

Academic Year: (2022 / 2023)

Review date: 31-05-2022

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: AMESCUA SECO, ANTONIO DE

Type: Compulsory ECTS Credits : 6.0

Year : 5 Semester : 2

REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)

Principles of Software Development (Course: 3 / Semester: 2)

Software Engineering (Course: 4 / Semester: 1)

OBJECTIVES**LEARNING OUTCOMES**

R1. Knowledge and understanding: Have basic knowledge and understanding of the scientific and technological foundations of Computer Engineering, as well as specific knowledge of computer science, computer engineering and information systems.

R5 Engineering Applications: Graduates will be able to apply their knowledge and understanding to solve problems, conduct research

and design devices or processes in the field of Computer Engineering in accordance with criteria of cost, quality, safety, efficiency, respect

for the environment and ethical implications. These skills include the knowledge, use, and limitations of computer systems, computer engineering,

processes, computer architectures, computational models, equipment, practical work, technical bibliography and information sources.

R6 Transversal Competences: Have the necessary capacities for the practice of engineering in today's society. The graduate will have the

abilities to work effectively both individually and in a team, showing communication skills and team coordination.

On the other hand, it will demonstrate awareness of the responsibility of engineering practice, social and environmental impact, and commitment to

professional ethics, and standards of engineering practice. Finally, you will demonstrate skills and competencies related to best practices

in project management, its tools and risk analysis.

BASIC AND GENERAL SKILLS

CG1 - Apply appropriate theoretical and practical methods for the analysis, design and solution of problems, providing IT solutions that respect the standards of accessibility, ergonomics and safety at work and that comply with the legislation existing.

CGO1 - Ability to conceive, draft, organize, plan, develop and sign projects in the field of computer engineering whose purpose, according to the knowledge acquired, the conception, development or exploitation of systems, services and applications computer science.

CGO5 - Ability to conceive, develop and maintain computer systems, services and applications using software engineering methods as an instrument for quality assurance, in accordance with the knowledge acquired.

CGO8 - Knowledge of basic subjects and technologies, which enable the learning and development of new methods and technologies, as well as those that provide them with great versatility to adapt to new situations.

SPECIFIC COMPETENCES

CECRI2 - Ability to plan, conceive, deploy and direct projects, services and computer systems in all areas, leading its start-up and continuous improvement and assessing its economic and social impact.

CECRI16 - Knowledge and application of the principles, methodologies and life cycles of software engineering.

Students who take this Subject also acquire the Competences:

CESI1 Ability to integrate Information Technology and Communications solutions and business processes to meet the needs

information of organizations, allowing them to achieve their objectives effectively and efficiently, thus giving them competitive advantages.

CESI2 Ability to determine the requirements of the information and communication systems of an organization attending to security aspects

and compliance with current regulations and legislation.

CESI3 Ability to actively participate in the specification, design, implementation and maintenance of information and communication systems.

CESI4 Ability to understand and apply the principles and practices of organizations, so that they can act as a link between communities

technical and management of an organization and actively participate in the training of users.

CESI5 Ability to understand and apply the principles of risk assessment and apply them correctly in the preparation and execution of plans of performance.

CESI6 Ability to understand and apply the principles and techniques of quality management and technological innovation in organizations.

DESCRIPTION OF CONTENTS: PROGRAMME

- 1 - Agile Management Principles
- 2 - Lean Startup
- 3 - Agile Requirements Management Techniques
- 4 - Agile project planning techniques
- 5 - Agile project monitoring techniques and tools
- 6 - Retrospectives and Showcases

LEARNING ACTIVITIES AND METHODOLOGY

The activities carried out in the course are:

1) Theoretical Classes (1.5 ECTS): The objective of these classes is to achieve the specific competences associated with the knowledge that have been presented for this subject. All theoretical concepts are in a SPOC of the course. The concepts of each week will be presented through mini-videos that the students will have to visualize before the classes. Once viewed, they must answer a multiple choice questionnaire that will verify knowledge of the concepts presented in the minivideos. During the theory classes the test results will be discussed. Subsequently, case studies or readings will be presented that will allow to consolidate the correct understanding of the concepts presented in the minivideos, providing a second level of learning.

2) Practical Classes (1.5 ECTS): In these classes, students will learn the basic notions of the tools, techniques and application guides of the principles and techniques of agile software development. In the scope of the practical classes, each of the teams will present the degree of progress in their resolution of the practice and the steps proposed for its completion in such a way as to allow the exchange of ideas between the different practice teams. Finally, the teacher will provide the necessary feedback for students to correctly complete the current practice.

3) Continuous Evaluation Activities. (2,7 ECTS):

Student Teams will carry out the assigned practices that will allow the application of the techniques learned through the application of the instructions that the teacher will establish in a practice script that will be discussed during the practical classes.

4) Tutorials. (0,1 ECTS)

Individualized assistance (individual tutorials) or in groups (collective tutorials) to students by the teacher.

5) Final Exam. (0,2 ECTS)

Its objective is to influence and complement the development of specific cognitive and procedural capacities.

ASSESSMENT SYSTEM

The total of the grade will be calculated as follows:

CONTINUOUS ASSESSMENT: 70% of the grade

Class Work, Presentations and Exhibitions will be valued. (50%)

As well as, the Work done in the SPOC of the course and Class Attendance and participation.(20%)

FINAL EXAM: 30% of the grade

In which the knowledge, skills and abilities acquired throughout the course will be assessed globally.

Minimum mark in practices: 5 (out of 10)

Minimum mark in the exam: 5 (out of 10)

% end-of-term-examination:	30
% of continuous assessment (assignments, laboratory, practicals...):	70

BASIC BIBLIOGRAPHY

- Jeff Patton User Story Mapping, O'Reilly Media, 2014
- Kniberg, Henrik. Lean from the Trenches. Managing Large-Scale Projects with Kanban. , The Pragmatic Bookshelf, 2011
- Moreira M, Lester M, Holzner S. Agile for Dummies, Wiley Publishing , 2010
- Osterwalder, A.; Pigneur, Y.; Bernarda, G.; Smith, P. Value Proposition Design, Wiley Publishing, 2014
- Richard Levy Agile Foundations: Principles, practices and frameworks, BCS, 2015
- Rubin, Kenneth S., Essential Scrum: a practical guide to the most popular agile process, Pearson Education, Inc., 2013
- Venkat Subramaniam and Andy Hunt Practices of an Agile Developer, The Pragmatic Bookshelf. Pragmatic Programmers, 2013

ADDITIONAL BIBLIOGRAPHY

- Cockburn, Alistair Agile Software Development, Addison-Wesley, 2001.
- Highsmith, Jim Agile Software Development Ecosystems, Addison-Wesley, 2002.
- Schwaber, Ken et al. Agile Software Development With SCRUM, Prentice Hall, 2001

BASIC ELECTRONIC RESOURCES

- Agile Alliance . Agile Alliance: <http://www.agilealliance.org>