Universidad Zaragoza

Academic Year/course: 2024/25

30256 - Web Systems and Technology

Syllabus Information

Academic year: 2024/25
Subject: 30256 - Web Systems and Technology
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: 4
Semester: Second semester
Subject type:
Module:

1. General information

"Web Systems and Technologies" is a mandatory course for the Information Systems and Information Technologies specialties, and an elective course for the Software Engineering specialty. This course, worth 6 ECTS credits, is offered in the second semester of the fourth year of the Bachelor's Degree in Computer Engineering, featuring a practical and applied focus.

The timing of this course in the final semester of the degree program allows for a very practical and applied approach, enabling reflection on the characteristics of the systems and technologies that students have used or are familiar with.

Moreover, the course covers topics that will be beneficial for students in their imminent professional careers.

The objectives and approaches of the course are aligned with several Sustainable Development Goals (SDGs), specifically Goal 8 (Target 8.4) and Goal 9 (Target 9.1).

2. Learning results

In order to pass this subject, the students shall demonstrate they has acquired the following results:

- If you follow the**"Software Engineering"** pathway:
  1. Know the importance of the Web in organizations, its advantages and risks, as well as the associated technology.
  2. Be able to design and implement a medium to large web system.
- If you follow the **"Information Technology"** pathway:
  1. Knowledge of an emerging programming paradigm. The student should be able to design various solutions to a given problem.
  2. Know the importance of the Web in organizations, its advantages and risks, as well as the associated technology.
  3. Be able to design and implement a medium to large web system.
  4. Be able to search for documentation on different standards and technologies, analyze it and present it effectively to peers.
- If you follow the **"Information Systems"** pathway:
  1. Know the importance of the Web in organizations, its advantages and risks, as well as the associated technology.
  2. Be able to design and implement a medium to large web system.

3. Syllabus

Syllabus

Classroom face-to-face learning activities, organized in lecture and problem classes, will focus on the study of the following topics:

- Introduction. Web systems and technologies.
- Distributed systems.
- Web Technologies.

- Web Services.
- Cloud computing.

Practice sessions

- The program of practical sessions and problems will cover the concepts covered in the theoretical classes.

4. Academic activities

The learning process designed for this subject is based on the following:

- Presentation by the teacher of the main contents of the subject.
- Personal study of the subject by the students.
- The resolution of theoretical-practical assumptions for specific cases, in practical problem sessions.
- The development of specific practices by the students, guided by the teacher, which expand the theoretical knowledge and lead to the development of a Web application as a real application case of application of the subject.

The student's dedication to achieve the learning results in this subject is estimated in 150 hours, distributed as follows:

- 60 hours of teaching activities (30 hours of theory sessions and 30 hours of problem and practical sessions)
- 45 hours of team work.
- 40 hours of work and effective individual study.
- 5 hours dedicated to different evaluation tests.

The detailed calendar of activities will be established on the basis of the calendar approved by the University for the corresponding academic year . Dates for exams and assignments will be announced well in advance during classes and on the course page (Moodle).

5. Assessment system

At the School of Engineering and Architecture of Zaragoza:

The student must demonstrate achievement of the intended learning results through the following assessment activity:

- **Project:** A group project in which students must conceive, design, and implement an application Web that contemplates a series of technologies that are part of the syllabus of the subject.

The teacher will evaluate the work developed by each student on the basis of deliverables provided by the group, and on the defense that each student makes of his/her contribution. The grade for this project will be 100% of the final grade.

The evaluation will be the same for the June and July sessions.

At the Polytechnic University School of Teruel:

The student must demonstrate that they have achieved the expected learning outcomes through the following assessment activity:

- **Project:** An individual project in which students must conceive, design, and implement a web application 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