

[GOJ303] QUANTITATIVE METHODS FOR INDUSTRIAL ORGANISATION II

GENERAL INFORMATION

Studies	DEGREE IN INDUSTRIAL ORGANIZATION ENGINEERING	Subject	?
Semester	1	Course	3
Character	COMPULSORY	Mention / Field of specialisation	
Plan	2022	Modality	Face-to-face
Credits	6	Language	EUSKARA/CASTELLANO/ENGLISH
		Hours/week	5.33
		Total hours	96 class hours + 54 non-class hours = 150 total hours

2030 AGENDA GOALS



PROFESSORS

SOTO RUIZ DE GORDOA, MIRIAM
ATORRASAGASTI ALDABALDETRECU, ESTELA

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GOR304 - To analyze supply chains, production plants and/or supply chains using simulation tools, in order to make timely organizational decisions	x			5,08
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		0,44
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		0,48

Total: 6

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

ENAE LEARNING RESULTS

ENAE LEARNING RESULTS	ECTS
ENAE03 - Knowledge and understanding: Sufficient knowledge of their branch of engineering, including some knowledge at the forefront of their field.	1,8
ENAE07 - Analysis in engineering: Ability to choose and apply relevant modelling and analytical methods.	0,45
ENAE09 - Engineering projects: Understanding of the different methods and ability to use them.	0,45
ENAE11 - Research & innovation: Ability to design and carry out experiments, to interpret data and draw conclusions.	1,8
ENAE12 - Research & innovation: Technical and lab competences.	0,3
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.	0,45
ENAE18 - Transversal competences: To use different methods to communicate effectively with the engineering community and society in general.	0,45

Total: 6

SECONDARY LEARNING RESULTS

1RGO390 (1 sem)

LEARNING ACTIVITIES

Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams

CH 3 h. **NCH** 1 h. **TH** 4 h.

EVALUATION SYSTEM

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

W

100%

MAKE-UP MECHANISMS

(No mechanisms)

CH - Class hours: 3 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 4 h.

1RGO391 (1 sem)

LEARNING ACTIVITIES

Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams

CH

3 h.

NCH

1 h.

TH

4 h.

EVALUATION SYSTEM

W

100%

MAKE-UP MECHANISMS

(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

CH - Class hours: 3 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 4 h.

1RGO392 (1 sem)

LEARNING ACTIVITIES

Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams

CH

2 h.

NCH

1 h.

TH

3 h.

EVALUATION SYSTEM

W

100%

MAKE-UP MECHANISMS

(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

CH - Class hours: 2 h.
NCH - Non-class hours: 1 h.
TH - Total hours: 3 h.

1RGO394 (1 sem)

LEARNING ACTIVITIES

Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams

CH

4 h.

NCH

2 h.

TH

6 h.

EVALUATION SYSTEM

W

100%

MAKE-UP MECHANISMS

(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

CH - Class hours: 4 h.
NCH - Non-class hours: 2 h.
TH - Total hours: 6 h.

1RGO393 (1 sem)

LEARNING ACTIVITIES

Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams

CH

4 h.

NCH

2 h.

TH

6 h.

EVALUATION SYSTEM

W

100%

MAKE-UP MECHANISMS

(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

CH - Class hours: 4 h.

NCH - Non-class hours: 2 h.

TH - Total hours: 6 h.

RGO308 [I] DESARROLLA modelos de simulación adecuados de entornos logísticos reales.

LEARNING ACTIVITIES

Computer simulation exercises, individually and/or in teams

CH

20 h.

NCH

30 h.

TH

50 h.

Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects

30 h.

30 h.

EVALUATION SYSTEM

W

20%

MAKE-UP MECHANISMS

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

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

80%

CH - Class hours: 50 h.

NCH - Non-class hours: 30 h.

TH - Total hours: 80 h.

RGO309 [I] ANALIZA los resultados obtenidos tras la simulación

LEARNING ACTIVITIES

Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects

CH

10 h.

NCH

TH

10 h.

Carrying out exercises and solving problems individually and/or in teams

20 h.

17 h.

37 h.

EVALUATION SYSTEM

W

30%

MAKE-UP MECHANISMS

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

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

70%

CH - Class hours: 30 h.

NCH - Non-class hours: 17 h.

TH - Total hours: 47 h.

CONTENTS

1. Introduction to simulation
2. How to simulate using FlexSim
FlexSim: concepts and terminology
Grouping and ungrouping items
Global tables
Conveyor belts
Production prioritization
Production sequencing
Operators
Experimentation

3. Decision making using FlexSim

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

[!] *Software específico de la titulación*
[!] *Transparencias de la asignatura*
[!] *Proyección de videos*
[!] *Plataforma Moodle*
[!] *Presentaciones en clase*

Bibliography

(No bibliography)