Universidad Zaragoza

Academic Year/course: 2022/23

39802 - Introduction to computers

Syllabus Information

Academic Year: 2022/23
Subject: 39802 - Introduction to computers
Faculty / School: 326 - Escuela Universitaria Politécnica de Teruel
Degree: 634 - Joint Programme in Computer Engineering - Business Administration
ECTS: 6.0
Year: 1
Semester: First semester
Subject Type: Basic Education
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 learning process that is designed for this course is based on:

Classroom activities
Lectures 30 h
Problem-based learning 15 h
Laboratory sessions 10 h

Practical work 25h (groups of two-three students)
Autonomous activities
Practical work and personal study 70 h

Evaluation activities
Exams 4 h

4.2. Learning tasks

The course includes the following learning tasks:

Lectures: 30 h

Problem-based learning: 15 h

Laboratory sessions: 10 h

- Introduction. Simplifying functions
- Combinational blocks
- Sequential systems
- Design of sequential systems
- Introduction to Digital Computer (*Máquina Sencilla*)

Escuela Universitaria Politécnica del Campus de Teruel:

Practical work: 25 h
The teacher will supervise the practical work of students divided into groups during 25h.

4.3. Syllabus

The course will address the following topics:

Introduction and mathematical background
Boolean Algebra
Logic gates
Technological constraints

Numerical representation
Representation of natural numbers
Representation of integer numbers
Basic arithmetic operations with integer numbers
Representation of real numbers

Combinational systems
Analysis
Design
Combinational blocks

Sequential systems
Analysis
Design
Memory elements
Critical path and cycle time
Sequential blocks

Introduction to digital computer: *Máquina Sencilla*
Structure and operation
Instruction set architecture
Processing unit
Control unit

4.4. Course planning and calendar

Classroom session scheduling

15 weeks

- Lectures and problem-based learning: 3 h / week
- Laboratory sessions 2 h / 2 weeks
- Practical work (see calendar)

4.5. Bibliography and recommended resources

http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30200&Identificador=12486