Universidad Zaragoza

Academic Year/course: 2022/23

30246 - Web Engineering

Syllabus Information

Academic Year: 2022/23

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

2. Learning goals

3. Assessment (1st and 2nd call)

3.1. Assessment tasks (description of tasks, marking system and assessment criteria)

In the EINA:

The activities of continuous assessment during the 1st call are the following:

- **Short individual works (20%)**. A maximum of 3 reports on topics related to Web Engineering.
- **Group project (80%)**. A project that will implement a Web system based on topics related to Web Engineering. The mark of each of the members of the group will be the mark of 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 some outstanding contribution during the practices.

There will be a written examination in the 1st call for those who do not pass the subject by the procedures indicated above.

The 2nd call, to which all students who have not passed the 1st will be entitled, will be carried out through a written examination.

In the EUPT:

The evaluation activities will consist, in all the calls, in the individual realisation 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 carried out by each student, based on the deliverables that reflect their activity, and on the defence they make of their work.

4. Methodology, learning tasks, syllabus and resources

4.1. Methodological overview

This subject has a fundamentally applied orientation so that the activities proposed focus on learning based on experience. The most appropriate didactic strategies to link theory and professional practice with this purpose are *professional talks*,

problem-based learning and the *development of a project*. However, the above strategies are difficult to develop without a conceptual basis that allows the student to understand and, where appropriate, perform learning outside the classroom. It is the mission of the *interactive lectures* to provide this base.

4.2. Learning tasks

The course includes the following learning tasks:

Interactive lectures

The goal of interactive lectures is to provide students with the basis for understanding the importance of Web Engineering and any other specific aspects that cannot be developed in other activities. Students will be encouraged to engage in activities related to the contents of the lecture during the class.

Problem-based learning

The purpose is to apply the concepts and techniques presented in the course for solving problems. The goal of problem-based learning activities is the application of knowledge to the design, development and operation of web-based systems.

Professional talks

If they are available, some experts will lecture about their daily experience with real web-based systems. These talks will allow students to contrast the knowledge acquired during problem-based learning activities and interactive lectures with the experience of experts.

Development of projects

The development of one or more projects in this subject, where a project is a work whose objective is the envision and development of a Web-based system. It allows the student to acquire experience in working with web standards and technologies currently used by the industry.

This activity, when carried out in a group, allows the development of skills related to teamwork and management of working groups.

4.3. Syllabus

The course syllabus covers the following topics.

- **Client/server systems** (middleware and distributed object systems; specific technologies).
- **Web development** (technologies and standards).
- **Service-oriented architectures** (web services, composition and choreography, technologies and standards, future prospects).

These topics are structured along the course as follows:

1. **Fundamentals of Web Engineering**
2. **Design of Distributed Information Systems**
3. **Technologies and standards for the web**
4. **Design and development of Web applications**
5. **Architectures for the Web**
6. **Future**

4.4. Course planning and calendar

Calendar of sessions and presentation of works

Further information concerning the timetable, classroom, office hours, project and work deadlines, assessment dates and other details regarding this course will be provided on the first day of class or please refer to the EINA or EUTP website and/or the web page of the course at Moodle.

Student work

The course consists of 6 ECTS credits. Therefore, the dedication of a student in order to achieve the learning outcomes in this course is estimated in 150 hours distributed as follows.

In the EINA:

- 57 hours of lectures, professional seminars, practice sessions, and computer lab sessions.
- 27 hours of group work.
- 60 hours of autonomous work.
- 6 hours in assessment.

In the EUPT:

- 60 hours of teaching activities (30 hours of lectures and practice sessions, and 30 hours of computer lab sessions).
- 85 hours of autonomous work and study.

- 5 hours in assessment.

4.5. Bibliography and recommended resources

EINA:

http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30246&Identificador=14711
EUPT:

http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30246&Identificador=14945

- 5 hours in assessment.

4.5. Bibliography and recommended resources

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EUPT:

http://psfunizar10.unizar.es/br13/egAsignaturas.php?codigo=30246&Identificador=14945