Universidad Zaragoza

Academic Year/course: 2024/25

30246 - Web Engineering

Syllabus Information

Academic year: 2024/25
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.

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 describe and 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 (45 hours).
- Laboratory practices (12 hours).
- Study (87 hours).
- Assessment tests (6 hours).

At the Polytechnic University School of Teruel:

- Lectures (30 hours).
- Laboratory practices (30 hours).
- Study (87 hours).
- Assessment tests (3 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 assessment activities for both sessions will be:

- Project: Completion of an individual project in which students must conceive, design, and implement a web system that incorporates the technologies covered in the course syllabus. The instructor will evaluate each student's work based on deliverables provided on specified dates and on the defense each student makes of their project. The grade for this project will constitute 100% of the final grade.
- Alternatively, students may choose to take a single comprehensive test consisting of a practical exam that covers all the concepts included in the previous project.

6. Sustainable Development Goals

8 - Decent Work and Economic Growth
9 - Industry, Innovation and Infrastructure