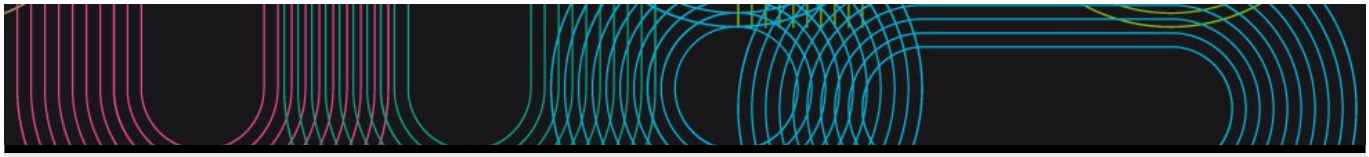

IDENTIFYING DATA

Project Management in Engineering

Subject	Project Management in Engineering			
Code	V04M141V01222			
Study programme	(*)Máster Universitario en Enxeñaría Industrial			
Descriptors	ECTS Credits	Choose	Year	Quadmester
	3	Mandatory	1st	2nd
Teaching language	Spanish English			
Department				
Coordinator	Goicoechea Castaño, María Iciar			
Lecturers	Goicoechea Castaño, María Iciar			
E-mail	igoicoechea@uvigo.es			
Web	http://moovi.uvigo.gal/			
General description				

Training and Learning Results

Code	
A1	Knowledge and understanding that provide a basis or opportunity for originality in developing and / or applying ideas, often in a research context.
A2	That the students can apply their knowledge and their ability to solve problems in new or unfamiliar environments within broader (or multidisciplinary) contexts related to their field of study.
A3	That students are able to integrate knowledge and handle complexity and formulate judgments based on information that was incomplete or limited, include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments.
A4	Students can communicate their conclusions, and the knowledge and rationale underpinning these, to specialist and non-specialist audiences clearly and unambiguously.
A5	Students must possess the learning skills that enable them to continue studying in a way that will be largely self-directed or autonomous.
C1	CET1. Project, calculate and design products, processes, facilities and plants.
C2	CET2. Manage, plan and supervise multidisciplinary teams.
C4	CET4. Perform strategic planning and apply to both constructive and production, quality and environmental management systems.
C5	CET5. Technically and economically manage projects, installations, plants, companies and technology centers.
C6	CET6. Able to exercise general direction, technical direction and project management R & D in plants and technology centers.
C7	CET7. Apply their knowledge and solve problems in new or unfamiliar environments within broader contexts and multidisciplinary environments.
C8	CET8. Being able to integrate knowledge and handle complexity and formulate judgments based on information that was incomplete or limited, include reflecting on social and ethical responsibilities linked to the application of their knowledge and judgments.
C11	CET11. Knowledge, understanding and ability to apply the necessary legislation in the exercise of the profession of Industrial Engineer.
C26	CGS7. Knowledge and Skills for Integrated Project Management.
C33	CIPC6. Knowledge and skills to perform monitoring and control of facilities, processes and products.
C34	CIPC7. Knowledge and skills for certification, audits, inspections, tests and reports.
D4	ABET-d. An ability to function on multidisciplinary teams.
D6	ABET-f. An understanding of professional and ethical responsibility.
D8	ABET-h. The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental, and societal context.

D11 ABET-k. An ability to use the techniques, skills, and modern engineering tools necessary for engineering practice.

Expected results from this subject	
Expected results from this subject	Training and Learning Results
Knowledge of the legal frame and the derivative responsibilities of the activity of project of Industrial Engineering	A3 C11 C26 C33 C34 D4 D6 D8 D11
Capacity to manage of dynamic form all the notable appearances of the cycle of life of a project: specifications, design, resources, value, risk, quality, sustainability,etc.	A1 A2 C2 C4 C5 C6 C26 C33 C34 D4 D6 D8 D11
Capacity to develop, propose and evaluate alternative solutions in the market of the optimisation of projects of engineering in surroundings multiproject.	A3 A4 A5 C1 C7 C8 C26 C33 C34 D4 D6 D8 D11

Contents	
Topic	
1. Conceptual frame of Project Management	1.1. Introduction to Project Management. 1.2. Methodologies applied to Project Management: Agile (SCRUM, LEAN,...) and predictive (IPMA, PMI,...) 1.3. Life cycle of the project and organisation.
2. Traditional or predictive methodologies of Project Management. PMBok	2.1. Methods of Selection of Projects 2.2. Areas of knowledge: integration, scope, time, costs, quality, RRHH, communication, risks, acquisitions and stakeholders 2.3 Matrix of processes of the PMBOK
3. Phase of start of the Project: utilisation of agile methodologies of Project Management	3.1 Business Model Canvas 3.2 Project Model Canvas 3.3 Project Charter
4. Phase Planning of the Project	4.1 Work breakdown structure (WBS) 4.2 Planning of the project with software 4.2.1 Method of the critical path 4.2.2 Allocation of resource. 4.2.3 Allocation costs 4-2-4 Creation of the base line
5. Phase traking Project	5.1 Traking Gant. Status Date 5.2 Update of projects 5.3 Method earned value

Planning			
	Class hours	Hours outside the classroom	Total hours

Lecturing	12	24	36
Project based learning	6	12	18
Practices through ICT	6	12	18
Presentation	1	0	1
Objective questions exam	1	0	1
Report of practices, practicum and external practices	1	0	1

*The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.

