UNIVERSIDAD DE CASTILLA - LA MANCHA
GUÍA DOCENTE

1. General information

Course: SOFTWARE ENGINEERING PROCESSES
Type: ELECTIVE
Degree: 407 - DEGREE PROGRAMME IN COMPUTER SCIENCE ENGINEERING
Center: 108 - SCHOOL OF COMPUTER SCIENCE OF C. REAL
Year: 4
Main language: Spanish
Use of additional languages:
Web site: http://campusvirtual.uclm.es

Code: 42330
ECTS credits: 6
Academic year: 2023-24
Group(s): 20
Duration: First semester
Second language:
English Friendly: Y
Bilingual: N

Lecturer: **ANTONIO SANTOS-OLMO PARRA** - Group(s): **20**

Building/Office	Department	Phone number	Email	Office hours
Fermín Caballero / 2.19	TECNOLOGÍAS Y SISTEMAS DE INFORMACIÓN		antonio.santosolmo@uclm.es	

2. Pre-Requisites

- Software Engineering
- Requirements Engineering
- Software Design

3. Justification in the curriculum, relation to other subjects and to the profession

This subject is part of the Software Engineering Intensification

4. Degree competences achieved in this course

Course competences

Code	Description
INS01	Analysis, synthesis, and assessment skills.
INS02	Organising and planning skills.
INS03	Ability to manage information and data.
INS04	Problem solving skills by the application of engineering techniques.
INS05	Argumentative skills to logically justify and explain decisions and opinions.
IS01	Ability to develop, maintain, and assess services and software systems which could fulfil all the user's needs and which work in an efficient and reliable manner, having feasible development and maintenance, and which comply with quality regulations, applying theories, principles, methodologies, and practical customs of software engineering.
IS04	Ability to detect and analyse problems, and design, develop, implement, verify, and document software solutions on the base of adequate knowledge about theories, models, and current techniques.
PER01	Team work abilities.
PER02	Ability to work in multidisciplinary teams.
PER04	Interpersonal relationship skills.
PER05	Acknowledgement of human diversity, equal rights, and cultural variety.
SIS01	Critical thinking.
SIS03	Autonomous learning.
SIS04	Adaptation to new scenarios.
SIS05	Creativity.
SIS06	Leadership skills.
SIS08	Initiative and entrepreneurial abilities.
SIS09	Care for quality.

5. Objectives or Learning Outcomes

Course learning outcomes

Description

An understanding of software processes and of how to model and specify them.

Knowledge of the characteristics of software development methodologies, and deep knowledge and understanding of how to apply at least one of the most unified methodologies for software development.

Knowledge and understanding of the application of the main techniques to evaluate, validate, verify and improve software.

Knowledge of the most important software testing phases and techniques, as well as of the most standardized tools and an understanding of how to apply them.

Knowledge of the techniques of management of configuration and an understanding of how to use the automated tools that support it.

Knowledge of the techniques of maintenance and modernization of software, and skill in their application.

6. Units / Contents

Unit 1: Introduction
Unit 2: Software Engineering Processes and Configuration Management
Unit 3: Software Testing
Unit 4: Software Maintenance
Unit 5: Laboratory

