

[GOH204] CREATIVITY TECHNIQUES

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL ORGANIZATION ENGINEERING		Subject	Strategy and Innovation
Semester	2	Course	3	Mention / Field of specialisation
Character	COMPULSORY		Language	ENGLISH
Plan	2017	Modality	Adapted Face-to-face	Total hours
Credits	4,5	Hours/week	2.72	49 class hours + 63.5 non-class hours = 112.5 total hours

PROFESSORS

VIVAR SIMON, MARIA
ANITUA AZCARATE, GERMAN
DE LA TORRE PARDOS, JUAN

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
<i>(No specific previous subjects required)</i>	<i>(No previous knowledge required)</i>

SKILLS

VERIFICA SKILLS

SPECIFIC

- GOC302** - To identify and know how to efficiently reduce the environmental impact of products throughout their life cycle
- GOC304** - To get people involved and guide them towards a common goal with a global vision of the work to be done, striking a balance between individual and group interests.
- GOC308** - To apply the most suitable methods and techniques in order to progress in the excellence of an organisation's management.
- GOC309** - To solve problems and analyse the implications of the solution proposed by defining actions which hinder the reappearance of problems (stable solution) and taking part in various work teams.
- GOC310** - To draft different types of documents, arguing and justifying the conclusions and solutions presented therein and to communicate, present and share the information appropriately.

GENERAL

- GOCT01** - To suggest the launch of new products, identifying the suitable actions for adequate planning, manufacture and management and minimising their environmental impact throughout their life cycle.
- GOCT04** - To define, implement and monitor the processes and procedures of an organisation
- GOCT07** - To coordinate and motivate human teams in professional tasks and the resources required for these tasks.

BASIC

- G_CB4** - To be able to communicate information, ideas, problems and solutions to both expert and lay audiences

ENAE LEARNING RESULTS

	ECTS
ENAE04 - Knowledge and understanding: To be aware of the multidisciplinary context of engineering.	0,77
ENAE06 - Analysis in engineering: Ability to apply their knowledge and understanding in analysing product, process and method engineering.	0,92
ENAE08 - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,29
ENAE09 - Engineering projects: Understanding of the different methods and ability to use them.	0,29
ENAE10 - Research & innovation: Ability to perform bibliographic searches, to use databases and other sources of information.	0,76
ENAE12 - Research & innovation: Technical and lab competences.	0,21
ENAE14 - Practical application of engineering: Ability to combine theory and practice in order to solve engineering problems.	0,2
ENAE15 - Practical application of engineering: Understanding of applicable methods and techniques and their limitations.	0,2
ENAE17 - Transversal competences: To work effectively, both individually and in a team.	0,29
ENAE18 - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,29
ENAE19 - 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
Total:	4,5

LEARNING RESULTS

RG301 Assumes responsibilities in the work team, organizing and planning the tasks to be developed, facing the contingencies and encouraging the participation of its members.

LEARNING ACTIVITIES		<i>CH</i>	<i>NCH</i>	<i>TH</i>
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams			5 h.	5 h.
EVALUATION SYSTEM	<i>W</i>	MAKE-UP MECHANISMS		
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	50%	<i>(No mechanisms)</i>		
Team oral tests for the evaluation of technical skills of the subject	50%			
Comments: Project evaluation This will be taken into account: (a) Task performance throughout the development of the project, (continuous evaluation), both individual and team work. (b) At the end of the project, the solution given by the team, as well as the corresponding report. (c) Finally, the oral defence of the project taking into account both the knowledge acquired and the quality of the presentation. The reasoned justification of the principles and ultimate causes that led them to propose the chosen solution.				
CH - Class hours: 0 h. NCH - Non-class hours: 5 h. TH - Total hours: 5 h.				

RG302 Analyze the intervening variables in the problem and propose actions for a stable situation.

LEARNING ACTIVITIES		<i>CH</i>	<i>NCH</i>	<i>TH</i>
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams			5 h.	5 h.
EVALUATION SYSTEM	<i>W</i>	MAKE-UP MECHANISMS		
Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices	50%	<i>(No mechanisms)</i>		
Team oral tests for the evaluation of technical skills of the subject	50%			
Comments: Project evaluation This will be taken into account: (a) Task performance throughout the development of the project, (continuous evaluation), both individual and team work. (b) At the end of the project, the solution given by the team, as well as the corresponding report. (c) Finally, the oral defence of the project taking into account both the knowledge acquired and the quality of the presentation. The reasoned justification of the principles and ultimate causes that led them to propose the chosen solution.				
CH - Class hours: 0 h. NCH - Non-class hours: 5 h. TH - Total hours: 5 h.				

