Syllabus
University of Andorra

122040038 - Bachelor of Computer Science

0038020 - Operating Systems

General information

Id: 0038020

Type: OB

Semester: 4

Credits: 6.0

Language of instruction: English

Prerequisites

Id - Subject
0038006 - Computer Structure

Professor(s)

Professor(s) in charge

Mora Llesuy, Ivan (Area of knowledge: Ciències tecnològiques)

Information

Presentation of the subject:

This course aims to explain structure and functions of an operating system.
It is mandatory to fulfill Ordinadors and Estructura d'Ordinadors courses before attending Operating Systems lectures.

Objectives:

At the end of the course, attendees should be able to explain how an OS manage main abstractions (such as processes, address spaces and files) , compare and contrast many CPU efficiency algorithms, and distinguish paged and segmented virtual memory.

Methodology:

The course will combine lecture courses with laboratory courses. Lecture courses will present periodical group comprehension exercises to help further understanding of theorical concepts. Labs course are designed to illustrate key operating system aspects by concrete example, using Linux OS and C programming.

Continuous assessment:

Students will have to take three partial examinations (called CP), that will account for 40% of the final grade and covers the following learning capacity:
SO-1 Student knows the different parts of an operating system and how they interact between them.

Students will deliver three assignments (called TV) throughout the course, that will account for 40% of the final grade and covers the following learning capacity:
SO-2 Student distinguishes the possibilities offered by an operating system for solving problems in the management of processes, files, memory and communication.

Finally, the challenger project covers 20% of the final grade and covers the following learning capacity: SO-3 Proposes solutions to problems that use native operating system resources.

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Final assessment:

There’s an option to improve the QP grade by taking a final examination. If your final examination grade is better than the mean of the three partial examinations, the final examination grade is taking into account instead of QP, following the same formulae as above.

Basic bibliography:

“Modern operative systems”, Andrew S. Tanenbaum, Pearson Educación 2009, ISBN 978-607-442-046-3

Specific competences (1)

Id - Specific competences
BINFO07 - Administració de bases de dades i sistemes

Transversal competences (3)

Id - Transversal competences	Area
UdA06 - Tractament de la informació	Gestió del coneixement i autonomia en el treball
UdA07 - Autonomia i iniciativa	Gestió del coneixement i autonomia en el treball
UdA10 - Comunicació i expressió oral i escrita	Comunicació

Contents (5)

1. OS Introduction
2. Processes
3. Memory management
4. File system & I/O Devices
5. OS Security

Activities (6)

Id - Activity	Description	Competences	Percentage
CP1 - Exam 1	Topics 1 & 2	BINFO07	13,30%
TV1 - Assignment 1	Topics 1 & 2	BINFO07, UdA07	13,30%
CP2 - Exam 2	Topics 2 & 3	BINFO07	13,30%
TV2 - Assignment 2	Topics 2 & 3	BINFO07, UdA07	13,30%
CP3 - Exam 3	Topics 4 & 5	BINFO07	13,30%
TV3 - Assignment 3	Topics 4	BINFO07, UdA06, UdA07	13,30%