[MTB001] MACHINE LEARNING I

GENERAL INFORMATION

Studies	MASTER'S DEGREE IN ARTIFICIAL INTELLIGENCE			**Subject**	?
Semester	1	**Course**	1	**Mention / Field of specialisation**	
Character	COMPULSORY				
Plan	2024	**Modality**	Face-to-face	**Language**	CASTELLANO
Credits	3	**Hours/week**	0	**Total hours**	34 class hours + 41 non-class hours = **75 total hours**

PROFESSORS

DOK-INTXAUSTI ARBAIZA, ENEKO

REQUIRED PREVIOUS KNOWLEDGE

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

LEARNING RESULTS

LEARNING RESULTS	KC	SK	AB	ECTS
M1T108 - Design, develop and implement data preprocessing and modeling techniques to predict, classify and group data, being able to interpret and validate the models created for knowledge extraction.	x			2,6
M1T122 - Possess and understand knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, often in a research context.		x		0,4
			Total:	3

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

SECONDARY LEARNING RESULTS

MIRA13 **[!]** ***Comprender las técnicas de modelado de datos para predecir, clasificar y agrupar los mismos, siendo capaz de interpretar y validar los modelos creados para la extracción del conocimiento***

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	6 h.	23 h.	29 h.
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	20 h.		20 h.
Carrying out exercises and solving problems individually and/or in teams	2 h.	12 h.	14 h.

EVALUATION SYSTEM	W
Reports on the completion of exercises, case studies, computer exercises, simulation exercises, laboratory exercises, term projects, challenges and problems	70%
Individual written and/or oral tests or individual coding/programming tests	30%

MAKE-UP MECHANISMS

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

CH - Class hours: 30 h.
NCH - Non-class hours: 35 h.
TH - Total hours: 65 h.

MIRA14 **[!]** ***Poseer y comprender conocimientos que aporten una base u oportunidad de ser originales en el desarrollo y/o aplicación de ideas, a menudo en un contexto de investigación.***

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.	6 h.	10 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: 4 h.
NCH - Non-class hours: 6 h.
TH - Total hours: 10 h.

CONTENTS

Supervised Learning

Unsupervised Learning

Dimensionality Reduction Techniques

Clustering Techniques

Anomaly Detection

LEARNING RESOURCES AND BIBLIOGRAPHY

Learning resources	Bibliography
Technical articles Moodle Platform	Géron, A. (2022). Hands-on machine learning with Scikit-Learn, Keras, and TensorFlow. " O'Reilly Media, Inc.".