Life on Campus / City of Murcia

The University of Murcia offers a large variety of complementary services and educational opportunities to promote life on campus: sport and cultural activities, international students office, language courses, wifi around campus, computer assistance, etc.

Murcia is the capital of the homonymous region located at the South-East of the Mediterranean Spanish coast. It has a rich historic and artistic heritage. The city enjoys excellent connection to many other European capitals, wonderful climate year-round, delightful cuisine, and exciting cultural and social life.

Facilities at the University of Murcia

- 4,436 reading places in libraries
- +8,000 sport facility users
- 294 cultural activities (+32,000 participants)
- Wifi throughout the campus

Contact

Universidad de Murcia

Facultad de Química

Center of Research in Optics & Nanophysics (Bldg. 34)

Campus de Espinardo

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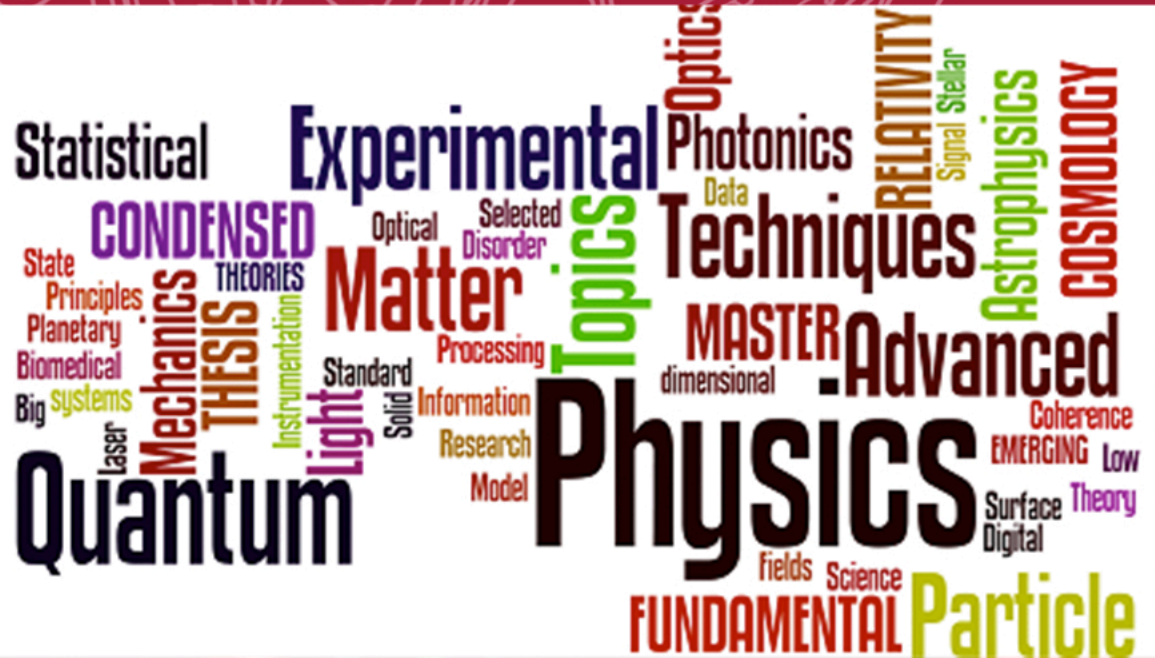
www.um.es/web/estudios/masteres

FACULTY OF
CHEMISTRY

UNIVERSIDAD DE
MURCIA

MASTER'S DEGREE
IN PHYSICAL SCIENCES



MASTER'S DEGREE
IN PHYSICAL SCIENCES

Physics in Murcia:

BSc Physics since 1999. **MSc** in P**hysical Science** (approved by ANECA, 2019).

The **Department of Physics** of the University of Murcia is a vibrant and diverse community of researchers and teachers strongly committed to quality. The faculty staff carries out outstanding, internationally recognized, work in a broad spectrum of both theoretical and applied areas of physics.

