



Teaching Guide

Teaching Guide				
Identifying Data				2023/24
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	Ciencias da Computación e Tecnoloxías da Información			
Coordinador	Garabato Míguez, Daniel	E-mail	daniel.garabato@udc.es	
Lecturers	Garabato Míguez, Daniel	E-mail	daniel.garabato@udc.es	
Web	campusvirtual.udc.es			
General description	<p>The main objective of this subject 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.</p>			

Study programme competences

Code	Study programme competences
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		
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 a 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	<ul style="list-style-type: none"> - 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	Ordinary class hours	Student's personal work hours	Total hours
Guest lecture / keynote speech	A20 A21 A22 A23 A29 A30 B1 B2 B4 B5 B6 B7 B9 B10 C5 C8 C9	10	10	20
Laboratory practice	A22 A30 B2 B4 B5 B7 B9 C9	8.5	17	25.5
Problem solving	A22 A29 A30 B2 B4 B5 B7 B9 C9	2	15.5	17.5
Objective test	A20 A21 A22 A23 A29 A30 B1 B2 B4 B5 B6 B7 B9 B10 C5 C8 C9	1	10	11
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
Guest lecture / keynote speech	The teacher presents a topic to the students with the objective of providing a set of information with a specific scope
Laboratory practice	The professor 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 individually or in groups
Problem solving	Students are given practical projects whose scope requires that a significant part of the student's total dedication to the subject. 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. This item will be assessed together with the laboratory practices item
Objective test	Exam to assess both the theory and the practice of the subject

Personalized attention	
Methodologies	Description
Laboratory practice Guest lecture / keynote speech Problem solving	The development of the practices will be monitored during the reserved hours in the schedule (laboratory sessions). In addition, to address those particularly difficult problems, the time slots available for student's attention can also be used.



Assessment			
Methodologies	Competencies	Description	Qualification
Laboratory practice	A22 A30 B2 B4 B5 B7 B9 C9	The professor 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 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 that were developed in the subject regarding its competences and that can be acquired both in the expository and interactive part	50

Assessment comments
<p>In order to pass the subject, students must pass both the theory and the practice of the subject separately. The practices are not recovered in July; except in those cases in which the student reaches 40% of the maximum grade of the practices, being then allowed to develop and deliver all the practices under a new case study specifically raised for a possible second-chance assessment. In this case, the new practical case will be uploaded to the virtual platform two weeks before the theoretical exam of the subject. In order to evaluate the assignments delivered by the students, the degree of achievement of the competences will be assessed and, in particular, the implementation of the contents provided by the subject to such competences. In addition, the transversal competences will be assessed in case they are required for the development of these works.</p> <p>The questions of the theoretical exam will focus on the specific contents that were developed in the subject regarding its competences and that can be 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.</p> <p>There will be no partial exam.</p> <p>Once both parts have been passed separately, each part will account for 50% of the final grade.</p> <p>In order to receive a "NOT PRESENTED" as evaluation, one of the following conditions must be met:</p> <ol style="list-style-type: none">1. Not having attended at least 85% of the practices of the subject.2. Not having taken the theoretical exam of the subject despite having passed the practices of the subject.3. Not having taken the theoretical exam of the subject and having communicated explicitly and by means of a formal written notification to the person in charge of the subject that the student has decided to abandon the subject when, even having taken at least 80% of the practices of the subject, they have not been passed. <p>Weight of the continuous evaluation in the second-chance assessment (July examination):</p> <ol style="list-style-type: none">1. The grade obtained in the practices during the first-chance is kept, as well as its weight in the final grade. <p>The professors will facilitate, to the best possible option and within the schedules established for the subject, attendance to the theory and practice groups that best fit the needs of the students who are enrolled part-time, for whom the form of evaluation established here also applies. Students with academic waiver of attendance exemption must attend all the assessment tests.</p> <p>In case of fraudulent performance of exercises or tests, once it is demonstrated, will imply a failing grade (numerical grade 0) in the call in which it is committed, whether the commission of the fault occurs in the first opportunity or in the second one.</p> <p>The subject will be taught in English. The theory lectures will be given by USC and broadcasted to all students. There will be a specific face-to-face interactive teaching group at each university (USC-UDC-UVigo).</p>

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
<p>In order to make the most of the subject, students are recommended to actively follow the classes and to participate in the different activities and use the personalized attention to solve any doubts or questions that may arise. As stated in the different regulations applicable to university teaching regarding gender perspective, in this subject non-sexist language will be used, the intervention of male and female students in class will be encouraged, etc. Likewise, we will work to identify and modify sexist prejudices and attitudes, promoting values of respect and equality. In general, we will try to detect situations of discrimination, for example, for reasons of gender, and we will propose actions and measures to correct them.</p>

(*)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.