Goi Eskola Politeknikoa | Mondragon Unibertsitatea

Course: 2023 / 2024 - Course planning

[GIA304] STATISTICAL METHODS

GENERAL INFORMATION

Studies	DEGREE IN COMPUTER ENGINEERING	**Subject**	MATHEMATICS
Semester	2	**Course** 2	**Mention / Field of specialisation**
Character	BASIC TRAINING		
Plan	2022	**Modality** Face-to-face	**Language** CASTELLANO
Credits	6	**Hours/week** 5.17	**Total hours** 93 class hours + 57 non-class hours = **150 total hours**

PROFESSORS

ROMAN TXOPITEA, IBAI

UBARRECHENA BELANDIA, ARITZ

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GIR206 - To solve mathematical problems that may arise in engineering, demonstrating the ability to apply knowledge about: statistics			x	5,4
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		0,32
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		0,28
			Total:	**6**

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

SECONDARY LEARNING RESULTS

RGI290 **[!]** *Proponer los objetivos y la planificación de un proyecto que le permita adquirir y/o reforzar los conocimientos de tecnologías propias de su especialidad,- que en ocasiones llegan a la vanguardia del conocimiento- y definir una estrategía de aprendiz*

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.	1 h.	4 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	20%	*(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	50%	
Prototype / Product	30%	

Comments: Continuous assessment.

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

RGI291 **[!]** *Establecer las responsabilidades de los miembros del equipo utilizando técnicas adecuadas para fomentar la eficiencia del equipo para el desarrollo del proyecto en los plazos establecidos (compartir recursos, aportar ideas, habilidades comunicativas*

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.	1 h.	4 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	20%	*(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	50%	
Prototype / Product	30%	

Comments: Continuous assessment.

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

RGI293 [!] *Redacta y estructura correctamente la memoria del proyecto, haciendo un uso correcto, inclusivo y no discriminatorio del lenguaje. Para ello, busca y hace uso de las fuentes de información adecuadas.*

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	3 h.	1 h.	4 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	20%	*(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	50%	
Prototype / Product	30%	

Comments: Continuous assessment. It may be asked to redo the document.

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

RGI294 [!] *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 individually and/or in teams	2 h.	1 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	20%	*(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	50%	
Prototype / Product	30%	

Comments: Continuous assessment.

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

RGI214 **[!]** *Es capaz de describir un conjunto de datos, e inferir información relativa a una población partiendo de una muestra aleatoria*

LEARNING ACTIVITIES	CH	NCH	TH
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	3 h.	2 h.	5 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	24 h.	16 h.	40 h.
Carrying out exercises and solving problems individually and/or in teams	30 h.	20 h.	50 h.

EVALUATION SYSTEM	W	MAKE-UP MECHANISMS
Individual written and/or oral tests or individual coding/programming tests **Comments:** Minimum grade: 5	100%	Individual written and/or oral tests or individual coding/programming tests **Comments:** "Students with less than 5 in the Control point must retake the exam. Control point value will be 25% and retake 75%."

CH - Class hours: 57 h.
NCH - Non-class hours: 38 h.
TH - Total hours: 95 h.

RGI215 **[!]** *Sabe modelar la relación de dependencia entre una variable de respuesta y una o varias variables explicativas*

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	5 h.	3 h.	8 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	19 h.	12 h.	31 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	1 h.		1 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	15%	Prototype / Product **Comments:** Students who have not achieved a grade of 5 in practice can make it up in the semester project. Project: There will not be any retake of the individual defense.
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	38%	
Prototype / Product **Comments:** Minimum grade of the practice: 5 Project evaluation based on technical rubric	47%	

CH - Class hours: 25 h.
NCH - Non-class hours: 15 h.
TH - Total hours: 40 h.

CONTENTS

1. Descriptive Statistics
   1.1 Measures of position and dispersion.

2. Theoretical Foundations of Statistics
   2.1 Probability.
   2.2 Discrete Random Variables.
   2.3 Continuous Random Variables.
3. Inferential Statistics
   3.1 Confidence intervals.
   3.2 Hypothesis testing.
4. Linear regression.

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes	https://labur.eus/biblio-gia304
Moodle Platform	
Specific Master Software	