Universidad Zaragoza

Academic Year/course: 2023/24

39827 - Operating systems

Syllabus Information

Academic year: 2023/24
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.

This is a subject whose evaluable contents alone do not yet give the student direct capabilities to contribute to the achievement of the SDGs.

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.