7. Activities, Units/Modules and Methodology

Training Activity	Methodology	Related Competences (only degrees before RD 822/2021)	ECTS	Hours	As	Com	Description
Class Attendance (theory) [ON-SITE]	Lectures	INS01 INS02 INS04 INS05 IS01 IS04 SIS01 SIS09	0.6	15	N	-	Teaching of the subject matter by lecturer (MAG)
Individual tutoring sessions [ON-SITE]	Other Methodologies	INS01 INS02 INS04 INS05 IS01 IS04 SIS09	0.18	4.5	N	-	Individual or small group tutoring in lecturer's office, classroom or laboratory (TUT)
Study and Exam Preparation [OFF-SITE]	Self-study	INS01 INS02 INS04 INS05 IS01 IS04 SIS03 SIS08 SIS09	1.8	45	N	-	Self-study (EST)
Other off-site activity [OFF-SITE]	Practical or hands-on activities	INS01 INS02 INS03 INS04 INS05 IS01 IS04 PER01 PER02 PER04 PER05 SIS03 SIS04 SIS05 SIS06 SIS08 SIS09	0.9	22.5	N	-	Lab practical preparation (PLAB)
Problem solving and/or case studies [ON-SITE]	Problem solving and exercises	INS01 INS02 INS04 INS05 IS01 IS04 PER01 PER02 PER04 PER05 SIS04 SIS05 SIS06 SIS08 SIS09	0.6	15	Y	N	Worked example problems and cases resolution by the lecturer and the students (PRO)
Writing of reports or projects [OFF-SITE]	Self-study	INS01 INS02 INS04 INS05 IS01 IS04 PER01 PER02 PER04 PER05 SIS01 SIS03 SIS04 SIS05 SIS06 SIS08 SIS09	0.9	22.5	Y	N	Preparation of essays on topics proposed by lecturer (RES)
Laboratory practice or sessions [ON-SITE]	Practical or hands-on activities	INS01 INS02 INS03 INS04 INS05 IS01 IS04 PER01 PER02 PER04 PER05 SIS04 SIS05 SIS06 SIS08 SIS09	0.72	18	Y	Y	Realization of practicals in laboratory /computing room (LAB)
Final test [ON-SITE]	Assessment tests	INS01 INS02 INS04 INS05 IS01 IS04	0.3	7.5	Y	Y	Final test of the complete syllabus of the subject (EVA)
Total:			**6**	**150**			
Total credits of in-class work: 2.4				**Total class time hours: 60**			
Total credits of out of class work: 3.6				**Total hours of out of class work: 90**			

As: Assessable training activity

Com: Training activity of compulsory overcoming (It will be essential to overcome both continuous and non-continuous assessment).

8. Evaluation criteria and Grading System

Evaluation System	Continuous assessment	Non-continuous evaluation*	Description
Final test	40.00%	40.00%	Compulsory activity that can be retaken (rescheduling) to be carried out within the planned exam dates of the final exam call (convocatoria ordinaria).
Theoretical papers assessment	15.00%	15.00%	Non-compulsory activity that can be retaken. To be carried out before end of teaching period
Laboratory sessions	30.00%	30.00%	Compulsory activity thay can be retaken. To be carried out during lab sessions
Assessment of active participation	15.00%	15.00%	Non-compulsory activity that can be retaken. To be carried out during the theory/lab sessions for students in the continuous assessment modality. The students of non-continuous modality will be evaluated of this activity through an alternative system in the final exam call (convocatoria ordinaria).
Total:	**100.00%**	**100.00%**	

According to art. 4 of the UCLM Student Evaluation Regulations, it must be provided to students who cannot regularly attend face-to-face training activities the passing of the subject, having the right (art. 12.2) to be globally graded, in 2 annual calls per subject , an ordinary and an extraordinary one (evaluating 100% of the competences).

Evaluation criteria for the final exam:

Continuous assessment:

In compulsory activities, a minimum mark of 40% is required in order to pass that activity and have the possibility to therefore pass the entire subject. A compulsory activity cannot be divided into eliminatory parts, nor can minimum marks be established for each of its parts. In the case of the activities that may be retaken (i.e., rescheduling), an alternative activity or test will be offered in the resit/retake exam call (convocatoria extraordinaria).

The final exam will be common for all the theory/laboratory groups of the subject and will be evaluated by the lecturers of the subject in a serial way, i.e., each part of the final exam will be evaluated by the same lecturer for all the students.

A student is considered to pass the subject if she/he obtains a minimum of 50 points out of 100, taking into account the points obtained in all the evaluable activities, and also has passed all the compulsory activities.

