

Academic Year/course: 2022/23

## 30222 - Software Engineering

### Syllabus Information

**Academic Year:** 2022/23

**Subject:** 30222 - Software Engineering

**Faculty / School:** 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

**Year:** 3

**Semester:** First semester

**Subject Type:** Compulsory

**Module:**

## 1. General information

### 1.1. Aims of the course

### 1.2. Context and importance of this course in the degree

### 1.3. Recommendations to take this course

## 2. Learning goals

### 2.1. Competences

### 2.2. Learning goals

### 2.3. Importance of learning goals

## 3. Assessment (1st and 2nd call)

### 3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

## 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:

1. The continued work from the first day of class.
2. Learning of concepts and methodologies for analysis, design, verification and validation of software through lectures, in which student participation is encouraged.
3. The application of such knowledge on the analysis, design, verification and validation of software in the classes devoted to problems. In these classes, students will play an active role in the discussion of cases and solving problems.
4. Practice sessions where students learn the technology needed for the analysis, design, verification and validation of a software application.

This course is taught only in Spanish.

### 4.2. Learning tasks

The course includes the following learning tasks:

- The syllabus of the course will be presented through lectures.
- In addition to the lectures, there will be problem-solving classes to demonstrate the applicability of the concepts and techniques presented in lectures.
- Throughout the different practice sessions, each student must do, individually or in teams, work directly related to the topics studied in the course.

### 4.3. Syllabus

The syllabus of the course consists of the following topics:

- Introduction to Software Engineering.
- Requirements elicitation
- Analysis: object modelling, dynamic modelling
- Design: System design, object design
- Software product testing

### 4.4. Course planning and calendar

**The schedule at the Faculty of Engineering and Architecture in Zaragoza** is the following:

- Lectures (2 hours per week)
- Problem solving classes (1 hour per week)
- Practice sessions (one 2.5-hour session every two weeks). They are working sessions of analysis, design and testing of software.

**The schedule at the Faculty of Engineering in Teruel** is the following:

- Lectures including theory and problems (2 hours per week)
- Practice sessions (2 hours per week)
- Tutoring sessions of works (2 hours during the course). Students must apply for a date in advance.
- Submission of works under evaluation: The general practice work must be submitted before the beginning of the written exam.

#### Student Work

The dedication of the student to achieve the learning outcomes in this subject is estimated at 150 hours, which are distributed as follows:

- At the **Faculty of Engineering and Architecture in Zaragoza**:

- 60 hours of classroom activities: lectures (30), problem solving (15) and laboratory sessions (15)
- 84 hours of work and study (study of lecture notes and recommended bibliography, problem solving, preparation of classes and development of practice sessions)
- 6 hours dedicated to evaluation activities
- At the **Faculty of Engineering in Teruel**:
  - 60 hours of classroom activities: lectures (30), problem solving (20) and laboratory sessions (10)
  - 84 hours of work and actual individual study (study of lecture notes and recommended bibliography, problem solving, preparation of classes and development of practice sessions)
  - 6 hours dedicated to evaluation activities

The exam schedule and the deadlines for work deliverables will be announced in advance.

#### **4.5. Bibliography and recommended resources**

<http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30222>