DTC-GITT-315 Software Engineering

SEMESTER: Fall

CREDITS: 6 ECTS (4 hrs. per week. 2h Theory + 2h Lab)

LANGUAGE: Spanish

DEGREES: 3º GITT

Course overview

This course is an introduction to software engineering. It focuses on the knowledge of software engineering basics. Software engineering offers robust engineering principles, aimed at obtaining financial software that is reliable and works efficiently on real machines. The student realizes the need to use a process development and some planned phases to carry on a software application. To this end, the student develops throughout the course a teamwork telecommunication project. They follow the engineering principles and they use the techniques explained during the classes. This project gets the students to put into practice the most important ideas of the course.

Prerequisites

Basic knowledge of Programming

Course contents

Theory:

1. Introduction to Software Engineering.
2. Software processes: classic versus agile software development.
3. Software management: project management, configuration, manegement quality assurance and dependability.
4. Requirements engineering process.
5. System modelling.
6. Architectural Design.
7. Design and Implementation.
8. Validation & Verification & Test.
9. Software Evolution.
10. Current trends in software engineering management: standards and reference models.

This document is a brief outline of the course and does not replace the official program of study

Laboratory:

Throughout the semester, it will work in the lab on a teamwork project. There are four deliveries:

1. Feasibility study.
2. Software Requirements Specification.
3. Design Document.
4. Oral presentation.

Textbook

Main textbook:

- "Software Engineering 9", Ian Sommerville, Pearson, 2010.

Additional textbook:

- "Software Engineering: A Practitioner's Approach" , Roger Pressman, 6ª Edición (2004), 8ª Edición (2014)
- "UML distilled: a brief guide to the standard object modeling language". Martin Fowler. Addison Wesley. 2003 , Martin Fowler, 3ª Edición (2003)

Grading

The following conditions must be accomplished to pass the course:

- A minimum overall grade of at least 5 over 10.
- A minimum grade in the final exam of 5 over 10.
- A minimum grade in the team project of 5 over 10.

The overall grade is obtained as follows:

- Final exam 40%.
- Mid-term exam: 15%
- Team telecommunication project: 40%.
- Others works related to the subject: 5%

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