For students who do not pass the subject in the final exam call (convocatoria ordinaria), the marks of activities already passed will be conserved for the resit/retake examcall (convocatoria extraordinaria). If an activity is not recoverable, its assessment will be preserved for the resit/retake exam call (convocatoria extraordinaria) even if it has not been passed. In the case of the passed recoverable activities, the student will have the opportunity to receive an alternative evaluation of those activities in the resit/retake exam call and, in that case, the final grade of the activity will correspond to the latter grade obtained.

The mark of the passed activities in any call, except for the final exam, will be conserved for the subsequent academic year at the request of the student, provided that mark is equal or greater than 50% and that the activities and evaluation criteria of the subject remain unchanged prior to the beginning of that academic year.

The failure of a student to attend the final exam will automatically result in her/him receiving a "Failure to attend" (no presentado). If the student has not passed any compulsory evaluation activity, the maximum final grade will be 40%.

Non-continuous evaluation:

Students may apply at the beginning of the semester for the non-continuous assessment mode. In the same way, the student may change to the non-continuous evaluation mode as long as she/he has not participated during the teaching period in evaluable activities that together account for at least 50% of the total mark of the subject. If a student has reached this 50% of the total obtainable mark or the teaching period is over, she/he will be considered in continuous assessment without the possibility of changing to non-continuous evaluation mode.

Students who take the non-continuous evaluation mode will be globally graded, in 2 annual calls per subject, an ordinary and an extraordinary one (evaluating 100% of the competences), through the assessment systems indicated in the column "Non-continuous evaluation".

In the "non-continuous evaluation" mode, it is not compulsory to keep the mark obtained by the student in the activities or tests (progress test or partial test) taken in the continuous assessment mode.

Specifications for the resit/retake exam:

Evaluation tests will be conducted for all recoverable activities. The failure of a student to attend the final exam will automatically result in her/him receiving a "Failure to attend" (no presentado), except in the case that the student conserves the mark for the final exam from the final exam call (convocatoria ordinaria). In the latter case, the student's carrying out of any other evaluable activity in the resit/retake exam call (convocatoria extraordinaria) will result in a numerical mark.

Specifications for the second resit / retake exam:

Same characteristics as the resit/retake exam call.

9. Assignments, course calendar and important dates

Not related to the syllabus/contents

Hours	hours

General comments about the planning: The subject is taught in 3 x 1,5 hour sessions per week.

Unit 1 (de 5): Introduction

Group 25:

Initial date: 28/01/2017   **End date:** 09/02/2017

Unit 2 (de 5): Software Engineering Processes and Configuration Management

Group 20:

Initial date: 28/01/2017   **End date:**

Group 25:

Initial date: 10/02/2017   **End date:** 23/02/2017

Unit 3 (de 5): Software Testing

Group 20:

Initial date: 10/02/2017   **End date:**

Group 25:

Initial date: 31/03/2017   **End date:** 15/05/2017

Unit 4 (de 5): Software Maintenance

Group 20:

Initial date: 28/01/2017   **End date:**

Unit 5 (de 5): Laboratory

Group 20:

Initial date: 31/03/2017   **End date:**

Group 25:

Initial date: 28/01/2017   **End date:** 15/05/2017

10. Bibliography and Sources

Author(s)	Title/Link	Publishing house	Citv	ISBN	Year	Description
Sommerville, I.	Software Engineering	Addison Wesley		978-0133943030	2015	
PIATTINI VELTHUIS, M.G., CALVO-MANZANO VILLALON, J.A., CERVERA BRAVO, J., FERNANDEZ SANZ, L.	Análisis y diseño de Aplicaciones Informáticas de Gestión. Una perspectiva de Ingeniería del Software	Ra-Ma		978-84-7897-587-7	2003	
Pfleeger, S.L. & Atlee, J.M.	Software Engineering. Theory and Practice	Pearson		978-0136061694	2008	