30366 - Software Analysis and Design

Syllabus Information

Academic Year:	2018/19
Subject:	30366 - Software Analysis and Design
Faculty / School:	110 -
Degree:	438 - Bachelor's Degree in Telecomunications Technology and Services Engineering
ECTS:	6.0
Year:	4
Semester:	First semester
Subject Type:	Compulsory
Module:	---

General information

Aims of the course

Context and importance of this course in the degree

Recommendations to take this course

Learning goals

Competences

Learning goals

Importance of learning goals

Assessment (1st and 2nd call)

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

Methodology, learning tasks, syllabus and resources

Methodological overview

Learning Process:
1. Study and work starting from the very first day.
2. Classes that will develop the main course concepts on Analysis, Design and Testing of Software Systems. Students will be specially involved in the class development.
3. Classes devoted to apply the main course concepts by means of problem solving. Students will play a primary role to achieve success.

4. Laboratory classes. Students will learn techniques, methods and technologies for Analysis, Design, Implementation and Testing of Software Systems.
5. Development of a small scale software system.

Students Work:

150 hours of effective work as follows:

- Around 55 hours for face to face activities with the Professor (theory -20 hours-, problems -15 hours-, laboratory -20 hours-)
- Around 55 hours for work group
- Around 35 hours for individual work and study
- Around 5 hours for evaluation

Learning tasks
Activities for addressing the expected results ...
1. Classroom classes will develop the course programm
2. Classes specially devoted to solve problems related to the course programm
3. Laboratory classes for software development activities
4. Small scale software development (Course Project)

Syllabus
- Introduction to Software Engineering: Software Life-cycle
- Software Requirements
- Object-oriented Software Design: Static modeling, Dynamic modeling
- Object-oriented Software Design: Design Patterns
- Basis on Software Testing
- Distributed Objects

Course planning and calendar
Calendar:
- Classes for Theory and Problems (2 hours per week during 10 weeks; 3 hours per week during 5 weeks)
- Laboratory (6 sessions of 3 hours per session)
- Project course tracing (1 hour per week, unevenly applied)

Bibliography and recommended resources

[BB] Booch, Grady. The Unified Modeling Language user guide / Grady Booch, James Rumbaugh, Ivar Jacobson . - 2nd ed.

[BB] Design patterns : Elements of reusable object-oriented software / Erich Gamma...[et al.] . - 40th. print. Boston [etc.] : Addison-Wesley, 2012

[BC] Sommerville, Ian. Software engineering / Ian Sommerville . 10th ed. Boston [etc.] : Pearson, cop. 2016