



POLITÉCNICA

**Universidad Politécnica de Madrid**  
**School of Computer Engineering**  
**Academia year**  
**2022-23**



CODE	COURSE TAUGHT IN ENGLISH	ECTS	YEAR	SEMESTER	INFORMATION AND CONTENTS	OBSERVATIONS
<b>BACHELOR DEGREE IN INFORMATICS (COMPUTER) ENGINEERING</b>						<b>10II</b>
105000002	Logic	6	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000002_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000002_1S_2022-23.pdf</a>	Learning guide in Spanish
105000013	Programación I	6	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000013_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000013_1S_2022-23.pdf</a>	
105000005	Calculo	6	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000005_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000005_2S_2022-23.pdf</a>	
105000159	Human-Computer Interaction	6	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000159_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000159_2S_2022-23.pdf</a>	
105000015	Programación II	6	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000015_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000015_2S_2022-23.pdf</a>	
105000007	Probabilidades y estadística I	6	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000007_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000007_2S_2022-23.pdf</a>	
105000046	Building up communications skills	3	3	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000046_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000046_1S_2022-23.pdf</a>	
105000394	Programming project	3	3	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000394_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000394_2S_2022-23.pdf</a>	
105000443	Programming Scalable Systems	3	4	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000443_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000443_2S_2022-23.pdf</a>	Learning guide in Spanish
105000057	Semantic Web, Linked Data And Knowledge Graphs	3	4	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000057_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000057_1S_2022-23.pdf</a>	
105000395	Introduction to bioinformatics and biocomputing	3	4	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000395_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000395_1S_2022-23.pdf</a>	
105000444	Multimedia	3	4	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000444_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000444_2S_2022-23.pdf</a>	
105000011	English for Professional and Academic Communication	6	4	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000011_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10II_105000011_1S_2022-23.pdf</a>	
105000011	English for Professional and Academic Communication	6	4	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000011_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000011_2S_2022-23.pdf</a>	
105000441	Image Understanding	3	4	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000441_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10II_105000441_2S_2022-23.pdf</a>	
<b>EUROPEAN MASTER DEGREE IN SOFTWARE ENGINEERING, 'https://emse.fi.upm.es/en/</b>						<b>10AM</b>
103000482	Requirements Engineering	6	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000482_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000482_1S_2022-23.pdf</a>	
103000483	Software Design	4	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000483_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000483_2S_2022-23.pdf</a>	
103000484	Software Architecture	4	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000484_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000484_2S_2022-23.pdf</a>	
103000485	Software Project Management	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000485_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000485_1S_2022-23.pdf</a>	
103000486	Models and Methods for Process Improvement and Assessment	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000486_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000486_1S_2022-23.pdf</a>	
103000487	Software Quality Management	4	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000487_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000487_2S_2022-23.pdf</a>	
103000488	Software Metrics	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000488_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000488_1S_2022-23.pdf</a>	
103000489	Verification and Validation	6	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000489_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000489_1S_2022-23.pdf</a>	
103000739	Adaptative Systems	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000739_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000739_1S_2022-23.pdf</a>	
103001022	Deep Learning And Software Engineering	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103001022_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103001022_1S_2022-23.pdf</a>	
103001025	E-health: Promoting Active and Healthy Ageing	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103001025_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103001025_1S_2022-23.pdf</a>	
103000657	Correctness by Construction	6	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000657_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000657_2S_2022-23.pdf</a>	
103001023	Strategic Management & Entrepreneurship	4	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103001023_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103001023_2S_2022-23.pdf</a>	
103000540	Critical Software	3	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000540_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000540_1S_2022-23.pdf</a>	
103000541	Data Mining: Data Engineering	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000541_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000541_1S_2022-23.pdf</a>	
103000603	Challenges for accessible computing for people with functional diversity	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000603_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000603_1S_2022-23.pdf</a>	

