

**Información del Plan Docente**

<b>Academic Year</b>	2017/18
<b>Faculty / School</b>	110 - Escuela de Ingeniería y Arquitectura 326 - Escuela Universitaria Politécnica de Teruel
<b>Degree</b>	439 - Bachelor's Degree in Informatics Engineering 443 - Bachelor's Degree in Informatics Engineering
<b>ECTS</b>	6.0
<b>Year</b>	1
<b>Semester</b>	Second semester
<b>Subject Type</b>	Compulsory
<b>Module</b>	---

**1.General information****1.1.Introduction****1.2.Recommendations to take this course****1.3.Context and importance of this course in the degree****1.4.Activities and key dates****2.Learning goals****2.1.Learning goals****2.2.Importance of learning goals****3.Aims of the course and competences****3.1.Aims of the course****3.2.Competences****4.Assessment (1st and 2nd call)****4.1.Assessment tasks (description of tasks, marking system and assessment criteria)****5.Methodology, learning tasks, syllabus and resources****5.1.Methodological overview**

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

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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 tasks

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. Syllabus

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. Course planning and calendar

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 activities 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

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determined when the teacher proposes these activities.

### **5.5. Bibliography and recommended resources**