

Data Science and Engineering Degree Course 22/23

The total duration of the degree is 4 academic courses (8 semesters):

- Autumn (non semesters) from September to January.
- Summer (even semesters) from February to June.

All subjects are 6 ECTS (3 lectures + 3 lab) and the instruction language is **Spanish**. Some teachers, voluntary, are willing to attend students in **English for tutorial support**.

The first three courses include common subjects while in the last one optional subjects are available.

A) COMMON SUBJECTS

FIRST COURSE:

Code	Subject	Description	Sem.	Teaching Lang.	Tutorial support English
40362	ÁLGEBRA Y GEOMETRÍA	<i>Algebra and Geometry</i>	<i>Aut.</i>	<i>Spanish</i>	<i>Yes</i>
40363	MATEMÁTICA DISCRETA	<i>Discrete mathematics</i>	<i>Aut.</i>	<i>Spanish</i>	<i>Yes</i>
40364	FUNDAMENTOS DE PROGRAMACIÓN I	<i>Programming fundamentals 1</i>	<i>Aut.</i>	<i>Spanish</i>	<i>Yes</i>
40365	INGENIERÍA DE COMPUTADORES I	<i>Computer engineering 1</i>	<i>Aut.</i>	<i>Spanish</i>	<i>Yes</i>
40366	MÉTODOS ESTADÍSTICOS I	<i>Statistical methods 1</i>	<i>Aut.</i>	<i>Spanish</i>	<i>Yes</i>
40367	MATEMÁTICAS PARA LA COMPUTACIÓN	<i>Mathematics for computation</i>	<i>Sum.</i>	<i>Spanish</i>	<i>Yes</i>
40368	LA EMPRESA Y SUS PROCESOS	<i>The enterprise and its processes</i>	<i>Sum.</i>	<i>Spanish</i>	<i>No</i>
40369	FUNDAMENTOS DE PROGRAMACIÓN II	<i>Programming fundamentals 2</i>	<i>Sum.</i>	<i>Spanish</i>	<i>Yes</i>
40370	INGENIERÍA DE COMPUTADORES II	<i>Computer engineering 2</i>	<i>Sum.</i>	<i>Spanish</i>	<i>Yes</i>
40371	MÉTODOS ESTADÍSTICOS II	<i>Statistical methods 2</i>	<i>Sum.</i>	<i>Spanish</i>	<i>Yes</i>

SECOND COURSE:

Code	Subject	Description	Sem.	Teaching Lang.	Tutorial support English
40381	ANÁLISIS EXPLORATORIO DE DATOS Y VISUALIZACIÓN	<i>Exploratory data analysis and visualization</i>	<i>Sum.</i>	<i>Spanish</i>	<i>Yes</i>
40380	APRENDIZAJE AUTOMÁTICO I	<i>Machine learning 1</i>	<i>Sum.</i>	<i>Spanish</i>	<i>Yes</i>
40379	BASES DE DATOS I	<i>Databases 1</i>	<i>Sum.</i>	<i>Spanish</i>	<i>No</i>
40378	CIENCIA DE DATOS EN EMPRESAS Y FINANZAS	<i>Data science in companies and finances</i>	<i>Sum.</i>	<i>Spanish</i>	<i>Yes</i>
40374	DESARROLLO DE APLICACIONES PARA CIENCIA DE DATOS	<i>Application development for data science</i>	<i>Aut.</i>	<i>Spanish</i>	<i>Yes</i>
40372	FUNDAMENTOS DE LOS SISTEMAS INTELIGENTES	<i>Intelligent systems fundamentals</i>	<i>Aut.</i>	<i>Spanish</i>	<i>Yes</i>
40373	FUNDAMENTOS DE MARKETING Y COMPORTAMIENTO DEL CONSUMIDOR	<i>Marketing fundamentals and consumer behaviour</i>	<i>Aut.</i>	<i>Spanish</i>	<i>Yes</i>
40376	HABILIDADES PROFESIONALES PARA INGENIEROS	<i>Professional skills for engineers</i>	<i>Aut.</i>	<i>English</i>	<i>Yes</i>
40375	INGENIERÍA DEL SOFTWARE	<i>Software engineering</i>	<i>Aut.</i>	<i>Spanish</i>	<i>Yes</i>
40377	INTELIGENCIA ARTIFICIAL PARA CIENCIA DE DATOS	<i>Artificial intelligence for data science</i>	<i>Sum.</i>	<i>Spanish</i>	<i>Yes</i>

THIRD COURSE:

Code	Subject	Description	Sem.	Teaching Lang.	Tutorial support English
40387	ADMINISTRACIÓN DE SERVICIOS EN RED	<i>Network services administration</i>	<i>Sum.</i>	<i>Spanish</i>	-
40383	ADMINISTRACIÓN DE SISTEMAS OPERATIVOS	<i>Operating systems administration</i>	<i>Aut.</i>	<i>Spanish</i>	-
40385	APRENDIZAJE AUTOMÁTICO II	<i>Machine learning 2</i>	<i>Aut.</i>	<i>Spanish</i>	-
40384	BASES DE DATOS II	<i>Databases 2</i>	<i>Aut.</i>	<i>Spanish</i>	-
40389	BASES DE DATOS NO RELACIONALES	<i>Non relational databases</i>	<i>Sum.</i>	<i>Spanish</i>	-
40386	BIG DATA	<i>Big Data</i>	<i>Aut.</i>	<i>English</i>	-
40382	OPTIMIZACIÓN Y HEURÍSTICA	<i>Optimization and heuristics</i>	<i>Aut.</i>	<i>Spanish</i>	-
40463	PRÁCTICAS EXTERNAS*	<i>External placement [12 ECTS]</i>	<i>Sum.</i>	<i>Spanish</i>	-
40388	VIRTUALIZACIÓN Y PROCESAMIENTO DISTRIBUIDO	<i>Virtualization and distributed processing</i>	<i>Sum.</i>	<i>Spanish</i>	-

* Special conditions apply