Universidad Zaragoza

39809 - Computer architecture and organisation I

Syllabus Information

Academic Year: 2021/22
Subject: 39809 - Computer architecture and organisation I
Faculty / School: 326 - Escuela Universitaria Politécnica de Teruel
Degree: 634 -
ECTS: 6.0
Year: 1
Semester: Second semester
Subject Type:
Module:

1. General information

2. Learning goals

3. Assessment (1st and 2nd call)

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented such as:
- Lectures.
- Problem-based learning in small group sessions.
- Practical sessions in the laboratory.
- Tutored work at the end of the semester (evaluated independently).
- Voluntary seminars and nonacademic tutorials to complement training activities.
- Effective study of the concepts.

4.2. Learning tasks

The course includes the following learning tasks:
- Development of the subject program in the lectures.
- In the lessons of problems, the concepts discussed in the lectures will be worked in detail.
- In the computer lab sessions, small groups of students will work supervised by a teacher.
- Students can also attend personalized tutorial classes.

4.3. Syllabus

The course will address the following topics:
- Architecture Processor: Interpretation and translation, machine and assembly language, development environment, representation and coding of information, basic operations, registers and memory, addressing modes, instruction set, translation of data structures and control of high-level languages.

- Subroutines: Procedure calls, activation record. Case study: Integration of high-level language code with assembly code and library routines.
- I/O subsystem: Generic model device driver records. Basic methods of synchronization and transfer. Exceptions. Integration of peripherals in microcontrollers.

4.4. Course planning and calendar

Schedule sessions and presentation of works

The educational organization of the course is as follows.

- Lectures (2 hours per week)
- Problem classes (1 hour weekly)
- Computer lab sessions (1 hour a week)
- Tutorial and evaluation activities

The timetable of classes and practice sessions will be defined when the academic calendar of the University of Zaragoza is approved.

Student Work

To achieve the targets of this subject, students have to spend about 150 hours distributed as follows:

- 56 hours approximately, during the learning activities (lectures, problems and practical lab sessions).
- 51 hours of personal study (the study of notes and texts, problems solving problems, preparation for classes and practices, and learning of the software development process).
- 40 hours of software development work.
- 3 hours for the written final exam.

4.5. Bibliography and recommended resources

http://psfunizar7.unizar.es/br13/egAsignaturas.php?codigo=30205&Identificador=12491