ANX-PR/CL/001-01

LEARNING GUIDE

SUBJECT

103000485 - Software Project Management

DEGREE PROGRAMME

10AM - Master Universitario En Ingenieria Del Software

ACADEMIC YEAR & SEMESTER

2023/24 - Semester 1

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1. Description

1.1. Subject details

Name of the subject	103000485 - Software Project Management
No of credits	4 ECTS
Type	Compulsory
Academic year ot the programme	First year
Semester of tuition	Semester 1
Tuition period	September-January
Tuition languages	English
Degree programme	10AM - Master Universitario en Ingenieria del Software
Centre	10 - Escuela Tecnica Superior De Ingenieros Informaticos
Academic year	2023-24

2. Faculty

2.1. Faculty members with subject teaching role

Name and surname	Office/Room	Email	Tutoring hours *
Ana Maria Moreno Sanchez-Capuchino (Subject coordinator)	5102	anamaria.moreno@upm.es	M - 15:00 - 21:00
Tomas San Feliu Gilabert	D 5105	tomas.sanfeliu@upm.es	M - 10:00 - 12:00 W - 10:00 - 12:00

* The tutoring schedule is indicative and subject to possible changes. Please check tutoring times with the faculty member in charge.

3. Skills and learning outcomes *

3.1. Skills to be learned

CE1 - Elaborar un plan de proyecto que permita coordinar y priorizar recursos y actividades para obtener los resultados esperados en los plazos, costes y calidad establecidos

CE2 - Llevar a cabo la monitorización de un proyecto software y tomar acciones correctivas si fuera necesario

CE3 - Elaborar una estimación de los parámetros del proyecto software.

CG1 - Que los estudiantes sepan aplicar los conocimientos adquiridos y su capacidad de resolución de problemas en entornos nuevos o poco conocidos dentro de contextos más amplios (o multidisciplinares) relacionados con su área de estudio (RD)

CG14 - Conocimiento y comprensión de la informática necesaria para la creación de modelos de información, y de los sistemas y procesos complejos

CG18 - Capacidad de trabajar y comunicarse también en contextos internacionales

CG2 - Que los estudiantes sean capaces de integrar conocimientos y enfrentarse a la complejidad de formular juicios a partir de una información que, siendo incompleta o limitada, incluya reflexiones sobre las responsabilidades sociales y éticas vinculadas a la aplicación de sus conocimientos y juicios (RD)

CG5 - Organización y planificación

3.2. Learning outcomes

RA25 - Communication skills in public SC13, SC14, CG3, CG18 S

RA61 - Identify the elements of a risk management plan and its rationale

RA2 - Facing a real problem, chooses an appropriate Software Engineering solution, analyzing its viability, what can and cannot be achieved from the current state of development of the selected solution, and what is expected to advance in the future

RA58 - Development of a business case for a software project

RA59 - Development of a project plan using as input estimation data

RA26 - Group work skill SC13, SC14, CG17 A

RA60 - Re-plannification of a software project with monitoring information

* The Learning Guides should reflect the Skills and Learning Outcomes in the same way as indicated in the Degree Verification Memory. For this reason, they have not been translated into English and appear in Spanish.

4. Brief description of the subject and syllabus

4.1. Brief description of the subject

This subject covers the different activities to be performed by a software project manager to successfully drive a software project. For that aim, both workshops and theoretical lecturers will be provided.

4.2. Syllabus

1. Introduction to Software Project Management
    1.1. 1.1 Psychological Model of Software Engineers
    1.2. Leadership versus Management
    1.3. The Basic Functions of Project Management
    1.4. Developing the Business Case
2. Developing and Motivating the Project Team
    2.1. What it Takes for a Team to be Effective
    2.2. The Basics of Personalities
    2.3. Motivating Software Engineers
3. Strategic Approaches to Project Planning
    3.1. The Balanced Scorecard (BSC)
    3.2. Using SWOT to Develop the BSC
    3.3. Tracking Progress
4. Estimating Project Size, Cost, Schedule
5. Project Risk Management
    5.1. What Risk is/is not
    5.2. Strategies for Mitigating Risk
    5.3. Risk Management Methods
6. Tracking the Progress of a Software Project
    6.1. Earned Value Management
    6.2. Time Value

