratory practices: applications will be implemented using the system services.

- Personal study and work, for which, in addition to the material used in the lectures and the laboratory, a collection of problems and bibliography is provided.
- Completion of the corresponding evaluation tests.

5. Assessment system

Written exam with analysis and programming problems with system calls, conceptual questions or exercises.