

## 39811 - Programming II

### Syllabus Information

**Academic year:** 2023/24

**Subject:** 39811 - Programming II

**Faculty / School:** 326 - Escuela Universitaria Politécnica de Teruel

**Degree:** 634 - Joint Programme in Computer Engineering - Business Administration

**ECTS:** 6.0

**Year:** 1

**Semester:** Second semester

**Subject type:** Basic Education

**Module:**

### 1. General information

The purpose of this subject is that the student learns and applies methodologies for the design of correct, robust and efficient programs. The student will learn the necessary concepts about specification, correctness, design and assessment of the cost of an algorithm and the basic pillars of modular and object-oriented programming. Since the subject has a strong practical character, these concepts will be applied to the design of various information processing problems.

These approaches and objectives are aligned with the Sustainable Development Goals (SDGs) of the 2030 Agenda of United Nations (<https://www.un.org/sustainabledevelopment/es/>) and certain specific targets, such that the acquisition of the learning results of the subject will contribute to some extent to the achievement of targets 8.2 and 8.4 of Goal 8, and target 9.4 of Goal 9.

### 2. Learning results

- Develop robust medium-sized programs in a modular and object-oriented way.
- Know and apply the formal specification of algorithms.
- Design and analyse the cost of correct iterative and recursive algorithms.
- Formally demonstrate the correctness of simple algorithms.

### 3. Syllabus

- Modular and object-oriented programming.
- Formal specification, design and correction of iterative and recursive algorithms.
- Analysis of the cost and complexity of an algorithm.
- Development of a programming project.

### 4. Academic activities

Participatory lectures 30 hours

The contents of the subject will be presented with a practical orientation in order to facilitate interaction with the students.

**Laboratory practices:** 30 hours

Algorithms related to the knowledge acquired in the lectures will be designed and implemented.

**Teaching assignments:** 30 hours

Programming assignments covering various topics of the subject will be carried out.

**Study and personal work:** 55 hours

Assessment tests. 5 hours

## 5. Assessment system

In the first call it will be carried out through continuous assessment:

- Practice grade (40% of the grade). A minimum grade of 5 is required to pass the subject.
- Final exam (60% of the grade). A minimum grade of 5 is required to pass the subject.

In case of not delivering the practices or not passing the minimum grade, the student will be able to take the global assessment: Final exam grade: (100% of note).

The following activities will be evaluated in the second call:

- Final exam (100% of the grade)