5. Schedule

5.1. Subject schedule*

Week	Classroom activities	Laboratory activities	Distant / On-line	Assessment activities
1	**Chapter 1** Duration: 02:00 Lecture			
2	**Software Project Management Model (Lego)** Duration: 02:00 Cooperative activities			
3	**Chapter 2** Duration: 02:00 Lecture			
4	**Chapter 2. Know your team** Duration: 02:00 Cooperative activities			
5	**Chapter 3** Duration: 02:00 Lecture			
6	**Chapter 4** Duration: 02:00 Lecture			
7	**Chapter 4. Building Blocks** Duration: 02:00 Cooperative activities	**Estimation vs Planning** Duration: 02:00 Cooperative activities		
8	**SPM Complementary Knowledge** Duration: 02:00 Cooperative activities			
9	**Chapter 5** Duration: 02:00 Lecture			
10	**Chapter 5.** Duration: 02:00 Cooperative activities			
11	**Chapter 6** Duration: 02:00 Cooperative activities			
12	**Chapter 6** Duration: 02:00 Cooperative activities			
13	**Chapter 6** Duration: 02:00 Cooperative activities	**Soft Skills Management** Duration: 02:00 Cooperative activities		

14	**Chapter 6** Duration: 02:00 Cooperative activities	**Software Project Management Model (Lego)** Duration: 02:00 Cooperative activities		**Active participation of students** Other assessment Continuous assessment and final examination Not Presential Duration: 00:00
15				**Final Report** Group work Continuous assessment Not Presential Duration: 00:00 **Presentation of Final Report** Group work Continuous assessment Presential Duration: 01:00 **Final Report** Individual presentation Final examination Presential Duration: 02:00
16	**Industrial Seminar** Duration: 02:00 Additional activities			
17				

Depending on the programme study plan, total values will be calculated according to the ECTS credit unit as 26/27 hours of student face-to-face contact and independent study time.

* The schedule is based on an a priori planning of the subject; it might be modified during the academic year, especially considering the COVID19 evolution.

6. Activities and assessment criteria

6.1. Assessment activities

6.1.1. Assessment

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
14	Active participation of students	Other assessment	No Presential	00:00	15%	0 / 10	CG1 CG2
15	Final Report	Group work	No Presential	00:00	70%	5 / 10	CE1 CE2 CE3 CG5 CG14 CG18 CG1 CG2
15	Presentation of Final Report	Group work	Face-to-face	01:00	15%	5 / 10	CE1 CE2 CE3 CG5 CG14 CG18 CG1 CG2

6.1.2. Global examination

Week	Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
14	Active participation of students	Other assessment	No Presential	00:00	15%	0 / 10	CG1 CG2
15	Final Report	Individual presentation	Face-to-face	02:00	85%	5 / 10	CE1 CE2 CE3 CG5 CG14 CG18 CG1 CG2

6.1.3. Referred (re-sit) examination

Description	Modality	Type	Duration	Weight	Minimum grade	Evaluated skills
Content of Final Project Report	Individual work	Face-to-face	00:00	85%	5 / 10	CE1 CE2 CE3 CG5 CG14 CG18 CG1 CG2
Active participation of students	Other assessment	Face-to-face	00:00	15%	0 / 10	CE1 CE2 CE3

6.2. Assessment criteria

During the progressive evaluation, the final grade of students will be calculated according to their performance in the reports to be done and their class participation.

- Active participation of students (15%)
- Content of the reports (70%)
- Presentation of the report (15%)

Students must get a minimum of 5 points (over 10) in the assessment of each report in order to pass the matter.

Students must get a minimum of 5 points (over 10) as final grade in order to pass the matter.

During the global evaluation, the final grade of students will be calculated according to their performance in the report to be done and their class participation. If students have attended to the lecturers during the course, they will be evaluated accordingly in the "Active participation" activity. If not, their grade in the "Active participation" activity will be 0

- Active participation of students (15%)

- Content of the reports (85%)

Students must get a minimum of 5 points (over 10) in the assessment of the report in order to pass the matter.

7. Teaching resources

7.1. Teaching resources for the subject

Name	Type	Notes
Bibliography	Bibliography	Managing Software Projects on the Edge of Chaos: from Antipatterns to Success,? a Kindle eBook, by Lawrence Peters, Software Consultants International Limited, Auburn, Washington, May, 2015.