Academic Year/course: 2023/24

30246 - Web Engineering

Syllabus Information

Academic year: 2023/24
Subject: 30246 - Web 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:
Semester: First semester
Subject type:
Module:

1. General information

The Web Engineering course aims to provide students with knowledge of technologies and web standards for the development of advanced server-side web applications. Students are expected to acquire skills related to these technologies, as well as to the development of distributed web applications and the implementation of service-oriented architectures. Students will learn to use tools and frameworks related to web engineering, and will gain knowledge in data management, security, performance optimization and web services integration.

These approaches and objectives are aligned with the Sustainable Development Goals (SDGs) of the United Nations Agenda 2030 (https://www.un.org/sustainabledevelopment/es/) and with certain specific targets, so that the acquisition of the learning results will contribute to some extent to the achievement of target 8.2 Goal 8, and target 9.5 of Goal 9.

2. Learning results

If the *Software Engineering* itinerary is followed (EINA

- Be able to use software engineering methodologies to develop Web-based distributed systems and medium-sized service-oriented architectures, of medium size.
- Can describeand to use the most important existing technologies and standards to develop distributed systems, Web-based systems, and service-oriented architectures.
- Be able to search for documentation on different standards and technologies, analyze it and present it effectively to peers.

If the Information Technologies itinerary is followed (EINA, EUPT):

- Be capable of using and developing Web-based distributed systems and service-oriented architectures of medium size.
- Can describe and use the most important existing technologies and standards to develop distributed systems, Web-based systems, and service-oriented architectures.
- Be able to search for documentation on different standards and technologies, analyse it and present it effectively to peers.

3. Syllabus

1. Fundamentals of Web Engineering.

2. Distributed Information Systems Design.

3. Web technologies and standards.

4. Design and development of Web applications.

5. Web architectures.

6. Future prospects.

4. Academic activities

At the School of Engineering and Architecture of Zaragoza:
- Lectures and problems. 45 hours.
- Laboratory practices. 12 hours.
- Subject work. 27 hours.
- Study. 60 hours.
- Assessment tests. 6 hours.

At the Polytechnic University School of Teruel:
- Lectures and problems. 30 hours.
- Laboratory practices. 30 hours.
- Study. 85 hours.
- Assessment tests. 5 hours.

5. Assessment system

At the School of Engineering and Architecture of Zaragoza:

The **continuous** assessment activities for the **first call** of the subject are the following:

1. Individual work (20%). It consists of the completion of a maximum of 3 reports on topics that have been covered during the learning activities in class.

2. Group project (80%). The implementation of a web system that applies the concepts and topics related to Web Engineering learned during the subject will be carried out. The grade for each member of the group will be the grade for the project multiplied by a factor that will take into account the individual performance of each student in the project, the delivery of the practices of the subject and the realization of outstanding contributions during the practices.

In case a student does not pass the subject through continuous evaluation or wants to improve their grade, they can take the **global assessment test** of the first call. This test will consist of a written test of open answer.

The **second call**, to which all students who have not passed the subject will be entitled, will be carried out by means of a **global test**. This test will consist of an open-ended written exam.

At the Polytechnic University School of Teruel:

The evaluation activities will consist, **in all the calls** and individually, in the realization and defence of **a maximum of two projects** that will be proposed to the students at the beginning of the course and will be related to the contents seen in the subject. Each of them will contribute 50% to the final grade.

The teacher will evaluate the work developed by each student, based on the deliverables that reflect his/her activity, and on the defence of their work.