

# PROGRAMME INFORMATION



## UNIVERSITY MASTER'S DEGREE IN MEDICAL PHYSICS

CÓDIGO 215301

UNED

Facultad  
de Ciencias

**UNIVERSITY MASTER'S DEGREE  
IN MEDICAL PHYSICS**

**CÓDIGO 215301**

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## University Master's Degree in Medical Physics

### INFORMATION IDENTIFYING THE QUALIFICATION

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#### 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 Física Médica 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 Sciences.

#### Language(s) of instruction/examination

The degree is taught in Spanish.

### INFORMATION ON THE LEVEL OF THE QUALIFICATION

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#### Level of qualification

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

#### Official length of programme

The official length of programme is 120 ECTS and 2 years full time.

#### Access requirements

Bachelor's Degree in Physics, Chemistry, Mathematics, Biology, Environmental Science; or Technical Degree or Higher Engineering, Pharmacy, Medicine, or the field of Physics or Medicine

## INFORMATION ON THE CONTENTS

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### Mode of study

Blended learning full time.

### Programme requirements

The programme of studies is composed of 18 compulsory ECTS, 90 elective ECTS and 12 Master's Dissertation ECTS.

### Subjects

- Decision Theory in Medicine
- Anatomophysiology I
- Biostatistics
- Cellular Biology
- Basic Principles of Biochemistry
- Mathematics in Medical Physics I
- Mathematics in Medical Physics II
- Optics & Electromagnetism
- Applied Electronics
- Biomedical Physics I
- Biomedical Physics II
- Physics of Fluids
- Mathematical Physics
- Modern Physics
- Atomic & Nuclear Physics
- Human Physiology
- Anatomophysiology II
- Physical basis of Medical Imaging I
- Physical basis of Medical Imaging II
- Interaction of Radiation & Matter
- Numerical Methods
- Biological Systems Modeling
- Radiation Protection
- Signal Processing
- Informatics for Medical Physics
- Biomedical Instrumentation
- Numerical Simulation of Biological Systems
- Research Project
- Master Dissertation

### Grading scheme

In the Spanish university system, modules/courses are graded on a scale from 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 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)

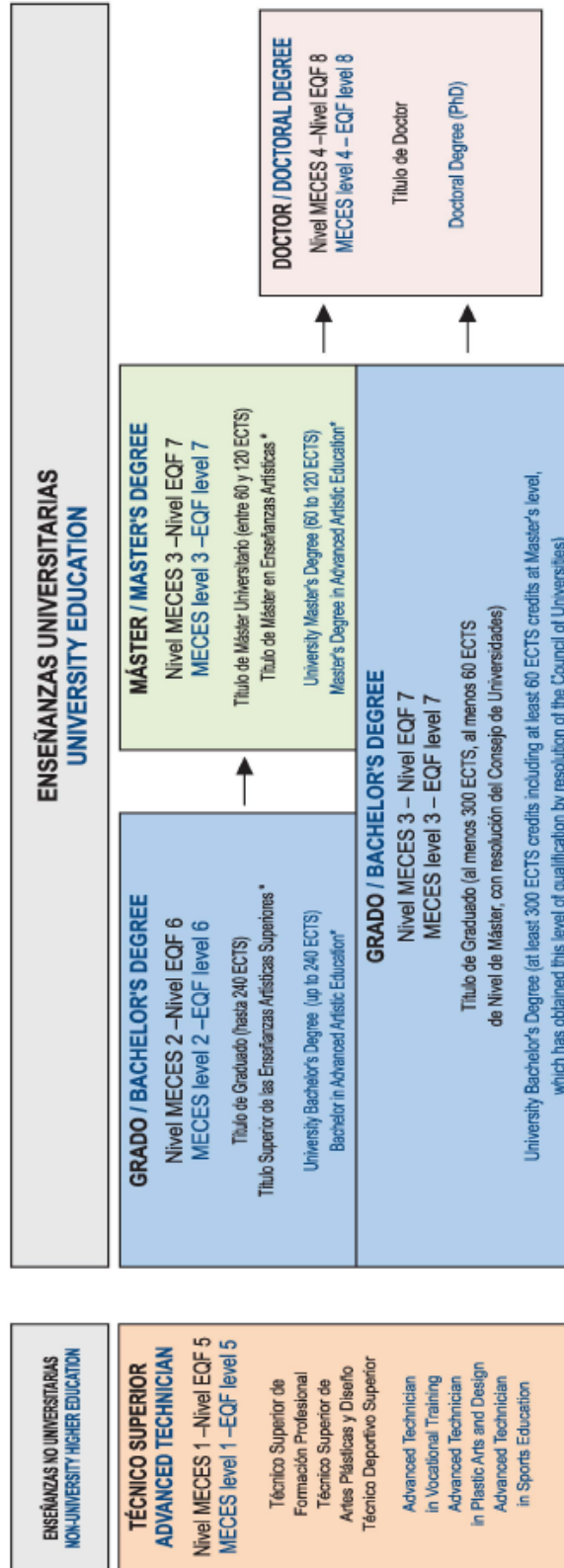
The main aim of this degree is provide the students with enough knowledge to develop tasks devoted to the application of concepts and methods from Physics and Mathematics to help in the diagnosis and treatment of human disease. This Master warrants average knowledge on anatomy, physiology, medical statistics, radiation protection and biological modeling, and advanced knowledge on biological physics, medical imaging, biomedical signals and medical instrumentation.

The main learning outcomes and competencies acquired are offers the students specific knowledge and tools, both theoretical and experimental, to develop new ideas and solve complex problems in the field of Medical Physics. It also provides students the required methodologies and techniques (analytical thinking, organization, project planning, etc.) to develop their future professional duties in hospitals, universities, and industrial or research centers.

## 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