

## [GOH302] PROJECT MANAGEMENT

### GENERAL INFORMATION

<b>Studies</b>	DEGREE IN INDUSTRIAL ORGANIZATION ENGINEERING		<b>Subject</b>	?	
<b>Semester</b>	1	<b>Course</b>	3	<b>Mention / Field of specialisation</b>	
<b>Character</b>	COMPULSORY				
<b>Plan</b>	2022	<b>Modality</b>	Face-to-face	<b>Language</b>	CASTELLANO/EUSKARA
<b>Credits</b>	6	<b>Hours/week</b>	5	<b>Total hours</b>	90 class hours + 60 non-class hours = <b>150 total hours</b>

### PROFESSORS

GORROÑO ALBIZU, LEIRE
SARALEGUI ZALBIDE, EIDER

### REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
(No specific previous subjects required)	(No previous knowledge required)

### LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
<b>GOR302</b> - To argue the application of project management methodologies appropriate for their application based on the characteristics of the context		x		5,08
<b>G-RTR1</b> - To develop interdisciplinary projects specific to their specialty and of gradual complexity, - becoming aware of respect for human rights and fundamental rights, and analyzing and assessing the impact of the proposed solutions on the SDGs - to acquire and/or apply basic, advanced and /or avant-garde, demonstrating the ability to work in multidisciplinary teams and/or undertake further studies with a high degree of autonomy		x		0,44
<b>G-RTR2</b> - To express information, ideas and the arguments that support them in an orderly, clear and coherent manner, orally and in writing, based on quality information, self-made or obtained from different sources, using inclusive and non-discriminatory language		x		0,48
<b>Total:</b>				<b>6</b>

KC: Knowledge or Content / SK: Skills / AB: Abilities

#### ENAE LEARNING RESULTS

ENAE LEARNING RESULTS	ECTS
<b>ENAE03</b> - Knowledge and understanding: Sufficient knowledge of their branch of engineering, including some knowledge at the forefront of their field.	1,82
<b>ENAE06</b> - Analysis in engineering: Ability to apply their knowledge and understanding in analysing product, process and method engineering.	0,48
<b>ENAE08</b> - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,4
<b>ENAE09</b> - Engineering projects: Understanding of the different methods and ability to use them.	0,42
<b>ENAE12</b> - Research & innovation: Technical and lab competences.	0,42
<b>ENAE15</b> - Practical application of engineering: Understanding of applicable methods and techniques and their limitations.	0,78
<b>ENAE17</b> - Transversal competences: To work effectively, both individually and in a team.	0,42
<b>ENAE18</b> - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,42
<b>ENAE19</b> - Transversal competences: Demonstrate that they are aware of the responsibility implied in the practical application of engineering, the social and environmental impact, and show commitment with professional ethics, responsibility and regulations of the practical application of engineering.	0,42
<b>ENAE20</b> - Transversal competences: Demonstrate that they are aware of entrepreneurial practices and project management, in addition to risk control and management and understand their limitations.	0,42
<b>Total:</b>	<b>6</b>

### SECONDARY LEARNING RESULTS

**RG0390** [!] *Definir y gestionar los objetivos y la planificación de un proyecto que le permita adquirir y/o reforzar los conocimientos de tecnologías específicas de su especialidad,- que en ocasiones llegan a la vanguardia del conocimiento- y definir una estrate*

LEARNING ACTIVITIES	CH	NCH	TH
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams	2 h.	2 h.	4 h.

<b>EVALUATION SYSTEM</b>	<b>W</b>	<b>MAKE-UP MECHANISMS</b>
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	75%	(No mechanisms)
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	25%	

**CH - Class hours:** 2 h.  
**NCH - Non-class hours:** 2 h.  
**TH - Total hours:** 4 h.

**RG0391** [!] *Coordinar el equipo de trabajo, estimulando la cohesión y buen clima para lograr la integración de todas las personas y su contribución para alcanzar un rendimiento apropiado, tanto a nivel individual como grupal, para el desarrollo del proyecto en*

**LEARNING ACTIVITIES**

	<b>CH</b>	<b>NCH</b>	<b>TH</b>
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams	2 h.	2 h.	4 h.

**EVALUATION SYSTEM**

<b>EVALUATION SYSTEM</b>	<b>W</b>	<b>MAKE-UP MECHANISMS</b>
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	75%	(No mechanisms)
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	25%	

**CH - Class hours:** 2 h.  
**NCH - Non-class hours:** 2 h.  
**TH - Total hours:** 4 h.

**RG0392** [!] *Identificar y argumentar de forma precisa los ODS en los que incide el proyecto realizado, aportando posibles acciones para la mejora.*

**LEARNING ACTIVITIES**

	<b>CH</b>	<b>NCH</b>	<b>TH</b>
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams	2 h.	1 h.	3 h.

**EVALUATION SYSTEM**

<b>EVALUATION SYSTEM</b>	<b>W</b>	<b>MAKE-UP MECHANISMS</b>
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	75%	(No mechanisms)
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	25%	

**CH - Class hours:** 2 h.  
**NCH - Non-class hours:** 1 h.  
**TH - Total hours:** 3 h.

**RG0393** [!] *Elabora la memoria del proyecto, aportando argumentos elaborados y haciendo un uso correcto, inclusivo y no discriminatorio del lenguaje.*

**LEARNING ACTIVITIES**

	<i>CH</i>	<i>NCH</i>	<i>TH</i>
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams	4 h.	2 h.	6 h.

