Universidad Zaragoza

30245 - Software Architecture

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

Learning process:
Study and work from the very first day. Teaching classes will be focussed on learning concepts and techniques for designing software architectures. The role of the student will be prominent both in teaching classes and in problem solving classes. The latter will focus on applying the theory to solve complex design problems. Work group will be guided to reach the development of a medium-sized software with special focus on documenting the architecture.

5.2.Learning tasks

Teaching classes will develop the Program of the course.
Problem solving classes will be focussed on design problems.
The students will develop a course project for developing and documenting the architecture of a software.

5.3.Syllabus

- Introduction to Software Architecture
- Documenting Software Architecture
*Module View. Component and Connector View. Deployment View. Documenting Interfaces
- Architectural Patterns
- MVC
- Pipe and Filter
- Shared Data
- Publish-subscribe
- Client/Server
- Broker
- Microkernel
- Adaptive Architectures

5.4.Course planning and calendar

Calendar

- Problems and Theory (2 hours per week).
- Assessment of work groups. 30 minutes per group and week.

Students work
150 hours as follows:
30 hours for theory and problems classes
90 hours work group (including 7 hours of professor assessment)
25 hours individual work and study
5 hours for evaluation (Exam and defense of the course project)

5.5.Bibliography and recommended resources

[BB: Bibliografía básica / BC: Bibliografía complementaria]

- [BB] Documenting Software Architectures: Views and Beyond / Paul Clements...[et al.]. - 2nd ed. Addison-Wesley Professional, 2010
- [BB] Pattern-Oriented Software Architecture. A System of Patterns / Frank Buschmann...[et al.] John Wiley & Sons, 1996
- [BC] Building enterprise systems with ODP : an introduction to open distributed processing / Peter F. Linington ... [et al.] . Boca Raton [etc.] : Chapman and Hall, 2012