UNIVERSIDAD DE GRANADA

University of Granada

Degree and Master in Physics

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Master in Physics

Granada

- City in Southern Spain, in Andalucía
- Population: approx. 240 000
- Economy: university, tourism…

University of Granada

- Founded in 1531
- Approx. 70 000 students
- Approx. 3700 professors and 2200 administrative personnel

University of Granada

- Information for incoming international students: https://internacional.ugr.es/en/students/incoming-mobility

- Quick facts:
  - University of Granada is among the top universities in Spain (4th according to Shanghai Academic Ranking)
  - Over 70 undergrad degree programs, over 100 master degrees.
  - Excellent research.
  - Extensive array of language courses, including accreditation tests
  - International university: 10% of undergrad students are international. Extremely popular destinations among exchange students (Erasmus+)
  - Great services: library, sports center, dorms and dining hall…
  - 'University city': almost 1/3 inhabitants of Granada are directly linked to the university
  - City with rich historical and cultural legacy
  - Great location: less than 1 hour from the Mediterranean sea, about 4 hours from Madrid, 40 min. from mountains and ski resort

The Physics Degree

4-year program (240 ECTS)

Web page: https://grados.ugr.es/fisica/

All courses are taught in Spanish

Some courses are also taught in English:

- Fundamental Experimental Techniques
- Mechanics and Waves
- Mathematical Methods II and III
- Fundamental Astrophysics
- Quantum Physics
- Solid State Physics
- Statistical Physics
- General Relativity
- Astrophysics
- Physics of Complex Systems
- Field Theory and Particles

Courses by year:

https://grados.ugr.es/fisica/docencia/plan-estudios

The Master in Physics: Radiation, Nanotechnology, Particles and Astrophysics

- B1 in Spanish required for incoming students
- 1-year program (60 ECTS)
- 3 lines (concentrations)
- 30 students per academic year
- Web page: https://masteres.ugr.es/fisica/
- Faculty from the University of Granada, the Astrophysics Institute of Andalucia (IAA, CSIC), hospitals and other universities and research institutes
- Master is research-oriented
- UGR departments involved: Theoretical Physics, Electronics, Optics, Applied Physics and Atomic and Molecular Physics

The Master in Physics: Radiation, Nanotecnology, Particles and Astrophysics

Courses by semester (All courses are 6 ECTS except where noted)

	Radiation	Nanotecnology	Particles&Astrophysics	Common Module
1st Semester (October – January)	Laser physics and its applications	Photonics. Optical instrumentation. Applications	Physics of detectors	Mathematical and numerical toos
	Radiative processes in atoms and nuclei	Optoelectronic nanodevices	Standard Model	Data processing (3 ECTS)
	Radiation-matter interaction	Colloids and interfases: applications to biotecnological nanosystems	Quantum field theory	Approximation methods in physics (3 ECTS)
	Radiobiology	Physical properties of materials. Scale effects	Cosmology and galaxies	Electron microscopy (3 ECTS)
2nd Semester (February – May)	New developments in quantum physics	Design and characterization of nanometerials	Beyond the Standard Model	
	Nuclear Technology	Nanostructured fluids	Astroparticles	
	Detection of radiation and dosimetry	Characterization, simulation and modelling of nanodevices	Astrobiology and planets	
	Medical and industrial applications of radiation	Nanostructures for energy generation and storage	Origin and evolution of chemical elements in the universe	