Methodologies

	Description
Lecturing	Exhibition by part of the professor of the contents on the matter object of study, theoretical bases and/or guidelines of a work, exercise or project to develop by the student. The theoretical contents will go presenting by the professor, complemented with the active intervention of the students, in total coordination with in the development of the practical activities programmed.
Project based learning	Practical classes in which the student in groups of work, initiate the development of the project *grupal
Practices through ICT	Practices in computer classroom with software of planning and follow-up of projects

Personalized assistance

Methodologies	Description
Practices through ICT	Personalised attention to the student in the computer practices
Project based learning	Follow-up in group of the advance of the project in the case that proceed

Assessment

	Description	Qualification	Training and Learning Results		
Presentation	At the end of the course, each group will present their project. The presentation and content will be evaluated, as well as responses to questions asked by the teacher or other students. Learning outcomes: Knowledge of the legal framework and responsibilities arising from Industrial Engineering project activity. The ability to dynamically manage all relevant aspects of the life cycle of a project: specifications, design, resources, value, risk, quality, sustainability, etc. The ability to develop, propose, and evaluate alternative solutions in the market for optimizing engineering projects in multi-project environments.	20	A4	C1 C2 C4 C5 C6 C7 C8 C11 C26 C33 C34	D4 D6 D8 D11
Objective questions exam	At the end of the course, there will be an exam consisting of a short answer and/or development test and/or problem-solving. Learning outcomes: Knowledge of the legal framework and responsibilities arising from Industrial Engineering project activity. The ability to dynamically manage all relevant aspects of the life cycle of a project: specifications, design, resources, value, risk, quality, sustainability, etc. The ability to develop, propose, and evaluate alternative solutions in the market for optimizing engineering projects in multi-project environments.	40	A2		
Report of practices, practicum and external practices	The classroom work is a project to be carried out in a group that will go developing throughout the course in the classroom and complemented by work of the group outside the classroom. The number of members that constitute the group will be fixed at the beginning of the course with the teacher. Learning outcomes: Knowledge of the legal framework and responsibilities derived from the project activity of Industrial Engineering. Ability to dynamically manage all relevant aspects of the Life cycle of a project: specifications, design, resources, value, risk, quality, sustainability, etc. Ability to develop, propose and evaluate alternative solutions in the Market for the optimization of engineering projects in environments Multiproject.	40	A1 A2 A3 A5	C26	

Other comments on the Evaluation

Students, to be able to pass the subject both in first and second chance, can opt for continuous evaluation or global

evaluation. Once one month has passed since the start of classes, students can communicate in writing to the teaching staff their resignation from the continuous evaluation and opt for the global evaluation.

- Reports of practices (deliverables) carried out throughout the course will have a value of 4 in the final grade.
- The written test has a value of 4 in the final grade.
- The final presentation and the content of the project will have a value of 2 in the final grade.

To be able to pass the continuous assessment, each part must be passed with a minimum of 3.5 points.

Students who opt for global evaluation will take the final exam on the corresponding date set by the school's management. The exam will cover both theoretical class content and practical content.

The official exam calendar will be published on the school's official website. http://eei.uvigo.es/

Ethical commitment: Students are expected to present appropriate ethical behavior. In case of detecting unethical behavior (copying, plagiarism, use of unauthorized electronic devices, and others), it is considered that the student does not meet the necessary requirements to pass the subject. In this case, the global grade for the current academic year will be a fail (0.0).

Sources of information

Basic Bibliography

Project Management Institute (PMI), **A guide to the Project Management Body of Knowlegde (PMBok Guide)**, 7ª Edición, PMI, 2021

Complementary Bibliography

Lewis, Cindy, **Step by Step. MICROSOFT PROJECT 2019**, 1ª Edición, Pearson Education, 2019

Buchtik, Liliana, **Secrets to Mastering the WBS in real world projects**, 2ª edition, PMI, 2013

Buchtik, Liliana, **Secretos para dominar la gestión de riesgos en Proyectos**, 2º edition, Buchtik global, 2013

Mulcahy, Rita, **PMP exam prep : accelerated learning to pass PMI's PMP exam**, 8º edition, RMC, 2013

Klastorin, Ted, **Gestión de Proyectos con casos prácticos, ejercicios resueltos, Microsoft project, Risk y hojas de cálculo**, 1º edition, Profit editorial, 2010

Fleming, Quentin W., **Earned value project management**, 4º edition, PMI, 2010

Osterwalder, Alexander, **Business model generation : a handbook for visionaries, game changers, and challengers**, 1º edition, Wiley, coop, 2010

Recommendations

Other comments

To enrol in this matter is necessary to have surpassed or enrol of all the matters of the inferior courses to the course in that it is situated this matter.