Universidad Zaragoza

Academic Year/course: 2023/24

30243 - Prerequisite Engineering

Syllabus Information

Academic year: 2023/24
Subject: 30243 - Prerequisite Engineering
Faculty / School: 110 - Escuela de Ingeniería y Arquitectura
Degree: 439 - Bachelor's Degree in Informatics Engineering
ECTS: 6.0
Year: 3
Semester: Second semester
Subject type:
Module:

1. General information

Requirements Engineering is a subject taught in the Specific Technology of Software Engineering, in the third year of the Degree in Computer Engineering. It proposes the following objectives:

1. To provide an in-depth understanding of one of the most popular software lifecycles.
2. Develop the necessary skills to be able to develop an engineering process and analysis of software requirements analysis.
3. Learn to use the tools related to requirements and software analysis, and apply them in the context of a real problem.

These approaches and objectives are aligned with Sustainable Development Goals 8 (target 8.4) and 9 (target 9.5) of the 2030 Agenda (https://www.un.org/sustainabledevelopment/es/).

It is recommended to have taken the following subjects:

- Programming I and Programming II
- Data Structure and Algorithms

2. Learning results

1. Get an in-depth look at one of the most popular software lifecycles.
2. Know how to capture and specify functional and non-functional software requirements.
3. Know how to perform software analysis models.
4. Know how to use the tools related to software requirements and analysis.
5. Know how to apply concepts and techniques learned to real problems in the field of Software Engineering.

3. Syllabus

Block I. Introduction and Basic Concepts

Unit 1. Introduction to Software Engineering

Unit 2. Introduction to Requirements Engineering

Block II. Requirements Analysis and Engineering

Unit 3. Capturing and obtaining requirements

Unit 4. Documentation of requirements

Unit 5. Requirements analysis

Block III. Validation and Requirements Management

Unit 6. Quality and requirements management

Unit 7. Verification and validation of requirements

Block IV. Trends and Innovation in Requirements Engineering

Unit 8. Agile Methodologies and Requirements Engineering

4. Academic activities

The subject has an eminently practical component, but it also has a body of theoretical content that makes the student's attendance to the lectures fundamental in the learning process. Additionally, the learning process is supported by the resolution of theoretical-practical assumptions of increasing difficulty in the laboratory and in the theoretical-practical assumption of greater scope to be carried out in group.

Activities:

1. Development of the theoretical program of the subject in lectures (30 hours).
2. Application of specific concepts and techniques in problem (15 hours) and practical (15 hours) sessions.

5. Assessment system

Demonstration of the learning results will be accomplished through the following assessment activities:

1. **Written exam (60%)**. In it, questions and/or problems in the field of Software Engineering of typology and level of complexity similar to the one used during the term will be raised and both the quality and clarity of its resolution will be evaluated.
2. **Practices and Exercises (40%)**. Throughout the term there will be exercises and practices of individual work or in small groups that will be delivered throughout the term. Critical capacity will be valued when selecting alternatives and the correct evaluation of the degree of justification of the solution proposal reached.

The final grade of the course will be obtained as the weighted average of the two parts of its assessment.
To pass the subject it is necessary to obtain a score of at least 5.0 points out of 10 in each of the parts .

In case of not passing the part of Practices and Exercises by means of the deliveries throughout the term, a specific written test will be carried out after the written exam.