

[GOM301] OPTIMISATION TECHNIQUES AND TOOLS

GENERAL INFORMATION

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

2030 AGENDA GOALS



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

ENAEF LEARNING RESULTS

ENAAE 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

1RGO390 (1 sem)

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
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,	25%

MAKE-UP MECHANISMS

(No mechanisms)

computer practical work, simulation practical work,
laboratory practical work, term projects, end of degree
project, master's thesis, challenges and problems

CH - Class hours: 1 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 2 h.

1RGO391 (1 sem)

LEARNING ACTIVITIES

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

CH

1 h.

NCH

1 h.

TH

2 h.

EVALUATION SYSTEM

W

75%

MAKE-UP MECHANISMS

(No mechanisms)

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

25%

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

CH - Class hours: 1 h.

NCH - Non-class hours: 1 h.

TH - Total hours: 2 h.

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

LEARNING ACTIVITIES

Computer simulation exercises, individually and/or in teams

CH

15 h.

NCH

5 h.

TH

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

100%

MAKE-UP MECHANISMS

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

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.

1RGO392 (1 sem)

LEARNING ACTIVITIES

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

CH

1 h.

NCH

TH

1 h.

EVALUATION SYSTEM

W

75%

MAKE-UP MECHANISMS

(No mechanisms)

Reports on the completion of exercises, case studies,
computer exercises, simulation exercises, laboratory
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

25%

CH - Class hours: 1 h.

NCH - Non-class hours: 0 h.

TH - Total hours: 1 h.

1RGO394 (1 sem)

LEARNING ACTIVITIES

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

CH

2 h.

NCH

1 h.

TH

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.

1RGO393 (1 sem)

LEARNING ACTIVITIES

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

CH

2 h.

NCH

1 h.

TH

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.

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

LEARNING ACTIVITIES

Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints

CH

2 h.

NCH

2 h.

TH

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.			

CONTENTS

1- Introduction to databases
2- Data modeling - ER Model
3- Normalization of data - Relational Model
4- Creation of database system - Ms Access
5- Exploitation of data - queries

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
[!] <i>Apuntes de la asignatura</i>	(No bibliography)
[!] <i>Plataforma Moodle</i>	
[!] <i>Presentaciones en clase</i>	