PROGRAMME INFORMATION

UNIVERSITY MASTER'S DEGREE

IN ENGINEERING AND DATA SCIENCE

CÓDIGO 311001

UNED | ETS de Ingeniería Informática

**UNIVERSITY MASTER'S DEGREE
IN ENGINEERING AND DATA SCIENCE**

CÓDIGO 311001

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University Master's Degree in Engineering and Data Science

INFORMATION IDENTIFYING THE QUALIFICATION

Name and status of awarding institution

Universidad Nacional de Educación a Distancia.

Public university.

Name of qualification and title conferred in original language

Máster Universitario en Investigación en Ingeniería y Ciencia de Datos por la Universidad Nacional de Educación a Distancia.

Main field(s) of study for the qualification

The study is included in the field of Engineering and Architecture.

Language(s) of instruction/examination

The degree is taught in Spanish.

INFORMATION ON THE LEVEL OF THE QUALIFICATION

Level of qualification

Level 3 (Master) in the Spanish Framework of Higher Education (MECES) is equivalent to level 7 of European Qualification Framework (EQF).

Official length of programme

The official length of programme is 60 ECTS and 1 year full time.

Access requirements

Bachelor's Degree or Engineering.

INFORMATION ON THE CONTENTS

Mode of study

Distance learning full time.

Programme requirements

The programme of studies is composed of 8 compulsory ECTS, 40 elective ECTS and 12 Master's Dissertation credits.

Subjects

- Statistical Data Modelling
- Data Based Programming
- Machine Learning I
- Text Mining
- Computational Infrastructures for Big Data
- Data Visualization
- Machine Learning II
- Management and Storage of Unstructured Information
- Hierarchical Bayesian Models
- Data Mining in Social Media
- Deep Learning
- Security on Data Management
- Final Master Project

Grading scheme

In the Spanish university system, modules/courses are graded on a scale of 0 to 10 points with the following qualitative equivalence:

0-4.9: "suspenso"; 5-6.9: "aprobado"; 7-8.9: "notable"; 9-10: "sobresaliente". A special mention, "Matrícula de Honor" may be granted to up to 5% of the students in a subject provided they have got a "sobresaliente". To pass each subject it is necessary to get at least 5 points.

INFORMATION ON THE FUNCTION OF THE QUALIFICATION

Access to further study

This qualification gives access to Doctoral studies, provided that the student has completed a minimum of 300 ECTS in the overall teachings of Bachelor and Master.

Stated objectives associated with the qualification and professional status (if applicable)
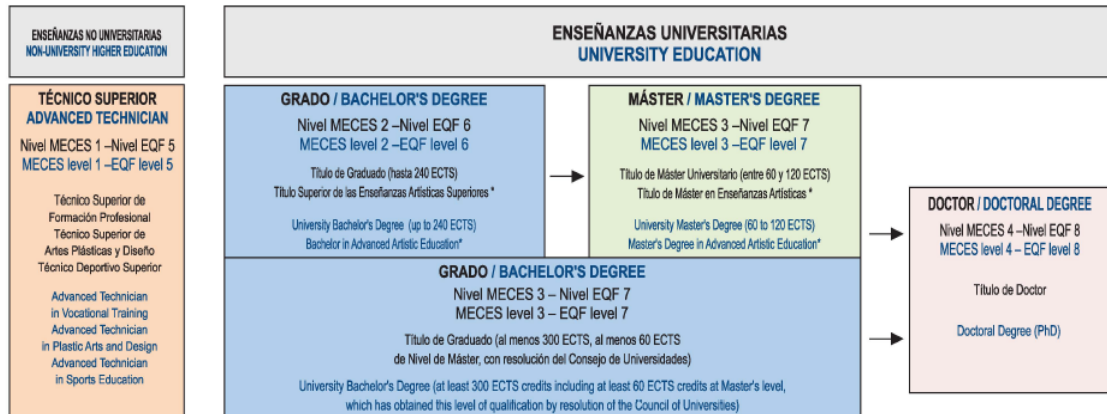
The main objective is to carry out the training of students in the field of engineering and data science. The competencies and skills learned will be applied in research projects or in professional environments. It is intended that the student will identify appropriate methods for solving problems associated with data science and information analytics. Specifically, the student will identify machine learning models based on the different classification categories: supervised, unsupervised and semi-supervised. Given these solutions/models, the student will learn the mechanisms for deploying these solutions into operational scenarios. Scenarios like massive data management infrastructures (Big Data), implemented on their own clusters and/or in the cloud.

The masters' competences will focus on the ability to develop applications/services/scripts oriented to data analytics using different libraries for the development and implementation of numerical methods, algorithms and models associated with the data. Additionally, visual environments and dashboards will be designed in different computing environments using different visualization techniques and libraries. Within the techniques of information representation, special emphasis will be placed on those applicable in the visualization of massive data (Big Data). The student will develop Machine Learning models based on the different classification categories: supervised, unsupervised and semi-supervised, as well as different evaluation mechanisms and metrics. In particular, natural language processing (NLP) techniques will be applied in the extraction of information in textual type.

ADDITIONAL INFORMATION

https://www.uned.es

INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM

ENSEÑANZAS NO UNIVERSITARIAS NON-UNIVERSITY HIGHER EDUCATION	ENSEÑANZAS UNIVERSITARIAS UNIVERSITY EDUCATION		

ENSEÑANZAS NO UNIVERSITARIAS
NON-UNIVERSITY HIGHER EDUCATION

TÉCNICO SUPERIOR
ADVANCED TECHNICIAN

Nivel MECES 1 –Nivel EQF 5
MECES level 1 –EQF level 5

Técnico Superior de
Formación Profesional
Técnico Superior de
Artes Plásticas y Diseño
Técnico Deportivo Superior

Advanced Technician
in Vocational Training
Advanced Technician
in Plastic Arts and Design
Advanced Technician
in Sports Education

GRADO / BACHELOR'S DEGREE

Nivel MECES 2 –Nivel EQF 6
MECES level 2 –EQF level 6

Título de Graduado (hasta 240 ECTS)
Título Superior de las Enseñanzas Artísticas Superiores *

University Bachelor's Degree (up to 240 ECTS)
Bachelor in Advanced Artistic Education*

MÁSTER / MASTER'S DEGREE

Nivel MECES 3 –Nivel EQF 7
MECES level 3 –EQF level 7

Título de Máster Universitario (entre 60 y 120 ECTS)
Título de Máster en Enseñanzas Artísticas *

University Master's Degree (60 to 120 ECTS)
Master's Degree in Advanced Artistic Education*

GRADO / BACHELOR'S DEGREE

Nivel MECES 3 – Nivel EQF 7
MECES level 3 – EQF level 7

Título de Graduado (al menos 300 ECTS, al menos 60 ECTS
de Nivel de Máster, con resolución del Consejo de Universidades)

University Bachelor's Degree (at least 300 ECTS credits including at least 60 ECTS credits at Master's level,
which has obtained this level of qualification by resolution of the Council of Universities)

DOCTOR / DOCTORAL DEGREE

Nivel MECES 4 –Nivel EQF 8
MECES level 4 – EQF level 8

Título de Doctor

Doctoral Degree (PhD)

* Las enseñanzas Artísticas Superiores son Enseñanzas no Universitarias dentro del Sistema Educativo español de Enseñanza Superior
* Advanced Artistic Education is non-university education within the Spanish Higher Education System

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