Goi Eskola Politeknikoa | Mondragon Unibertsitatea

Course: 2024 / 2025 - Course planning

[GFA006] Statistics

GENERAL INFORMATION

Studies	ENGINEERING PHYSICS APPLIED TO INDUSTRY	**Subject**	Mathematics
Semester	1	**Course** 2	
Character	COMPULSORY	**Mention / Field of specialisation**	
Plan	2022	**Modality** Face-to-face	
Credits	4,5	**Hours/week** 0	**Language** CASTELLANO
		Total hours	65.4 class hours + 47.1 non-class hours = **112.5 total hours**

2030 AGENDA GOALS

PROFESSORS

LASA ALONSO, JON

REQUIRED PREVIOUS KNOWLEDGE

Subjects	Knowledge
CALCULUS I	*(No previous knowledge required)*

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GFR103 - Solving any mathematical problems that may arise in engineering. Aptitude in applying knowledge of: statistics and optimisation		x		4,02
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		0,24
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:	**4,5**

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

SECONDARY LEARNING RESULTS

1RGF292 **(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	2 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	100%	*(No mechanisms)*	

CH - Class hours: 2 h.
NCH - Non-class hours: 0 h.
TH - Total hours: 2 h.

1RGF294 [!] *(1 sem)Realiza una presentación oral del proyecto con argumentos elaborados por sí mismos 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	2 h.		2 h.

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individually and/or in teams

EVALUATION SYSTEM	W	MAKE-UP 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	100%	*(No mechanisms)*

CH - Class hours: 2 h.
NCH - Non-class hours: 0 h.
TH - Total hours: 2 h.

RGF207 [!] *Calcula, analiza y visualiza, tanto a mano como por ordenador, parámetros estadísticos descriptivos de un conjunto de datos.*

LEARNING ACTIVITIES	CH	NCH	TH
Computer simulation exercises, individually and/or in teams		9,5 h.	9,5 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	3 h.		3 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	80%	*(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	20%	

CH - Class hours: 3 h.
NCH - Non-class hours: 9,5 h.
TH - Total hours: 12,5 h.

RGF209 [!] *Conoce y utiliza las principales distribuciones muestrales para calcular parámetros y resolver problemas de contraste de hipótesis*

LEARNING ACTIVITIES	CH	NCH	TH
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning		5 h.	5 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.		1 h.
Computer simulation exercises, individually and/or in teams	4 h.	2 h.	6 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	8 h.		8 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	30%	Individual written and/or oral tests or individual coding/programming tests
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	20%	
Individual written and/or oral tests or individual coding/programming tests	50%	

CH - Class hours: 13 h.
NCH - Non-class hours: 7 h.
TH - Total hours: 20 h.

1RGF291 (1 sem)

LEARNING ACTIVITIES

	CH	NCH	TH
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	3 h.		3 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%	*(No mechanisms)*

CH - Class hours: 3 h.
NCH - Non-class hours: 0 h.
TH - Total hours: 3 h.

RGF210 [!] *Genera modelos de regresión y los utiliza para realizar predicciones con el apoyo de software estadístico*

LEARNING ACTIVITIES

	CH	NCH	TH
Personal study and flexible development of concepts and subjects using active dynamics, to foster more meaningful learning		2 h.	2 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.		1 h.
Computer simulation exercises, individually and/or in teams	1,85 h.	1,85 h.	3,7 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	7,8 h.		7,8 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	30%	Individual written and/or oral tests or individual coding/programming tests
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	20%	
Individual written and/or oral tests or individual coding/programming tests	50%	

CH - Class hours: 10,65 h.
NCH - Non-class hours: 3,85 h.
TH - Total hours: 14,5 h.

1RGF293 (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	2 h.		2 h.

EVALUATION SYSTEM

	W	MAKE-UP 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	100%	*(No mechanisms)*

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CH - Class hours: 2 h.
NCH - Non-class hours: 0 h.
TH - Total hours: 2 h.

RGF208 [!] *Identifica y resuelve problemas de ingeniería utilizando la combinatoria y la probabilidad junto con los principales modelos aleatorios discretos y continuos.*

LEARNING ACTIVITIES	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1,98 h.		1,98 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	24,77 h.		24,77 h.
Carrying out exercises and solving problems individually and/or in teams		26,75 h.	26,75 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	10%	Individual written and/or oral tests or individual coding/programming tests
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	20%	
Individual written and/or oral tests or individual coding/programming tests	70%	

CH - Class hours: 26,75 h.
NCH - Non-class hours: 26,75 h.
TH - Total hours: 53,5 h.

1RGF290 (1 sem)

LEARNING ACTIVITIES	CH	NCH	TH
Carrying out/resolving projects/challenges/cases, etc. to provide solutions to problems in interdisciplinary contexts, real and/or simulated, individually and/or in teams	3 h.		3 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Self-assessment	25%	*(No mechanisms)*
Co-assessment	25%	
Observation (technical capacity, attitude and participation)	50%	

CH - Class hours: 3 h.
NCH - Non-class hours: 0 h.
TH - Total hours: 3 h.

CONTENTS

1. Descriptive Statistics2. Combinatorics3. Probability Theory and Random Variables4. Statistical Inference.5. Regression

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LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography

Subject notes   https://labur.eus/LSrEk
Technical articles
Topic related web quires
Class presentations
Computer practical training
Moodle Platform
Video projections