30209 - Programming II

Información del Plan Docente

Academic Year	2016/17
Academic center	110 - Escuela de Ingeniería y Arquitectura 326 - Escuela Universitaria Politécnica de Teruel
Degree	439 - Bachelor's Degree in Informatics Engineering 443 - Bachelor's Degree in Informatics Engineering
ECTS	6.0
Course	1
Period	Second semester
Subject Type	Compulsory
Module	---

1.Basic info

1.1.Recommendations to take this course

1.2.Activities and key dates for the course

2.Initiation

2.1.Learning outcomes that define the subject

2.2.Introduction

3.Context and competences

3.1.Goals

3.2.Context and meaning of the subject in the degree

3.3.Competences

3.4.Importance of learning outcomes

4.Evaluation

5.Activities and resources

5.1.General methodological presentation

The learning process for this subject is based on the following aspects:

- students must work on the subject since the beginning of the semester.
- lectures for the presentation of the main concepts and methodologies for the analysis and design of correct and efficient programs. The teacher will make the lectures as interactive as possible, so that students should also participate.
- the use of the presented methodologies in practical problem sessions, where students should have a participative

attitude.In some of these sessions the teacher will propose students some optional work to be evaluated, and whose results will be incorporated to the final subject mark.

- the laboratory sessions, where students will learn the necessary technologies for the development of small programming projects.
- some teamwork programming projects, which should be conveniently designed, developed and documented.

5.2.Learning activities

The subject program proposed to students in order to reach the defined learning objectives includes the following activities:

- lectures for the presentation and discussion of the items proposed in the course syllabus
- problem sessions for the direct application of the concepts worked during the master classes
- laboratory sessions for the implementation of programs requiring the methods and techniques presented in both the master classes and problem sessions.

5.3.Program

The course syllabus contains the following items:

- Formal specification of programs.
- Design of recursive algorithms
- Cost analysis of algorithms
- Correctness verification of iterative and recursive algorithms
- Modular programming
- Development of a programming project

5.4.Planning and scheduling

The students' workload for reaching the aimed learning results is estimated at about 150 hours, organized as follows:

- At the **"Escuela de Ingeniería y Arquitectura"** :
- 50 hours, approx., of face-to-face activities (lectures, problems, and laboratory practice)
- 40 hours, approx., of guided programming work
- 57 hours, approx., of efficient personal study (studying class notes and some documents, resolving problems, preparing classes and laboratory exercises, and developing computer programs)
- 3 hours, approx., for the final exam
- At the **"Escuela Universitaria Politécnica de Teruel"** :
- 60 hours, approx., of face-to-face activities (lectures, problems, and laboratory practice)
- 30 hours, approx., of guided programming work
- 55 hours, approx., of efficient personal study
- 5 hours, approx., of evaluation activities

- Calendar of face-to-face sessions and presentation of work:
- At the **"Escuela de Ingeniería y Arquitectura"** , the teaching activiies of this subject are scheduled as follows:
- Lectures (2 hours per week)
- Problem lessons (1 hour per week)
- Laboratory sessions (six sessions of 2 hours, each one every two weeks). These sessions consist in programming in laboratory, with the the guidance of a teacher.
- At the **"Escuela Universitaria Politécnica de Teruel"** , the teaching organization of this subject is scheduled as follows:
- Lectures (2 hours per week)
- Problem lessons and laboratory sessions (2 hours per week)
- Presentation of works for evaluation: The specific dates for presenting problems and programming activities will be determined when the teacher proposes these activities.

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5.5.Bibliography and recomended resources