Teaching Guide				
Identifying Data				2022/23
Subject (*)	AI Project Management		Code	614544021
Study programme	Máster Universitario en Intelixencia Artificial			
Descriptors				
Cycle	Period	Year	Type	Credits
Official Master's Degree	2nd four-month period	First	Obligatory	3
Language	English			
Teaching method	Hybrid			
Prerequisites				
Department				
Coordinador	Garabato Míguez, Daniel	E-mail	daniel.garabato@udc.es	
Lecturers	Andrade Garda, Javier Garabato Míguez, Daniel	E-mail	javier.andrade@udc.es daniel.garabato@udc.es	
Web	campusvirtual.udc.es			
General description	The main objective of this course is to learn and work on the processes involved in the management of artificial intelligence projects, taking into account both the software project management dimension and the particularities of artificial intelligence projects, with a comprehensive view of quality management that includes not only technical aspects but also ethical and legal aspects. Following this structure, the aim is to transmit and involve the students in all the necessary steps to obtain an artificial intelligence system from the point of view of project management, providing a global vision of the methodologies, processes and techniques for the development and management of intelligent systems. Students will be able to carry out the necessary activities for the planning and monitoring of a project in this field, both from the point of view of choosing activities, resources and technologies as well as the selection or design of the tools and variables for the correct evaluation and control of the results of all the phases of the project. In addition, basic knowledge will be provided on entrepreneurship based on Artificial Intelligence systems and applications and the business models involved, as well as the possibilities of financing such ventures. The different models of dissemination and diffusion of the results of AI projects will also be discussed.			

Study programme competences / results	
Code	Study programme competences / results
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
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
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		
Know, understand and analyze the life cycle, the existing models and methodologies within the field of artificial intelligence that allow the design and implementation of reliable and efficient planning for the development of intelligent systems	AC20 AC21 AC29	BC1 BC2 BC4 BC5 BC6 BC7 BC9	CC9
Know the possibilities of public and private funding for research activities in the field of innovative and frontier technologies	AC19 AC20 AC22 AC28 AC29	BC1 BC4 BC5 BC6 BC7 BC9 BC10	CC5 CC8
Know and analyze real applications of software engineering methodologies and techniques applied to AI. Know how to use techniques and tools to support the planning and management of projects and risks	AC20 AC21 AC28 AC29	BC2 BC4 BC5 BC6 BC7 BC9	CC9
Be able to propose a complete plan for an R&D project in AI and know the mechanisms for managing and internationalizing the results	AC19 AC20 AC21 AC22 AC28 AC29	BC1 BC2 BC4 BC5 BC6 BC7 BC9 BC10	CC5 CC8 CC9

Know the implications of movements such as Open Access, Science and Data and the benefits of facilitating the participation of society in science and innovation (RRI)	AC19 AC20 AC21 AC22 AC28 AC29	BC1 BC2 BC4 BC5 BC6 BC7 BC9 BC10	CC5 CC8 CC9

Contents	
Topic	**Sub-topic**
Theory	Typology of projects and models in Artificial Intelligence. Introduction to the development model in Machine Learning. Development and management methodologies for Intelligent Systems. Conception, preparation, and financing of R+D+i projects in AI. Entrepreneurship concepts and their application in AI: business models and methodologies. Publication of results and Open Science, Open Data, and society participation (RRI) movements. Science dissemination and internationalization.
Practice	AI project planning and monitoring simulation

Planning				
Methodologies / tests	**Competencies / Results**	**Teaching hours (in-person & virtual)**	**Student?s personal work hours**	**Total hours**
Objective test	A20 A21 A22 A23 A29 A30 B1 B2 B4 B5 B6 B7 B9 B10 C5 C8 C9	2	10	12
Seminar	A20 A21 A22 A23 A29 A30 B1 B2 B4 B5 B6 B7 B9 B10 C5 C8 C9	10	10	20
Problem solving	A22 A29 A30 B2 B4 B5 B7 B9 C9	1	10	11
Laboratory practice	A22 A30 B2 B4 B5 B7 B9 C9	10.5	21	31.5
Personalized attention		0		0
(*)The information in the planning table is for guidance only and does not take into account the heterogeneity of the students.				

