Universidad Zaragoza

Academic Year/course: 2021/22

30222 - Software Engineering

Syllabus Information

Academic Year: 2021/22
Subject: 30222 - Ingeniería del Software
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.
5. Only at the Faculty of Engineering and Architecture in Zaragoza: A teamwork project in which each team must face a second version of the software application introduced in laboratory practices, but this time including new functionalities. As deliverables of this project, each team must submit the documents corresponding to the analysis, design and tests, as well as the modified source code and test scripts.

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 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.
- Only at the Faculty of Engineering and Architecture in Zaragoza: In addition to previous activities, a teamwork project under the supervision of a teacher will be done. In these projects, each team must develop a second version of the software application introduced in the laboratory session, which will include new functionalities.

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-hour session every two weeks). They are working sessions of analysis, design and testing of software.
- Tutoring sessions of teamwork projects. Each team should attend to the established supervision sessions (the number of the sessions and their dates will be announced in advance).
- Submission of teamwork projects: The deadline for the submission of the teamwork documentation and software will be the same as the one scheduled by the Faculty Board to hold the written exam.

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 (1 hour per week). 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:

- 60 hours, approximately, of classroom activities: lectures (30), problem solving (15) and laboratory sessions (15)
- 50 hours of teamwork
- 35 hours of work and actual individual study (study of lecture notes and recommended bibliography, problem solving, preparation of classes and practices, program development)
- 5 hours dedicated to evaluation activities

4.5. Bibliography and recommended resources

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