RG304 Define the problem, develop the solution and present the conclusions in a efficient manner, arguing and justifying each one of them in writing.

LEARNING ACTIVITIES		<i>CH</i>	<i>NCH</i>	<i>TH</i>
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams			4 h.	4 h.
EVALUATION SYSTEM	<i>W</i>	MAKE-UP MECHANISMS		
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	50%	<i>(No mechanisms)</i>		
Team oral tests for the evaluation of technical skills of the subject	50%			

subject

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

RG305 Define the problem, develop the solution and present the conclusions in a efficient manner, arguing and justifying each one of them in spoken form.

LEARNING ACTIVITIES

CH NCH TH

Development, writing and presentation of memorandums, reports, audiovisual material, etc. 4 h. 4 h.
Relating to projects/POPBLs carried out individually or in teams

EVALUATION SYSTEM

W

MAKE-UP MECHANISMS

Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence 50% (No mechanisms)

Team oral tests for the evaluation of technical skills of the subject 50%

Comments: Project evaluation This will be taken into account: (a) Task performance throughout the development of the project, (continuous evaluation), both individual and team work. (b) At the end of the project, the solution given by the team, as well as the corresponding report. (c) Finally, the oral defence of the project taking into account both the knowledge acquired and the quality of the presentation. The reasoned justification of the principles and ultimate causes that led them to propose the chosen solution.

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

RG0304 Identifying creativity techniques and tools and using them correctly with the purpose of conceptualizing or improving a product or service.

LEARNING ACTIVITIES

CH NCH TH

Development, writing and presentation of memorandums, reports, audiovisual material, etc. 16 h. 16 h.
Relating to projects/POPBLs carried out individually or in teams

Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects 10 h. 10 h.

Classroom presentations of relevant concepts and procedures in participatory environments 4 h. 4 h. 8 h.

Individual and team solving of exercises, problems, and practices 15 h. 5,5 h. 20,5 h.

EVALUATION SYSTEM

W

MAKE-UP MECHANISMS

Individual written and oral tests to assess technical skills of the subject 10% Team oral tests for the evaluation of technical skills of the subject

Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence 50%

Team oral tests for the evaluation of technical skills of the subject 40%

CH - Class hours: 29 h.
NCH - Non-class hours: 25,5 h.
TH - Total hours: 54,5 h.

RG0320 Valuing creativity techniques and tools and selecting the most appropriate ones to use them and move towards excellence in the organizational management

LEARNING ACTIVITIES

	<i>CH</i>	<i>NCH</i>	<i>TH</i>
Development, writing and presentation of memorandums, reports, audiovisual material, etc. Relating to projects/POPBLs carried out individually or in teams		6 h.	6 h.
Presentation of the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	5 h.		5 h.
Tutoring sessions and monitoring of training activities		4 h.	4 h.
Classroom presentations of relevant concepts and procedures in participatory environments	5 h.	5 h.	10 h.
Individual and team solving of exercises, problems, and practices	10 h.	5 h.	15 h.

EVALUATION SYSTEM

W

Individual written and oral tests to assess technical skills of the subject	10%
Technical skills, involvement in the project, finished work, obtained results, handed documentation, presentation and technical defence	50%
Team oral tests for the evaluation of technical skills of the subject	40%

MAKE-UP MECHANISMS

Team oral tests for the evaluation of technical skills of the subject

CH - Class hours: 20 h.

NCH - Non-class hours: 20 h.

TH - Total hours: 40 h.

CONTENTS

1. Basic concepts - creativity
2. Creativity definition
3. Creativity process
 1. Double Diamond
 2. Stages of the creativity process
 1. Discovery phase (diverge)
 2. Definition phase (converge)
 3. Developmental phase (diverge)
 4. Delivery phase (converge)
3. Creativity techniques for each phase

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.

Stickdom, 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

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