

[MRB101] DATA ANALYTICS

GENERAL INFORMATION

Studies	Master's Degree in ROBOTICS AND CONTROL SYSTEMS		Subject	?
Semester	1	Course	1	Mention / Field of specialisation
Character	COMPULSORY		Language	CASTELLANO/EUSKARA
Plan	2023	Modality	Face-to-face	Total hours
Credits	3	Hours/week	0	29 class hours + 46 non-class hours = 75 total hours

PROFESSORS

CERNUDA GARCIA, CARLOS

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
M1R208 - [!] <i>Diseñar e implementar técnicas de preprocesamiento y modelado de datos para predecir, clasificar y agrupar los mismos, siendo capaz de interpretar y validar los modelos creados para la extracción del conocimiento</i>		x		2,4
M1R223 - [!] <i>Capacidad de trabajar en equipos multidisciplinares y en un entorno multilingüe y de comunicar, tanto de forma oral como escrita, conocimientos, procedimientos, resultados e ideas relacionadas con los temas afines al máster</i>		x		0,2
M1R228 - To communicate your conclusions and the knowledge and ultimate reasons that support them to specialized and non-specialized audiences in a clear and unambiguous way		x		0,4
			Total:	3

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

CONTENTS

0 Python basics for data analytics

1 Data preprocessing

1.1 Cleaning

1.2 Transformations

1.3 Missing values and outliers

1.4 Feature selection/extraction/discretization

1.5 Imbalanced data treatment

2 Data analytics

2.1 Problem types

a) Classification

b) Regression

c) Clustering

2.2 Families of models

2.3 Model selection

2.4 Model validation

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources

Bibliography

Subject notes

Technical articles

Topic related web quires

Moodle Platform

Class presentations

Computer practical training

Slides of the subject

Specific Master Software

[http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_in
k.pl?grupo=MASTERROBOTIKA11&ejecuta=5&_ST](http://katalogoa.mondragon.edu/janium-bin/janium_login_opac_re_in
k.pl?grupo=MASTERROBOTIKA11&ejecuta=5&_ST)