30266 - Distributed Information Systems

Información del Plan Docente

Academic Year	2017/18
Faculty / School	110 - Escuela de Ingeniería y Arquitectura
Degree	439 - Bachelor's Degree in Informatics Engineering
ECTS	6.0
Year	4
Semester	Half-yearly
Subject Type	Compulsory
Module	---

1.General information

1.1.Introduction

1.2.Recommendations to take this course

1.3.Context and importance of this course in the degree

1.4.Activities and key dates

2.Learning goals

2.1.Learning goals

2.2.Importance of learning goals

3.Aims of the course and competences

3.1.Aims of the course

3.2.Competences

4.Assessment (1st and 2nd call)

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

5.Methodology, learning tasks, syllabus and resources

5.1.Methodological overview

Face-to-face instruction is mainly based on:

- Master lectures and problem solving sessions given by the teacher.
- Seminars given by experts.
- Laboratory practices at computer rooms.
- Tutor sessions at the teacher's office.

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- Evaluation activities such as written tests, projects, oral presentations, etc.

Non face-to-face instruction includes:

- Tutored works, such as preparation of seminars, problem solving, research reports, etc.
- Personal study of the theory of the course.
- Personal study of the practice of the course.

5.2.Learning tasks

Master lectures
In these lectures, the professor will discuss the theoretical aspects of the course, use cases, how to complete the practices and works, and where to find additional information. The professor will encourage students to participate as much as possible.
Problem solving sessions
In these sessions, the concepts and techniques explained in master lectures will be put into practice by means of examples of application.
Laboratory practices
The work in the computer lab will help students to further put into practice the concepts and techniques of the course.
Seminars
If possible, external experts will be invited to give seminars. Both experts from the public and private sector will be considered.
Tutored works
Tutored works will give students the opportunity to further study specific themes particularly interesting for them.

5.3.Syllabus

I. Distributed Information Systems in Web Environments
1. The Web. Standards. Accessing Web data
2. Semi-structured data based on XML and RDF

3. Open Linked Data. Big Data
4. The Social Web. The Semantic Web. The Ubiquitous Web
5. Uncertainty management in Distributed Information Systems
II. Distributed Information Systems as Distributed Systems
6. Wireless networks. Mobile computing
7. Mobile application development
8. Mobile data services. Mobile agents
9. P2P networks. Sensor networks
10. Mobile semantic services

5.4.Course planning and calendar

Sessions

Face-to-face instruction will be organized as follows:

- Master lectures: 2 hours per week
- Problem solving sessions: 1 hour per week.
- Laboratory practices: 5 sessions of 3 hours (approximately, one session every 2 weeks).

The scheduled of all the sessions and deadlines for the projects and works will be announced well in advance using the Moodle 2 platform.
Student work

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This course corresponds to 6 ECTS credits. The full dedication of the student is estimated at 150 hours (60 hours of face-to-face instruction and 90 hours of personal work) distributed as follows:

- 60 hours, approximately, of master lectures, problem solving and laboratory practices.
- 87 hours of personal work of students including realization of projects and works, study of notes and texts, problem solving, etc.
- A 3 hours final exam.

5.5.Bibliography and recommended resources

[BB: Bibliografía básica / BC: Bibliografía complementaria]

- [BB] Handbook of Semantic Web Technologies [electronic resource] / edited by John Domingue, Dieter Fensel, James A. Hendler. 260 1 Berlin, Heidelberg : Springer Berlin Heidelberg : Imprint: Springer, 2011.
- [BB] Hwang, Kai. Distributed and cloud computing / Kai Hwang, Geoffrey C. Fox, Jack J. Dongarra Amsterdam ; Boston : Morgan Kaufmann,2012
- [BB] Introducción al big data / José Francisco Aldana Montes ... [et al.] Madrid : García-Maroto, D.L. 2016
- [BB] Tomás Gironés, Jesús. El gran libro de Android / Jesús Tomás Gironés . - 3ª ed. Barcelona : Marcombo, 2013