Methodologies	
Methodologies	**Description**
Objective test	Exam to assess both the theory and the practice of the course
Seminar	The teacher presents a topic to the students with the objective of providing a set of information with a specific scope. This teaching methodology will be applied to the training activity "Theory classes"
Problem solving	Students are given practical projects whose scope requires that a significant part of the student's total dedication to the subject be devoted to them. In addition, due to the scope of the work to be done, students are required to apply not only managerial skills but also technical skills

Laboratory practice	The teacher presents the students with a problem or problems of a practical nature, the resolution of which requires the understanding and application of the theoretical-practical contents presented. Students can work on the solution to the problems individually or in groups

Personalized attention	
Methodologies	**Description**
Laboratory practice Seminar Problem solving	Seminar/expository method/master class: the teacher presents a topic to the students with the objective of providing a set of information with a specific scope. This teaching methodology will be applied to the training activity "Theory classes". Laboratory practices: the teacher presents the students with a problem or problems of a practical nature, the resolution of which requires the understanding and application of the theoretical-practical contents presented. Students can work on the solution to the problems individually or in groups. Problem solving/Project-based learning: students are given practical projects whose scope requires that a significant part of the student's total dedication to the subject be devoted to them. In addition, due to the scope of the work to be done, students are required to apply not only managerial skills but also technical skills.

Assessment			
Methodologies	**Competencies / Results**	**Description**	**Qualification**
Laboratory practice	A22 A30 B2 B4 B5 B7 B9 C9	The teacher presents the students with a problem or problems of a practical nature, the resolution of which requires the understanding and application of the theoretical-practical contents presented. Students can work on the solution to the problems individually or in groups.	50
Objective test	A20 A21 A22 A23 A29 A30 B1 B2 B4 B5 B6 B7 B9 B10 C5 C8 C9	The questions of the theoretical exam will focus on the specific contents, which have been developed in the subject, in relation to their competences and which may have been acquired both in the expository and interactive part.	50

Assessment comments
In order to pass the subject, students must pass both the theory and the practice of the course separately. The practices are not recovered in July; except in those cases in which the student reaches 40% of the maximum grade of practices, allowing then to perform all the practices with respect to a new case study specifically raised for a possible recovery. In this case, the new practical case will be uploaded to the virtual platform two weeks before the theoretical exam of the course. In the evaluation of the work delivered by the students, the degree of achievement of the competences will be assessed, in particular the implementation of the contents provided by the course to these competences. In addition, the transversal competences will be assessed insofar as they are required for the development of these works.The questions of the theoretical exam will focus on the specific contents, which have been developed in the subject, in relation to their competences and which may have been acquired both in the expository and interactive part. The average duration of the exam is approximately 2 hours and may consist of multiple-choice questions, short questions and case study problems. The exam will evaluate the degree of assimilation of the teaching objectives established in the syllabus of the subject.There will be no partial exam.Once both parts have been approved separately, each part will account for 50% of the final grade.In order to receive a NO SHOW evaluation, one of the following circumstances must be present:1. Not to have attended at least 85% of the practices of the subject.2. Not having taken the theoretical exam of the subject in spite of having passed the practicals of the subject.3. Not having taken the theoretical exam of the subject and having communicated explicitly and in writing to the person in charge of the subject that the subject is abandoned when, even having taken at least 80% of the practices of the subject, the practices of the subject have not been passed.Weight of the continuous evaluation in the extraordinary opportunity of recovery (July tests):1. The grade obtained in the practices during the course is maintained and also its weight in the final grade.For cases of fraudulent performance of exercises or tests, the provisions of the Regulations for the evaluation of the academic performance of students and grade review will apply.

Sources of information

Basic	PMBOK. A Guide to the Project Management Body of Knowledge: PMBOK Guide. 6th Ed. Project Management Institute, 2017.PMBOK. A Guide to the Project Management Body of Knowledge: PMBOK Guide. 6th Ed. Project Management Institute, 2017.
Complementary	SCRUM and XP from the trenches. How we do SCRUM. 2nd Ed. Henrik Kniberg. InfoQ, 2007.SCRUM and XP from the trenches. How we do SCRUM. 2nd Ed. Henrik Kniberg. InfoQ, 2007.

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
Professors will facilitate, to the best possible option and within the hours established for the subject, attendance at the theory and practice groups that best suit the needs of students who are enrolled part-time, to which also applies the form of evaluation established here. Students with an academic waiver of attendance exemption must attend all assessment tests.

(*)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.