

Academic Year: ( 2023 / 2024 )

Review date: 24-05-2023

Department assigned to the subject: Computer Science and Engineering Department

Coordinating teacher: SANCHEZ SEGURA, MARIA ISABEL

Type: Compulsory ECTS Credits : 6.0

Year : 5 Semester : 1

**REQUIREMENTS (SUBJECTS THAT ARE ASSUMED TO BE KNOWN)**

Software Engineering (course: second- semester: first)

**OBJECTIVES**

Learn and apply concepts that enable the integrated application of management, control and development processes in the software development life cycle.

**DESCRIPTION OF CONTENTS: PROGRAMME**

1. Modern software development methodologies
2. Interrelation between engineering processes, control and management processes in the software development lifecycle
3. Software or service initial offer
4. Software configuration management
5. Quality management
6. Viability analysis
7. Software projects estimation techniques
8. Software projects planning techniques
9. Software projects analysis techniques
10. Software projects design techniques
11. Tools to support management, control and development processes

**LEARNING ACTIVITIES AND METHODOLOGY**

The teaching methodology is based on theory lectures and group work by students . It is pertinent to make the practice team to promote the education , training and information potential of group work : quantity; quality ; creativity ; structuring and mental flexibility . Additionally , he serves as training students for their future professional work , then, as you know , most of the time, Computer and Software Engineering , always working as a team .

The students' work is performed externally to the classes and these are used to correct errors and detect improvements in work groups and individual analysis of pupils

Group work of the assigned part . This step must be performed by each group so independently. This second step of the methodology is fully active , unschooled and individualized to the group ; ie self-taught.

Analysis and discussion groups in the classroom, the issues worked . This analysis will involve the decomposition of problems into subproblems , modularization of tasks, etc. .

Sharing of the findings of each group and partial synthesis . These two steps of the method are described that take place simultaneously in the same work session.

Theory Classes: 1.5 ECTS . Aim to achieve specific cognitive skills of the subject.

Practical lessons : 1.5 ECTS . Develop generic and specific competencies explicit by performing an extended case group that brings together the entire syllabus of the course in one year whose resolution is defended on public display.

Making Targeted Academic Activities .

- With the presence of the teacher : 1.5 Working ECTS deepening in some aspect in relation to the theme of the course will culminate with a public presentation of the results thereof.

- No teacher presence : 1.5 ECTS . Exercises and readings proposed by the teacher .

Tutorials: Weekly the teacher makes available to the student 2 hours for possible tutorials that may arise as the subject matter is being worked on.

## ASSESSMENT SYSTEM

Final examination will not be realized for the students who follow continuous assessment

Exercises and examinations are both learning and evaluation activities. The evaluation system includes the assessment of guided academic activities and practical cases, with the following weights:

Practical case: 50%

Guided academic activities:

- Present teacher: 25%
- Absent teacher: 25%

Practical lectures: Develop generic and specific skills explicit by performing a group event that brings together extended the entire agenda of the subject in a single year whose decision is upheld in public.

Guided academic activities.

- With the presence of the teacher: Deepening in some way related to the theme of the course will culminate with public presentation of the results.
- No teacher presence: Teamwork and Conflict Management / Effective Communication

<b>% end-of-term-examination:</b>	0
<b>% of continuous assessment (assignments, laboratory, practicals...):</b>	100

## BASIC BIBLIOGRAPHY

- Dr David Tuffley Software Configuration Management: A How To Guide for Project Staff, Createspace , 2011
- Aybüke Aurum Managing Software Engineering Knowledge, Springer, 2003
- Craig Larman Applying UML and patterns: an introduction to object-oriented analysis and design and iterative development, Prentice Hall, 2005
- Craig Larman Applying UML and patterns: an introduction to object-oriented analysis and design and iterative development, Prentice Hall, 2015
- María Isabel Sánchez-Seguram Fuensanta Medina-Domínguez, Antonio de Amescua-Seco, Jose-Arturo Mora-Soto. The software configuration management process. A practical approach. , CreateSpace., 2020
- Pressman, R., & Maxim, B Software engineering: A practitioner's approach (8th ed.), McGraw-Hill., 2015
- Richardson, G. Project management theory and practice, Auerbach Publications, 2015
- Watts S. Humphrey Managing Technical People: Innovation, Teamwork and the Software Process (SEI), Addison-Wesley Educational Publishers Inc, 1996