**EVALUATION SYSTEM**

	<i>W</i>
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	75%
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	25%

**MAKE-UP MECHANISMS**

*(No mechanisms)*

**CH - Class hours:** 4 h.  
**NCH - Non-class hours:** 2 h.  
**TH - Total hours:** 6 h.

**RG0394** [!] *Realiza una presentación oral del proyecto, justificando las soluciones propuestas con argumentos elaborados y precisos, y haciendo un uso correcto, inclusivo y no discriminatorio del lenguaje.*

**LEARNING ACTIVITIES**

	<i>CH</i>	<i>NCH</i>	<i>TH</i>
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams	4 h.	2 h.	6 h.

**EVALUATION SYSTEM**

	<i>W</i>
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	75%
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	25%

**MAKE-UP MECHANISMS**

*(No mechanisms)*

**CH - Class hours:** 4 h.  
**NCH - Non-class hours:** 2 h.  
**TH - Total hours:** 6 h.

**RG0303** [!] *ARGUMENTA la utilización de las metodologías de gestión de proyectos adecuadas a cada caso teniendo en cuenta las características de los contextos monoproyecto y multiproyecto.*

**LEARNING ACTIVITIES**

	<i>CH</i>	<i>NCH</i>	<i>TH</i>
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning	2 h.	1 h.	3 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.		1 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	3 h.	3 h.	6 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	1 h.		1 h.
Carrying out exercises and solving problems individually and/or in teams	2 h.	2 h.	4 h.

**EVALUATION SYSTEM**

	<i>W</i>
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory	20%

**MAKE-UP MECHANISMS**

Individual written and/or oral tests or individual coding/programming tests

exercises, term projects, challenges and problems	
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	20%
Individual written and/or oral tests or individual coding/programming tests	60%

**CH - Class hours:** 9 h.  
**NCH - Non-class hours:** 6 h.  
**TH - Total hours:** 15 h.

**RGO304 [!]** *APLICA las metodolgia de la gestión de proyecto único*

<b>LEARNING ACTIVITIES</b>	<b>CH</b>	<b>NCH</b>	<b>TH</b>
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning	7 h.	12 h.	19 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	5 h.		5 h.
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	18 h.	13 h.	31 h.
Computer simulation exercises, individually and/or in teams	3 h.		3 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	8 h.		8 h.
Carrying out exercises and solving problems individually and/or in teams	11 h.	10 h.	21 h.
<b>EVALUATION SYSTEM</b>	<b>W</b>	<b>MAKE-UP MECHANISMS</b>	
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	18%	Individual written and/or oral tests or individual coding/programming tests	
Presentation and defence of exercises, case studies, computer practical work, simulation practical work, laboratory practical work, term projects, end of degree project, master's thesis, challenges and problems	18%		
Individual written and/or oral tests or individual coding/programming tests	64%		

**CH - Class hours:** 52 h.  
**NCH - Non-class hours:** 35 h.  
**TH - Total hours:** 87 h.

**RGO305 [!]** *APLICA los conceptos y herramientas de la gestión de proyectos en entornos multiproyecto*

<b>LEARNING ACTIVITIES</b>	<b>CH</b>	<b>NCH</b>	<b>TH</b>
Development and writing of records, reports, presentations, audiovisual material, etc. on projects/work experience/challenges/case studies/experimental investigations carried out individually and/or in teams	3 h.	2 h.	5 h.
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning	2 h.	4 h.	6 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.		2 h.
Computer simulation exercises, individually and/or in teams	5 h.		5 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	2 h.		2 h.
Carrying out exercises and solving problems individually and/or in teams	1 h.	4 h.	5 h.
<b>EVALUATION SYSTEM</b>	<b>W</b>	<b>MAKE-UP MECHANISMS</b>	
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory	10%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term	

exercises, term projects, challenges and problems Individual written and/or oral tests or individual coding/programming tests	90%	projects, challenges and problems Individual written and/or oral tests or individual coding/programming tests
<b>CH - Class hours:</b> 15 h. <b>NCH - Non-class hours:</b> 10 h. <b>TH - Total hours:</b> 25 h.		

## CONTENTS

### Project Management of a single project. Techniques and Tools.

1. Introduction: What is a project?
2. Definition: Project and objectives
3. Project planning
4. Project execution
5. Project monitoring and control
6. Project ending and closing

### Management of Multi-Project Environments

1. Multi-project environment: approximation, focus and prior reflections.
2. Main issues related to Multi-project Management
3. Key factors to consider in the solution

### Critical Chain Project Management

1. Introduction to the TOC and CCPM.
2. Problems related to PM contexts (TOC perspective)
3. Description and features of the Systemic Model
4. Single project planning
5. Multi-project planning
6. Execution management
7. Other aspects related to the method

### Agile Project Management

1. Introduction to Agile PM
2. Kanban
3. Scrum

## LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes	Project Management Body of Knowledge, Project Management Institute (2017)
Technical articles	Wiley Guide, Managing Projects. Morris, P. & Pinto, J.K. (2004)
Video projections	The Oxford Handbook of Project Management. Morris, P. ; Pinto, J.K. & Söderlund (2012)
Slides of the subject	La Meta: un proceso de mejora continua. Eliyahu M. Goldratt, Ed. Díaz de Santos, S.A. (1993)
Topic related web quires	Cadena Crítica. Eliyahu M. Goldratt, Ed. Díaz de Santos, S.A. (2001)
	Project Management in the Fast Lane. Newbold, R.C., CRC Press (1998)
	Critical Chain Project Management (3rd edition). Leach, L.P.; Artech House, Inc., (2005)