[GOM301] OPTIMISATION TECHNIQUES AND TOOLS

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL ORGANIZATION ENGINEERING			**Subject**	?
Semester	1	**Course**	3	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2022	**Modality**	Face-to-face	**Language**	CASTELLANO/EUSKARA
Credits	3	**Hours/week**	3	**Total hours**	54 class hours + 21 non-class hours = **75 total hours**

PROFESSORS

EREÑO INCERA, ANA MONSERRAT

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GOR309 - To generate knowledge through the identification and modeling of data to improve the management and evolution of the organization		x		2,56
G-RTR1 - 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		0,2
G-RTR2 - 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		0,24
			Total:	3

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

ENAEE LEARNING RESULTS	ECTS
ENAE03 - Knowledge and understanding: Sufficient knowledge of their branch of engineering, including some knowledge at the forefront of their field.	0,45
ENAE07 - Analysis in engineering: Ability to choose and apply relevant modelling and analytical methods.	0,3
ENAE09 - Engineering projects: Understanding of the different methods and ability to use them.	0,39
ENAE12 - Research & innovation: Technical and lab competences.	0,39
ENAE15 - Practical application of engineering: Understanding of applicable methods and techniques and their limitations.	0,3
ENAE17 - Transversal competences: To work effectively, both individually and in a team.	0,39
ENAE18 - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,39
ENAE20 - Transversal competences: Demonstrate that they are aware of entrepreneurial practices and project management, in addition to risk control and management and understand their limitations.	0,39
Total:	3

SECONDARY LEARNING RESULTS

RGO393 **[!]** ***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	2 h.	1 h.	3 h.

EVALUATION SYSTEM	W
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: 2 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 3 h.

RGO325 **[!]** ***APLICA técnicas y herramientas para el tratamiento de la información y la gestión del conocimiento***

LEARNING ACTIVITIES	CH	NCH	TH
Computer simulation exercises, individually and/or in teams	15 h.	5 h.	20 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	8 h.	4 h.	12 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%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems

CH - Class hours: 23 h.
NCH - Non-class hours: 9 h.
TH - Total hours: 32 h.

RGO391 **[!]** ***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	1 h.	1 h.	2 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	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: 1 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 2 h.

RGO324 **[!]** ***GENERA modelos de los datos de una organización para gestionar los procesos de una organización***

LEARNING ACTIVITIES	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	2 h.	2 h.	4 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	6 h.	2 h.	8 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	6 h.		6 h.
Carrying out exercises and solving problems individually and/or in teams	10 h.	4 h.	14 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	50%	Individual written and/or oral tests or individual coding/programming tests
Individual written and/or oral tests or individual coding/programming tests	50%	

CH - Class hours: 24 h.
NCH - Non-class hours: 8 h.
TH - Total hours: 32 h.

RGO390 **[!]** ***Definir y gestionar los objetivos y la planificación de un proyecto que 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 estrategia***

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	1 h.	1 h.	2 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	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: 1 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 2 h.

RGO392 **[!]** ***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	1 h.		1 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	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: 1 h.
NCH - Non-class hours: 0 h.
TH - Total hours: 1 h.

RGO394 **[!]** ***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	2 h.	1 h.	3 h.

EVALUATION SYSTEM	W
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: 2 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 3 h.

CONTENTS

1- Introduction to databases

2- Data modeling- ER Model

3- Data normalization- Relational Model

4- Database system creation - Ms Access

5- Data exploitation- queries

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes	*(No bibliography)*
Moodle Platform	
Class presentations	