

Academic Year: (2020 / 2021)

Review date: 31-01-2021

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: CARRETERO PEREZ, JESUS

Type: Basic Core ECTS Credits : 6.0

Year : 2 Semester : 2

Branch of knowledge: Engineering and Architecture

OBJECTIVES

CB1.Students have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study

CB2.Students can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study

CB3.Students have the ability to gather and interpret relevant data (usually within their field of study) to inform judgments that include reflection on relevant social, scientific or ethical issues

CB4.Students can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences

CB5.Students have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy

CG1.Students are able to demonstrate knowledge and understanding of concepts in mathematics, statistics and computation and to apply them to solve problems in science and engineering with an ability for analysis and synthesis.

CG3.Students can solve computationally with the help of the most advanced computing tools mathematical models coming from applications in science, engineering, economy and other social sciences.

CG4.Students are able to show that they can analyze and interpret, with help of computer science, the solutions obtained from problems associated to real world mathematical models, discriminating the most relevant behaviours for each application.

CG6.Students can search and use bibliographic resources, in physical or digital support, as they are needed to state and solve mathematically and computationally applied problems arising in new or unknown environments or with insufficient information.

CE13.Students have shown that they understand how computers work, and the impact of their structure and operation on programs performance as well as their physical limitations.

CE16.Students have shown that they understand the characteristics, functionalities and structure of the operating system, and that they can develop programs that make use of their services.

RA2.To be able, using arguments, strategies and procedures developed by themselves, to apply their knowledge and abilities to the successful solution of complex technological problems that require creating and innovative thinking;

RA3.To be able to search for, collect and interpret relevant information and data to back up their conclusions including, whenever needed, the consideration of any social, scientific and ethical aspects relevant in their field of study;

RA4.To be able to successfully manage themselves in the complex situations that might arise in their academic or professional fields of study and that might require the development of novel approaches or solutions;

RA5.To be able to communicate, in a precise and clear manner, knowledge, methodologies, ideas, problems and solutions in their field or specialty to any kind of audience (specialist or not);

RA6.To be aware of their own shortcomings and formative needs in their field of specialty, and to be able to plan and organize their own training with a high degree of independence.

DESCRIPTION OF CONTENTS: PROGRAMME

- 1.- Introduction to operating systems.
- 2.- Operating systems services.
- 3.- Processes and threads.
- 4.- Processes and threads scheduling.

- 5.- Inter-process communication.
- 6.- Concurrent processes and synchronization.
- 7.- Memory management
- 8.- Files and directories

LEARNING ACTIVITIES AND METHODOLOGY

AF1.THEORETICAL-PRACTICAL CLASSES. Knowledge and concepts students must acquire. Student receive course notes and will have basic reference texts to facilitate following the classes and carrying out follow up work. Students partake in exercises to resolve practical problems and participate in workshops and an evaluation tests, all geared towards acquiring the necessary capabilities. Subjects with 6 ECTS are 44 hours as a general rule/ 100% classroom instruction

AF2.TUTORING SESSIONS. Individualized attendance (individual tutoring) or in-group (group tutoring) for students with a teacher. Subjects with 6 credits have 4 hours of tutoring/ 100% on- site attendance.

AF3.STUDENT INDIVIDUAL WORK OR GROUP WORK. Subjects with 6 credits have 98 hours/0% on-site.

AF8.WORKSHOPS AND LABORATORY SESSIONS. Subjects with 3 credits have 4 hours with 100% on-site instruction. Subjects with 6 credits have 8 hours/100% on-site instruction.

MD1.THEORY CLASS. Classroom presentations by the teacher with IT and audiovisual support in which the subject's main concepts are developed, while providing material and bibliography to complement student learning.

MD2.PRACTICAL CLASS. Resolution of practical cases and problem, posed by the teacher, and carried out individually or in a group.

MD3.TUTORING SESSIONS. Individualized attendance (individual tutoring sessions) or in-group (group tutoring sessions) for students with teacher as tutor. Subjects with 6 credits have 4 hours of tutoring/100% on-site.

MD6.LABORATORY PRACTICAL SESSIONS. Applied/experimental learning/teaching in workshops and laboratories under the tutor's supervision.

ASSESSMENT SYSTEM

The evaluation allows to know the degree of satisfaction of the knowledge goal, thus all work of the students will be valued by using continuous evaluation of their activities by using exercises, exams, projects, and other activities.

The following scoring will be used for continuous evaluation:

a) Ordinary Exam: 35%.

- * Activities to assess theory concepts and OS problem solving abilities.
- * It covers all the program.

b) Partial activities: 20%.

- * Partial assessments of theory concepts and OS problem solving abilities. It covers 50% of the program.
- * Extra projects or exercises requested in class.
- * Other activities requested along the course. Must be delivered on time.

c) Projects and exercises: 45%.

- * Activities must be delivered on time. They are mandatory.
- * Each project is evaluated separately, including solution adopted, functionality completeness, and design.
- * Evaluation of the project written memory. Project memory organization and correctness, written exam correctness.
- * Evaluation of tools usage.
- * Evaluation of the collaborative work of the members distinguishing roles. Responsibility of the result is shared by all members.
- * Total score for project is computed by given weight to each activity.

To pass the projects, it is mandatory to deliver of all them, to get a minim score of 2 per project, and a minimum average score of 4 for all the projects . If those criteria are not covered, the student will loose continuous evaluation.

In the case of copy detection in any project or partial exam, those students implicated will loose continuous evaluation. Copy could be among students or by taking the projects from Internet.

You will also loose continuous evaluation, if you not deliver all the projects, or do not get minimum a score of 2 in every project.

For those students not following the continuous evaluation, the ordinary exam will cover all the program (including projects). It will have a maximum value of 60% over 10.

A minimum score of 35% is required to follow the continuous evaluation.

If the student does not get the minimum, but the average of continuous evaluation and the exam is higher than 50%, the final student score will be 45%.

To pass the ordinary evaluation, the student must pass 50% considering the scores of the trajectory chosen.

To compute the final score for the extraordinary exam, the following situations are possible:

A.- Students following continuous evaluation that did not pass:

- a- Extraordinary exam will weight 35%
- b- Other 65% will come from the score of continuous evaluation.
- c- A minimum score of 40% is mandatory to pass the exam and compute the average.

B- Students not following continuous evaluation partially or totally:

- a.- Extraordinary exam will weight 100%
- b.- It may include all the topics related to the course contents, including theory and projects.
- c.- A minimum of 5 is required to pass the exam.

% end-of-term-examination:	60
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% of continuous assessment (assignments, laboratory, practicals...):	40
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BASIC BIBLIOGRAPHY

- Abraham Silberschatz, Greg Gagne, Peter B. Galvin Operating System Concepts, 10th Edition, Wiley, 2018