The Center of Research in Optics and Nanophysics (CIOyN) is a research facility, with high-tech experimental labs, that leads several international projects.

Students have access to library, computer classrooms, teaching and research laboratories, and virtual classroom learning environment.

Career opportunities

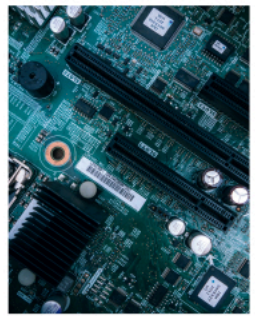
This generalist Master is an opportunity to complete the formation of the four-year BCs degree and achieve a solid curriculum for academic professions, public administration jobs, and consultancies.

For those targeting a PhD degree, this MSc program prepares you for an exciting career in research, with challenging courses and research opportunities.

Also, the Master offers a high quality program to bridge the gap between university and industry, preparing for an industrial career in materials, optics, business, healthcare, information technology, banking, etc.

The European Qualifications Framework (EQF) level is 7 (master). The Spanish qualification is MECES 3.

This MSc program is open to students worldwide. Specific services for international students are available at the University of Murcia.



Master Overview:

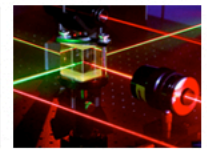
This one-year Master covers a wide range of topics, including theoretical and particle physics, astrophysics, condensed matter, optics, emerging topics, and state-of-the-art experimental techniques. The Master provides a solid background in physics, allowing a successful professional career in a growing multidisciplinary scientific and technological world.

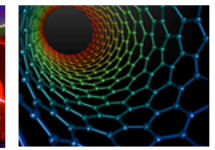
The program contains seven modules across the mainstream physics areas, with compulsory subjects in a core of 36 ECTS. It also offers a flexible choice of 6 ECTS (out of a total of 24 ETCS) of elective courses available in each module, so that the students can specialize according to their interests.

This MSc degree includes a master thesis of 18 ECTS. The students will chose a topic to carry out an original work within world class research groups.

Join one of our cutting-edge research lines, and enjoy physics as much as you can!

Language of instruction is English. At least B1 in English is recommended.





MSc Physics:	60 ECTS
Core courses:	36 ECTS
Elective courses:	6 ECTS
Master thesis:	18 ECTS

COURSE	ECTS	Type	Semester
LIGHT AND PHOTONICS			
Statistical Optics and Coherence	3	Core	1º
Laser Principles	3	Core	1º
Digital and Optical Signal Processing	3	Core	1º
Biomedical Optics and Instrumentation	3	Elective	2º
FUNDAMENTAL ASPECTS OF PARTICLE PHYSICS			
Introduction to the Standard Model of Particle Physics	3	Core	1º
Selected Topics in Particle Physics	3	Elective	2º
FUNDAMENTAL THEORIES IN QUANTUM PHYSICS			
Quantum Theory of Fields	3	Core	1º
Statistical Mechanics	3	Core	1º
Advanced Quantum Mechanics	3	Core	1º
Quantum Information	3	Elective	2º
GENERAL THEORY OF RELATIVITY, ASTROPHYSICS AND COSMOLOGY			
General Relativity and Cosmology	3	Core	1º
Stellar and Planetary Astrophysics	3	Elective	2º
CONDENSED MATTER PHYSICS			
Advanced Solid State Physics	3	Core	1º
Disorder and Matter	3	Core	2º
EMERGING TOPICS			
Advanced Topics in Research	6	Core	1º and 2º
Surface Science and Low Dimensional Systems	3	Elective	2º
Big Data	3	Elective	2º
EXPERIMENTAL TECHNIQUES			
Experimental Techniques I (Light and Photonics)	3	Elective	2º
Experimental Techniques II (Condensed Matter)	3	Elective	2º
MASTER THESIS			
Master Thesis	18	Core	2º