

[GFA006] Statistics

GENERAL INFORMATION

Studies	ENGINEERING PHYSICS APPLIED TO INDUSTRY		Subject	Mathematics
Semester	1	Course	2	Mention / Field of specialisation
Character	COMPULSORY		Language	CASTELLANO
Plan	2022	Modality	Face-to-face	Total hours 65 class hours + 47.5 non-class hours = 112.5 total hours
Credits	4,5	Hours/week	0	

PROFESSORS

URIEN CRESPO, MIREN JOSUNE

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		4,06
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		0,2

Total: 4,5

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

SECONDARY LEARNING RESULTS

RGF290 [!] *Muestra las habilidades para trabajar en grupo y resuelve los problemas planteados utilizando las herramientas adecuadas en cada caso.*

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.

RGF291 [!] *Utiliza la metodología adecuada para encontrar las soluciones a los problemas y para desarrollar los proyectos: Examina bien los problemas, y busca información significativa para hacerle frente y propone las soluciones.*

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.

RGF292 [!] *Comunica, busca y estructura correctamente la información de manera escrita: Redacta una memoria de proyecto clara y concisa siguiendo los criterios establecidos en la guía para la redacción de la memoria de proyectos y utilizando herramienta informá*

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

3 h.

NCH

TH

3 h.

EVALUATION SYSTEM

W

100%

MAKE-UP MECHANISMS

(No mechanisms)

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

CH - Class hours: 3 h.

NCH - Non-class hours: 0 h.

TH - Total hours: 3 h.

RGF293 [!] *Comunica, busca y estructura correctamente la información de manera oral: Realiza una presentación oral y defensa del proyecto clara y concisa, utilizando adecuadamente los aspectos recogidos en la guía de comunicación oral y las herramientas informá*

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

TH

2 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: 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

Computer simulation exercises, individually and/or in teams

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

CH

3 h.

NCH

9,5 h.

TH

9,5 h.

3 h.

EVALUATION SYSTEM

W

80%

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,

20%

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

CH - Class hours: 3 h.

NCH - Non-class hours: 9,5 h.

TH - Total hours: 12,5 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	2 h.		2 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	25 h.		25 h.
Carrying out exercises and solving problems individually and/or in teams		27 h.	27 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: 27 h.

NCH - Non-class hours: 27 h.

TH - Total hours: 54 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.

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	2 h.	2 h.	4 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: 11 h.
NCH - Non-class hours: 4 h.
TH - Total hours: 15 h.

CONTENTS

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

LEARNING RESOURCES AND BIBLIOGRAPHY

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