103000544	Management, Relationships and Communication in Working Groups	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000544_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000544_1S_2022-23.pdf</a>	
103000545	Agile Software Development: Agile Practices and Agile Usability	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000545_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000545_1S_2022-23.pdf</a>	
103000542	Experimental Software Engineering	6	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000542_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000542_2S_2022-23.pdf</a>	
103000738	Computer Security	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000738_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AM_103000738_1S_2022-23.pdf</a>	
103000538	Agent Based Software Engineering	6	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000538_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000538_2S_2022-23.pdf</a>	
103000680	Fundamentals of Business Administration	4	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000680_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AM_103000680_2S_2022-23.pdf</a>	
<b>MASTER IN SOFTWARE AND SYSTEMS, <a href="https://muss.fi.upm.es/">https://muss.fi.upm.es/</a></b>						<b>10AK</b>
103000380	Management Strategies and Non-classical Software Development Methodologies	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000380_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000380_1S_2022-23.pdf</a>	
103000379	Experimentation in Software Engineering	4	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AK_103000379_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AK_103000379_2S_2022-23.pdf</a>	
103000816	Critical Software	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000816_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000816_1S_2022-23.pdf</a>	Learning guide in Spanish
103000740	Correctness by Construction	6	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AK_103000740_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AK_103000740_2S_2022-23.pdf</a>	
103000387	Cloud Computing And Big Data Ecosystems Design	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000387_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000387_1S_2022-23.pdf</a>	
103000389	Data Mining: Data Engineering	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000389_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000389_1S_2022-23.pdf</a>	
103000394	Scientific Method	2	2	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000394_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000394_1S_2022-23.pdf</a>	
103000385	Software Verification and Validation	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000385_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000385_1S_2022-23.pdf</a>	
103000383	Rigorous Software Development	6	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000383_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000383_1S_2022-23.pdf</a>	
103000390	Image Processing and Analysis	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000390_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000390_1S_2022-23.pdf</a>	
103000391	Knowledge Discovery in Databases	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000391_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000391_1S_2022-23.pdf</a>	Learning guide in Spanish
103000590	Computer Security	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000590_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000590_1S_2022-23.pdf</a>	
103000392	Intelligent Virtual Environments: Technologies, Architectures and Applications	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000392_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000392_1S_2022-23.pdf</a>	
103000393	Challenges of Accessible Computing for People with Functional Diversity	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000393_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000393_1S_2022-23.pdf</a>	
103000394	Scientific Method	2	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000394_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AK_103000394_1S_2022-23.pdf</a>	
<b>MASTER OF SCIENCE IN ARTIFICIAL INTELLIGENCE, <a href="http://www.dia.fi.upm.es/masteria/">http://www.dia.fi.upm.es/masteria/</a></b>						<b>10AJ</b>
103000363	Programmable Biology: DNA Computing and Biocircuits Engineering	5	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AJ_103000363_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AJ_103000363_1S_2022-23.pdf</a>	
103000364	Logic Programming	5	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AJ_103000364_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AJ_103000364_1S_2022-23.pdf</a>	
103000367	Ontological Engineering	5	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AJ_103000367_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AJ_103000367_1S_2022-23.pdf</a>	
103000371	Biomedical Informatics	5	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AJ_103000371_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AJ_103000371_1S_2022-23.pdf</a>	
103000372	Seminars	10	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AJ_103000372_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AJ_103000372_2S_2022-23.pdf</a>	
<b>Master's Programme in Digital Innovation</b>						<b>10AZ</b>
103000891	Research Methodology	1.5	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10BA_103000891_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10BA_103000891_2S_2022-23.pdf</a>	10BA
103001004	Data Visualization	3	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103001004_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103001004_1S_2022-23.pdf</a>	
103001003	Big Data	3	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103001003_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103001003_1S_2022-23.pdf</a>	
103000853	Data Processes	4.5	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000853_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000853_1S_2022-23.pdf</a>	
103000888	Programming For Data Science	4.5	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000888_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000888_2S_2022-23.pdf</a>	

