

[MNA103] Data Visualization

GENERAL INFORMATION

Studies	MASTER DEGREE IN DATA ANALYSIS, CYBERSECURITY AND CLOUD COMPUTING		Subject	Data Analysis
Semester	1	Course	1	Mention / Field of specialisation
Character	COMPULSORY		Language	CASTELLANO
Plan	2024	Modality	Face-to-face	Total hours
Credits	3	Hours/week	0	33 class hours + 42 non-class hours = 75 total hours

PROFESSORS

BARREIRO BUEZO, UNAI

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
M2N105 - Designing, developing and implementing the model of data representation according to their nature and interpreting them to extract knowledge.		x		2,4
M2N208 - Demonstrate the ability to integrate knowledge and deal with the complexity of making judgements based on incomplete or limited information, including reflections on the SDGs, human rights and fundamental rights, social, health and safety, environmental, economic and industrial implications and responsibilities.		x		0,6
Total:				3

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

SECONDARY LEARNING RESULTS

RA151 Knows and understands the concepts of visual analysis and human-machine interaction

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	4 h.	12 h.	16 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.		1 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	9 h.		9 h.
Carrying out exercises and solving problems individually and/or in teams	4 h.	10 h.	14 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%	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	60%	

CH - Class hours: 18 h.

NCH - Non-class hours: 22 h.

TH - Total hours: 40 h.

RA152 Analyzes and evaluates data visually to generate and/or obtain information or value, individually and in groups

LEARNING ACTIVITIES	CH	NCH	TH
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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.	12 h.	15 h.
Conducting tests, giving presentations, presenting defences, taking examinations and/or doing checkpoints	1 h.		1 h.
Presentation by the teacher in the classroom, in participatory classes, of concepts and procedures associated with the subjects	6 h.		6 h.
Carrying out exercises and solving problems individually and/or in teams	5 h.	8 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	20%	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	60%		
CH - Class hours: 15 h.			
NCH - Non-class hours: 20 h.			
TH - Total hours: 35 h.			

CONTENTS

- Introduction to data visualisation
- Data analysis using visualisations
- Evaluation of ML models using visualisations
- Interpretation of ML models using visualisations
- Visual communication

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Subject notes	https://labur.eus/tpeti
Topic related web quires	
Technical articles	