

## [GOH304] CREATIVITY TECHNIQUES

### GENERAL INFORMATION

<b>Studies</b>	DEGREE IN INDUSTRIAL ORGANIZATION ENGINEERING		<b>Subject</b>	?	
<b>Semester</b>	2	<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>	4,5	<b>Hours/week</b>	2.72	<b>Total hours</b>	49 class hours + 63.5 non-class hours = <b>112.5 total hours</b>

### PROFESSORS

AZPI-NAZABAL IRAOLAGOITIA, MAITE
DOK-RABANETE GONZALEZ, LIERNI

### REQUIRED PREVIOUS KNOWLEDGE

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

### LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
<b>GOR310</b> - To apply the creative process to improve a product or service from a sustainable approach	x			3,78
<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		0,4
<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		0,32
<b>Total:</b>				<b>4,5</b>

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

#### ENAEE LEARNING RESULTS

ENAEE LEARNING RESULTS	ECTS
<b>ENAE04</b> - Knowledge and understanding: To be aware of the multidisciplinary context of engineering.	0,77
<b>ENAE06</b> - Analysis in engineering: Ability to apply their knowledge and understanding in analysing product, process and method engineering.	0,92
<b>ENAE08</b> - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,29
<b>ENAE09</b> - Engineering projects: Understanding of the different methods and ability to use them.	0,29
<b>ENAE10</b> - Research & innovation: Ability to perform bibliographic searches, to use databases and other sources of information.	0,76
<b>ENAE12</b> - Research & innovation: Technical and lab competences.	0,21
<b>ENAE14</b> - Practical application of engineering: Ability to combine theory and practice in order to solve engineering problems.	0,2
<b>ENAE15</b> - Practical application of engineering: Understanding of applicable methods and techniques and their limitations.	0,2
<b>ENAE17</b> - Transversal competences: To work effectively, both individually and in a team.	0,29
<b>ENAE18</b> - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,29
<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.	0,28
<b>Total:</b>	<b>4,5</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		4 h.	4 h.

#### EVALUATION SYSTEM

W

#### MAKE-UP 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

100%

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

**CH - Class hours:** 0 h.  
**NCH - Non-class hours:** 4 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**

**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

3 h.

3 h.

**EVALUATION SYSTEM**

**W**

**MAKE-UP MECHANISMS**

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

100%

(No mechanisms)

**CH - Class hours:** 0 h.  
**NCH - Non-class hours:** 3 h.  
**TH - Total hours:** 3 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**

**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

3 h.

3 h.

**EVALUATION SYSTEM**

**W**

**MAKE-UP 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

50%

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

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

50%

**CH - Class hours:** 0 h.  
**NCH - Non-class hours:** 3 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**

**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

4 h.

4 h.

<b>EVALUATION SYSTEM</b>	<b>W</b>	<b>MAKE-UP MECHANISMS</b>
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	100%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
<p><b>CH - Class hours:</b> 0 h. <b>NCH - Non-class hours:</b> 4 h. <b>TH - Total hours:</b> 4 h.</p>		

**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**

**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

4 h.                      4 h.

**EVALUATION SYSTEM**

**W**

**MAKE-UP 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	100%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
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**CH - Class hours:** 0 h.  
**NCH - Non-class hours:** 4 h.  
**TH - Total hours:** 4 h.

**RG0326** [!] *SELECCIONA la solución de mejora de un producto o servicio más apropiada para avanzar hacia la triple sostenibilidad.*

**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	6 h.	6 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	5 h.	5 h.
Carrying out exercises and solving problems individually and/or in teams	10 h.	15 h.
Practical work in workshops and/or laboratories, individually and/or in teams	5 h.	10 h.
Tutoring sessions and monitoring of training activities	4 h.	4 h.

**EVALUATION SYSTEM**

**W**

**MAKE-UP MECHANISMS**

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	40%	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	40%	
Individual written and/or oral tests or individual coding/programming tests	20%	

**CH - Class hours:** 20 h.  
**NCH - Non-class hours:** 20 h.  
**TH - Total hours:** 40 h.

**RG0327 [!] APLICA las técnicas y herramientas de creatividad adecuadas para conceptualizar o mejorar un producto o servicio**

**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		16 h.	16 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	4 h.	4 h.	8 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	10 h.		10 h.
Carrying out exercises and solving problems individually and/or in teams	15 h.	5,5 h.	20,5 h.

**EVALUATION SYSTEM**

*W*

Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	40%
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	40%
Individual written and/or oral tests or individual coding/programming tests	20%

**MAKE-UP MECHANISMS**

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

**CH - Class hours:** 29 h.

**NCH - Non-class hours:** 25,5 h.

**TH - Total hours:** 54,5 h.

**CONTENTS**

**LEARNING RESOURCES AND BIBLIOGRAPHY**

**Learning resources**

Subject notes  
 Topic related web quires  
 Moodle Platform  
 Class presentations

**Bibliography**

Byttebier, I., & Vullings, R. (2007). Creativity today: tools for a creative attitude; for business, education, industry, training, development, government, consultants, workers, thinkers, meetings... BIS Publishers

Design Council. (2014). Leading Business by Design. Why and how business leaders invest in design.

Stickdorn, M. (2021). This is service design doing: Applying service design thinking in the real world: A practitioner's handbook. O'Reilly

Design Council. (2015). Introducing Design Methods. Retrieved from [https://www.designcouncil.org.uk/sites/default/files/asset/document/DesignCouncil\\_Design%20methods%20for%20developing%20services.pdf](https://www.designcouncil.org.uk/sites/default/files/asset/document/DesignCouncil_Design%20methods%20for%20developing%20services.pdf)

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