

PROGRAMME INFORMATION



UNIVERSITY MASTER'S DEGREE IN RESEARCH IN INDUSTRIAL TECHNOLOGY

CÓDIGO 280101

UNED

ETS de
Ingenieros
Industriales

**UNIVERSITY MASTER'S DEGREE
IN RESEARCH IN INDUSTRIAL
TECHNOLOGY**

CÓDIGO 280101

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University Master's Degree in Research in Industrial Technology

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 Tecnologías Industriales por la Universidad Nacional de Educación a Distancia.

Status

National validity.

Approved by Accord of the Council of Ministers on January 22nd, 2010.

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 program of studies is composed of 60 ECTS and 1 year full time.

Access requirements

Industrial Engineering or Bachelor's Degree in Industrial Engineering or related.

INFORMATION ON THE CONTENTS

Mode of study

Distance learning full time.

Programme requirements

The programme of studies is composed of 15 compulsory ECTS, 25 elective ECTS and 20 Master's Dissertation ECTS

Subjects

- Solving Problems in Solid Mechanics: Finite Element Method, Boundary Element Method and Meshless Methods
- Analysis and Exploitation of Electrical Systems
- Electrical Applications of Renewable Energies
- Thermal Applications of Renewable Energy
- Biodynamics and Biomaterials
- Advanced Design of Gear Transmissions
- Design, Simulation and Optimization of Combined Cycle Gas-Steam Turbine Powerplants
- Quality Engineering
- Engineering of the Chemical Product
- Methodology of Technological Research
- Computational Methods in Engineering
- Convex Optimization in Engineering
- Multi-Objective Programming
- Wind Energy Systems
- Systems and Methods in Power Electronics
- Analysis and Exploitation of Electrical Systems
- Applications of Computational Fluid Dynamics
- Thermal Applications of Renewable Energy
- Cybersecurity in Connected Industry
- Electromagnetic Compatibility
- Industrial Communications
- Web Development and Mobile Applications for Industrial Environments

- Design, Simulation and Optimization of Combined Cycle Gas-Steam Turbine Powerplants
- Reliability and Maintenance in Electrical and Electronics Systems
- Distributed Generation and Smart Grids
- Advanced Environmental Engineering
- Artificial Intelligence in Engineering
- Digital Mock-Up and Simulation
- Methodology of Technological Research
- Computational Methods in Engineering
- Convex Optimization in Engineering
- Multi-Objective Programming
- Programming and Analysis of Scientific Data
- Selection, Inspection, and Certification of Materials in Advanced Industrial Applications
- Industrial Processes Simulation
- Advanced Control Systems
- Wind Energy Systems
- Digital Systems for the Internet of Things
- Control Distributed Systems
- Sustainability and Energy Efficiency in Engineering
- Electronic Technologies Applied to Electrical Quality
- Advanced Manufacturing Technologies
- Educational Technologies in Engineering
- Master Thesis in Research in Industrial Technology

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: "suspense"; 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 group provided they have got a "sobresaliente". To pass a module/course 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)

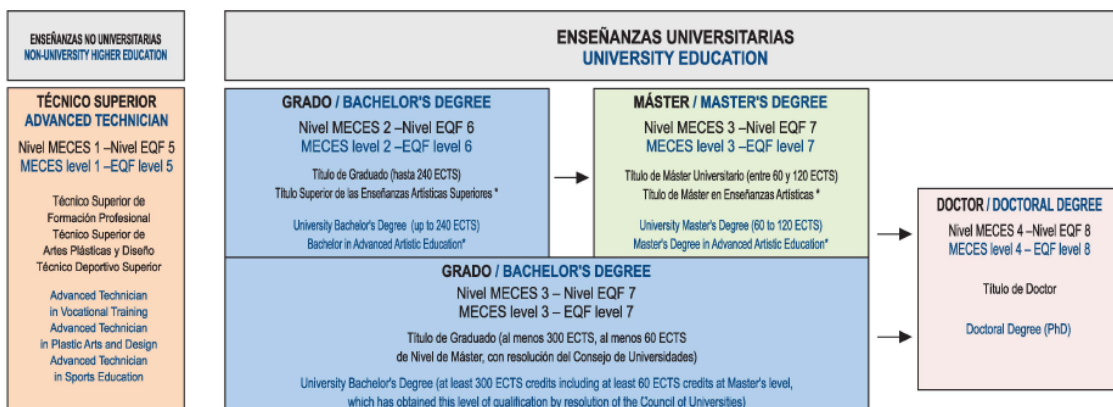
The main aim of this degree is the introduction of research activities on the industrial field, with focus on the environmental impact of studied technologies. Assessment of the costs and returns of the studied technologies. Planning of research activities. Master target: preparation of the students for the doctoral studies in industrial technologies.

The main learning outcomes and competencies acquired are: Introduction to the state-of-the-art in industry related technical research. Fundamentals of mathematics underlying technical analysis. Critical reasoning. Analysis and synthesis of technical and scientific information. Information management skills. Application of computing to simulation.

ADDITIONAL INFORMATION

<https://www.uned.es>

INFORMATION ON THE NATIONAL HIGHER EDUCATION SYSTEM



* 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