Teaching Guide				
Identifying Data				2023/24
Subject (*)	AI in Health		Code	614544022
Study programme	Máster Universitario en Intelixencia Artificial			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	1st four-month period	Second	Optional	3
Language	English			
Teaching method	Face-to-face			
Prerequisites				
Department	Ciencias da Computación e Tecnoloxías da Información			
Coordinador	Pazos Sierra, Alejandro	E-mail	alejandro.pazos@udc.es	
Lecturers	Ortega Hortas, Marcos Pazos Sierra, Alejandro	E-mail	m.ortega@udc.es alejandro.pazos@udc.es	
Web				
General description				

Study programme competences / results	
Code	Study programme competences / results
A8	CE07 - Ability to understand the consequences of the development of an explainable and interpretable intelligent system
A9	CE08 - Ability to design and develop secure intelligent systems, in terms of integrity, confidentiality and robustness
A10	CE09 - Ability to obtain a deep knowledge about fundamental principles and models of quantum computing and to apply them for the interpretation, selection, evaluation, modelling and creation of new concepts, theories, uses and technological developments related to Artificial Intelligence
A14	CE13 - Knowledge of computer tools in the field of data analysis and statistical modelling and ability to select those ones most suitable for problem solving
A15	CE14 - Understanding and command of the main machine learning techniques, including those devised for big volumes of data. Understanding and command of basic concepts and techniques for information search and filtering in big collections of data.
A16	CE15 - Knowledge of computer tools in the field of machine learning and ability to select those ones most suitable for problem solving
A20	CE19 - Knowledge of the different environments where AI based technologies can be applied and awareness of their capability to provide a differentiating added value
A21	CE20 - Ability to combine and adapt different techniques, extrapolating knowledge among different application domains
A22	CE21 - Knowledge of the techniques that facilitate the efficient organisation and management of AI projects in real environments, including resources management and tasks scheduling and taking into account the concepts of knowledge dissemination and open science
A23	CE22 - Knowledge of the techniques that facilitate the security of data, applications and communications and the derived consequences on different application domains in AI
A28	CE27 - Understanding the significance of the entrepreneurial culture and knowledge of the resources within the enterpreneur person's means
A29	CE28 - Appropriate knowledge of the concept of enterprise, its organisation and management, and of the different business sectors, with the goal of providing solutions from the AI perspective
A30	CE29 - Being able to apply knowledge, abilities and attitudes to the business and professional world, by planning, managing and evaluating projects in the scope of AI
A31	CE30 - Being able to set out, model and solve problems that require the application of AI methods, techniques and technologies
B1	CG01 - Maintaining and extending theoretical foundations to allow the introduction and exploitation of new and advanced technologies in the field of AI
B2	CG02 - Successfully addressing each and every stage of an AI project
B4	CG04 - Suitably elaborating written essays or motivated arguments, including some point of originality, writing plans, work projects, scientific papers and formulating reasonable hypotheses in the field
B5	CG05 - Working in teams, especially of multidisciplinary nature, and being skilled in the management of time, people and decision making

B6	CB01 - Acquiring and understanding knowledge that provides a basis or opportunity to be original in the development and/or application of ideas, frequently in a research context
B7	CB02 - The students will be able to apply the acquired knowledge and to use their capacity of solving problems in new or poorly explored environments inside wider (or multidisciplinary) contexts related to their field of study
B9	CB04 - The students will be able to communicate their conclusions, their premises and their ultimate justifications, both to specialised and non-specialised audiences, using a clear style language, free from ambiguities
B10	CB05 - The students will acquire learning abilities to allow them to continue studying in way that will mostly be self-directed or autonomous
C5	CT05 - Understanding the importance of the entrepreneurial culture and knowledge of the resources within the entrepreneur person's means
C8	CT08 - Appreciating the importance of research, innovation and technological development in the socioeconomic and cultural progress of society
C9	CT09 - Being able to manage time and resources: outlining plans, prioritising activities, identifying criticisms, fixing deadlines and sticking to them

Learning outcomes			
Learning outcomes	Study programme competences / results		
Developing sound capabilities for creating complex models that allow personalised diagnostics and clinic trends prediction based on heterogeneous sources	AC7 AC8 AC9 AC13 AC14 AC15 AC19 AC20 AC21 AC22 AC27 AC28 AC29 AC30	BC1 BC2 BC4 BC5 BC6 BC7 BC9 BC10	CC5 CC8 CC9
Knowing the different standards for data treatment in the medical domain and developing the capability to integrate them in AI projects. Knowing the techniques for AI integration in medical devices	AC7 AC8 AC9 AC13 AC14 AC15 AC19 AC20 AC21 AC22 AC27 AC28 AC29 AC30	BC1 BC2 BC4 BC5 BC6 BC7 BC9 BC10	CC5 CC8 CC9

Developing the capabilities to design web applications in e-Health based on AI models	AC7 AC8 AC13 AC14 AC15 AC19 AC20 AC21 AC22 AC27 AC28 AC29 AC30	BC1 BC2 BC4 BC5 BC6 BC7 BC9 BC10	CC5 CC8 CC9
Knowing the specificities in the application fields for intelligent data monitoring and signals in e-health and their constraints in real time	AC7 AC8 AC9 AC13 AC14 AC15 AC19 AC20 AC21 AC22 AC27 AC28 AC29 AC30	BC1 BC2 BC4 BC5 BC6 BC7 BC9 BC10	CC5 CC8 CC9
	AC7 AC8 AC9	BC2 BC7	CC8

Contents	
Topic	Sub-topic

Planning				
Methodologies / tests	Competencies / Results	Teaching hours (in-person & virtual)	Student?s personal work hours	Total hours
ICT practicals	A8 A9 A14 A16 A20 A21 A28 A29 A31 A30 B10 C9	8	8	16
Guest lecture / keynote speech	A8 A9 A10 A14 B1 B2 B4 B5 B9 B10 C5 C8	12	12	24
Objective test	A8 A9 A10 A15 A20 A22 A28 A29 A30 B1 B4 B5 C5 C8 C9	1	23	24

Seminar	A8 A10 A15 A22 A23 B6 B7 B9 C5 C8	5	5	10
Personalized attention		1	0	1
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	Description
ICT practicals	
Guest lecture / keynote speech	
Objective test	
Seminar	

Personalized attention	
Methodologies	Description
Seminar ICT practicals Guest lecture / keynote speech Objective test	

Assessment			
Methodologies	Competencies / Results	Description	Qualification
Seminar	A8 A10 A15 A22 A23 B6 B7 B9 C5 C8		20
ICT practicals	A8 A9 A14 A16 A20 A21 A28 A29 A31 A30 B10 C9		50
Objective test	A8 A9 A10 A15 A20 A22 A28 A29 A30 B1 B4 B5 C5 C8 C9		30

Assessment comments

Sources of information	
Basic	
Complementary	

Recommendations
Subjects that it is recommended to have taken before
Subjects that are recommended to be taken simultaneously
Subjects that continue the syllabus
Other comments

(*)The teaching guide is the document in which the URV publishes the information about all its courses. It is a public document and cannot be modified. Only in exceptional cases can it be revised by the competent agent or duly revised so that it is in line with current legislation.