

[GOM202] OPTIMISATION TECHNIQUES AND TOOLS I

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL ORGANIZATION ENGINEERING		Subject	Techniques and Tools
Semester	2	Course	2	Mention / Field of specialisation
Character	OPTIONAL		Language	ENGLISH
Plan	2017	Modality	Adapted Face-to-face	Total hours
Credits	3	Hours/week	2.56	46 class hours + 29 non-class hours = 75 total hours

PROFESSORS

EREÑO INCERA, ANA MONSERRAT
UNZUETA ARANGUREN, GORKA
UBARRECHENA BELANDIA, ARITZ

REQUIRED PREVIOUS KNOWLEDGE

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

SKILLS

VERIFICA SKILLS

SPECIFIC

GOC201 - To design an optimal production plan according to product characteristics, processes and markets

GOC202 - To design and optimise manufacturing processes, making sure they maintain standards throughout

GOC207 - To apply mathematical and physical principles and theories to calculations in the solving of engineering problems.

GOC210 - To write technical reports and make presentations based on them and to manage and organise the information effectively and ethically

GENERAL

GOCT06 - To manage the key parameters in the value chain for the effective management of industrial activities and processes or services

GOCT08 - To identify fundamentals of the most common industrial installations and processes in an industrial environment.

BASIC

G_CB1 - To have proven to understand and have knowledge in a field of study based on general secondary education at a level found in advanced textbooks and including concepts at the forefront of their field of study.

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

ENAAE LEARNING RESULTS

	ECTS
ENAE02 - Knowledge and understanding: A systematic understanding of the key aspects and concepts of their branch of engineering.	1,2
ENAE04 - Knowledge and understanding: To be aware of the multidisciplinary context of engineering.	0,6
ENAE05 - Analysis in engineering: Ability to apply their knowledge and understanding in identifying, formulating and solving engineering problems using established methods.	0,24
ENAE06 - Analysis in engineering: Ability to apply their knowledge and understanding in analysing product, process and method engineering.	0,24
ENAE08 - Engineering projects: Ability to apply their knowledge in the development and completion of projects which meet specific requirements.	0,24
ENAE17 - Transversal competences: To work effectively, both individually and in a team.	0,24
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.	0,24

Total: 3

LEARNING RESULTS

RG201 They coordinate the work with the rest of the group members, contributing to develop the task to be done and creating a good work atmosphere.

LEARNING ACTIVITIES

	CH	NCH	TH
Individual and/or team computer simulation practice	15 h.	10 h.	25 h.

EVALUATION SYSTEM

	W
Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices	100%

MAKE-UP MECHANISMS

Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices

CH - Class hours: 15 h.
NCH - Non-class hours: 10 h.
TH - Total hours: 25 h.

RG202 They make decisions and evaluate any possible consequences of the selected alternative.

LEARNING ACTIVITIES	CH	NCH	TH
Individual and/or team computer simulation practice	15 h.	10 h.	25 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices	100%	Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices

CH - Class hours: 15 h.
NCH - Non-class hours: 10 h.
TH - Total hours: 25 h.

RG203 They Apply methods, techniques, regulations, etc. typical of the engineering profession in familiar contexts.

LEARNING ACTIVITIES	CH	NCH	TH
Individual and/or team computer simulation practice	10 h.	5 h.	15 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices	100%	Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices

CH - Class hours: 10 h.
NCH - Non-class hours: 5 h.
TH - Total hours: 15 h.

RG204 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	CH	NCH	TH
Individual and/or team computer simulation practice	3 h.	2 h.	5 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices	100%	(No mechanisms)

CH - Class hours: 3 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 5 h.

RG205 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
---------------------	----	-----	----

Individual and/or team computer simulation practice		3 h.	2 h.	5 h.
EVALUATION SYSTEM	<i>W</i>	MAKE-UP MECHANISMS		
Reports of solving exercises, case studies, computer practices, simulation practices and laboratory practices	100%	<i>(No mechanisms)</i>		
CH - Class hours: 3 h.				
NCH - Non-class hours: 2 h.				
TH - Total hours: 5 h.				

CONTENTS

- 1.- Advanced use of Excel
 2.- Information CollectionBiblio databases (Scopus, EV, ...)Google scholar
 3.- Use of the reference managerMendeley
 4.- MS Project SW

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Moodle Platform Class presentations Specific Master Software	<i>(No bibliography)</i>