Goi Eskola Politeknikoa | Mondragon Unibertsitatea
Course: 2024 / 2025 - Course planning

[GBX202] DATA PROCESSING

GENERAL INFORMATION

Studies	DEGREE IN BIOMEDICAL ENGINEERING			**Subject**	?
Semester	2	**Course**	3	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2022	**Modality**	Face-to-face	**Language**	ENGLISH
Credits	3	**Hours/week**	2.61	**Total hours**	46.92 class hours + 28.08 non-class hours = **75 total hours**

2030 AGENDA GOALS

8 DECENT WORK AND ECONOMIC GROWTH   9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

PROFESSORS

ALBERDI ARAMENDI, ANE

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
GBR310 - To use data processing techniques for use in bioinformatics applications			x	2,56
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		0,2
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:	**3**

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

SECONDARY LEARNING RESULTS

2RGB393 (2 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	1,88 h.	1,12 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%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems Observation (technical capacity, attitude and participation)

CH - Class hours: 1,88 h.
NCH - Non-class hours: 1,12 h.
TH - Total hours: 3 h.

RGB323 [!] *Conoce y comprende las herramientas y técnicas de explotación y análisis de datos*

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.	2 h.	5 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and	7,63 h.	4,37 h.	12 h.

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procedures associated with the subjects

EVALUATION SYSTEM	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	38%
Individual written and/or oral tests or individual coding/programming tests	62%

MAKE-UP MECHANISMS

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

Comments: The student will have to do a make-up examination.

CH - Class hours: 10,63 h.
NCH - Non-class hours: 6,37 h.
TH - Total hours: 17 h.

2RGB391 (2 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	1,25 h.	,75 h.	2 h.

EVALUATION SYSTEM	W
Self-assessment	25%
Co-assessment	25%
Observation (technical capacity, attitude and participation)	50%

MAKE-UP MECHANISMS

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

Observation (technical capacity, attitude and participation)

CH - Class hours: 1,25 h.
NCH - Non-class hours: ,75 h.
TH - Total hours: 2 h.

2RGB392 (2 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	,63 h.	,37 h.	1 h.

EVALUATION SYSTEM	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	100%

MAKE-UP MECHANISMS

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

Observation (technical capacity, attitude and participation)

CH - Class hours: ,63 h.
NCH - Non-class hours: ,37 h.
TH - Total hours: 1 h.

RGB324 [!] *Selecciona y aplica de forma argumentada las herramientas y técnicas de explotación y análisis de datos en contextos reales*

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	9 h.	5 h.	14 h.

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	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	12,4 h.	7,6 h.	20 h.
Carrying out exercises and solving problems individually and/or in teams	8 h.	5 h.	13 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	27%	*(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	73%	**Comments:** The final work will have to be resubmitted

CH - Class hours: 29,4 h.
NCH - Non-class hours: 17,6 h.
TH - Total hours: 47 h.

2RGB390 (2 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	1,25 h.	,75 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%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
		Observation (technical capacity, attitude and participation)

CH - Class hours: 1,25 h.
NCH - Non-class hours: ,75 h.
TH - Total hours: 2 h.

2RGB394 (2 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	1,88 h.	1,12 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%	Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems
		Observation (technical capacity, attitude and participation)

CH - Class hours: 1,88 h.
NCH - Non-class hours: 1,12 h.
TH - Total hours: 3 h.

CONTENTS

1.Introduction2.Data collection3.Exploratory data analysis and data preprocessing 4.Data analysis-Statistical analysis-Machine learning

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
[!] *Transparencias de la asignatura*	Data Mining: Practical Machine Learning Tools and Techniques, Second Edition Ian Witten and Eibe Frank
[!] *Realización de prácticas en ordenador*	Data Mining. Concepts and Techniques, Second Edition. Jiawei Han and Micheline Kamber.
[!] *Consultas en páginas web relacionadas con el tema*	
[!] *Artículos de carácter técnico*	
[!] *Plataforma Moodle*	