103000936	Programming For Data Processing	4,5	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000936_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000936_2S_2022-23.pdf</a>
103000908	Data Science Seminars	4.5	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000908_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000908_2S_2022-23.pdf</a>
103000825	Statistical Data Analysis	4.5	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000825_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000825_1S_2022-23.pdf</a>
103000866	Massively Parallel Machine Learning	4.5	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000866_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000866_1S_2022-23.pdf</a>
103000856	Deep Learning	3	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000856_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000856_2S_2022-23.pdf</a>
103000854	Cloud Computing And Big Data Ecosystems Design	4.5	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000854_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000854_1S_2022-23.pdf</a>
103000867	Open Data And Knowledge Graphs	4.5	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000867_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000867_1S_2022-23.pdf</a>
103000902	Bayesian Networks	3	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000902_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000902_2S_2022-23.pdf</a>
103000907	Time Series Data Mining	3	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000907_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000907_2S_2022-23.pdf</a>
103000834	Graph Analysis And Social Networks	3	2	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000834_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000834_1S_2022-23.pdf</a>
103000906	Image Processing, Analysis And Classification	4.5	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000906_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000906_2S_2022-23.pdf</a>
103000858	Information Retrieval, Extraction And Integration	4.5	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000858_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000858_2S_2022-23.pdf</a>
103000851	Intelligent Systems	4.5	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000851_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000851_1S_2022-23.pdf</a>
103000835	Ethic/legal/social aspects in Data Science	3	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000835_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000835_2S_2022-23.pdf</a>
103000836	Data Management and Knowledge in Health	4	2	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000836_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000836_1S_2022-23.pdf</a>
103000885	E Health: Promoting Active And Healthy Ageing	4,5	2	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000885_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000885_1S_2022-23.pdf</a>
103000838	Medical time series data mining	3	2	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000838_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000838_1S_2022-23.pdf</a>
103000839	Complex data in health	4,5	2	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000839_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000839_1S_2022-23.pdf</a>
103000840	Devices and Biometric Aplications for e-Health	4	2	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000840_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000840_1S_2022-23.pdf</a>
103000934	Software Verification and Validation	6	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000934_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000934_1S_2022-23.pdf</a>
103000933	Requirements Engineering	6	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000933_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000933_1S_2022-23.pdf</a>
103000937	Fundamentals of Finance	6	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000937_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000937_1S_2022-23.pdf</a>
103000938	Blockchain And Services For Fintech Enterprise Integration	5	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000938_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000938_1S_2022-23.pdf</a>
103000939	Seminars On Systems For Finance	4,5	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000939_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000939_2S_2022-23.pdf</a>
103000869	Introduction To Human-computer Interaction	3	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000869_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000869_1S_2022-23.pdf</a>
103000869	Design Methods for Human Computer Interaction	3	1	1s	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1s/GA_10AZ_103000869_1s_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1s/GA_10AZ_103000869_1s_2022-23.pdf</a>
103000871	Programing Of User Interfaces	6	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000871_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000871_1S_2022-23.pdf</a>
103000877	Challenges For Accessible Computing For People With Functional Diversity	4	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000877_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000877_1S_2022-23.pdf</a>
103000874	User Experience And Mobile Interaction	6	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000874_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000874_1S_2022-23.pdf</a>
103000872	Evaluation Of Interactive Systems	3	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000872_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000872_2S_2022-23.pdf</a>
103000857	Image Mining	3	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000857_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000857_2S_2022-23.pdf</a>
103000842	Introduction to innovation and entrepreneurship management	6	1	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000842_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000842_1S_2022-23.pdf</a>
103000845	Entrepreneurship & Business Modelling	6	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000845_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000845_2S_2022-23.pdf</a>
103000843	Introduction to Technology watch and competitive intelligence	1	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000843_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000843_2S_2022-23.pdf</a>
103000820	I&E Seminars	5	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000820_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000820_2S_2022-23.pdf</a>
103000846	Launching of digital-based products and services	2	1	2S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000846_2S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/2S/GA_10AZ_103000846_2S_2022-23.pdf</a>
103000848	I&E Study	6	2	1S	<a href="https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000848_1S_2022-23.pdf">https://www.upm.es/comun_gauss/publico/guias/2022-23/1S/GA_10AZ_103000848_1S_2022-23.pdf</a>