

30259 - Agile Methodologies and Quality

Syllabus Information

Academic Year: 2019/20

Subject: 30259 - Agile Methodologies and Quality

Faculty / School: 110 - Escuela de Ingeniería y Arquitectura

Degree: 439 - Bachelor's Degree in Informatics Engineering

ECTS: 6.0

Year: 4

Semester: Second semester

Subject Type: ---

Module: ---

1.General information

1.1.Aims of the course

1.2.Context and importance of this course in the degree

1.3.Recommendations to take this course

2.Learning goals

2.1.Competences

2.2.Learning goals

2.3.Importance of learning goals

3.Assessment (1st and 2nd call)

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

4.Methodology, learning tasks, syllabus and resources

4.1.Methodological overview

The methodology followed in this course is oriented towards the achievement of the learning objectives. A wide range of teaching and learning tasks are implemented, such as:

- lectures provided by the professors,
- work developed in practice sessions, and
- autonomous work and study (individual or in groups).

4.2.Learning tasks

The course includes the following learning tasks:

The activities will be divided into class sessions, problem-solving sessions (with and without professor tutelage), practical sessions in laboratory, work in groups, and evaluation activities.

4.3.Syllabus

The course will address the following topics:

Agile methodologies

- Fundamentals, values and principles of Agile

- Design of agile projects
- Agile project management: Scrum, XP y Kanban
- Transitions to Agile

Software quality

- Fundamentals of software quality
- Software quality metrics
- Introduction to model-driven software engineering
- Evaluation of software performance and dependability
- Code review within the security-driven software development

4.4.Course planning and calendar

Sessions and presentations scheduling

The schedule of the subject will be defined by each academic center based on the academic calendar of the corresponding course.

Student Work

The dedication of the student to achieve the learning outcomes in this subject is estimated to be 150 hours distributed as follows:

- 60 hours, approximately, of classroom activities (theoretical and problems sessions in the classroom, and practical sessions in the laboratory)
- 60 hours of work in groups
- 22 effective individual hours of work and study (studying notes and texts, problem solving, class and laboratory sessions preparation, etc.)
- 8 hours devoted to various evaluation tests

4.5.Bibliography and recommended resources

<http://psfunizar7.unizar.es/br13/egAsignaturas.php?codigo=30259&Identificador=15423>

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Agile methodologies

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- [BB] Scrum and XP from the trenches, H. Kniberg, InfoQ.com, 2015.
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- [BB] Agile project management with Kanban, E. Brechner, Microsoft Press, 2015.
- [BC] Impact Mapping: Making a big impact with software products and projects, Adzic G., Provoking Thoughts. 2012.
- [BC] User Stories Applied: for Agile Software Development, Cohn M., Addison Wesley Signature Series. 2004.
- [BC] Project Retrospectives: a handbook for team reviews, Kerth N.L., Dorset House. 2001.
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Software quality

- [BB] Metrics and Models in Software Quality Engineering. Kan, Stephen H., 2nd edition Addison-Wesley, 2002
- [BB] Model-driven software engineering in practice. Brambilla M., Cabot J., Wimmer M., Morgan & Claypool Publishers. 2012
- [BC] Model-based Software Performance Analysis. Cortellessa V., Di Marco A., Inverardi P., Springer Verlag. 2011.
- [BC] Model-driven Dependability Assessment of Software Systems. Bernardi S., Merseguer J., Petriu D.C., Springer Verlag. 2013.
- [BC] Secure programming with static analysis. Chess B., West J., Software Security Series. Addison-Wesley. 2007.