



#### Classes are held in English

class LM-17  
2 years total number of credits 120 ECTS credits  
(1 Credito Formativo Universitario CFU = 1 ECTS)

**Location**  
Camerino

**web site**  
<http://www.phys.unicam.it>

**Information for admission, courses and other services**  
at [www.unicam.it/international](http://www.unicam.it/international)

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## University of Camerino

Master Degree

# Physics

### INTRODUCING THE MASTER

The Master Degree Course in Physics offerings range from freshman seminars to advanced graduate classes.

Undergraduates, graduate students and postdoctoral fellows are mentored in research in condensed matter, atomic and laser physics, as well as quantum information and nuclear physics.

Our strong international programs enjoy several established connections with foreign institutions and research centres.

The master benefits of a longstanding and well appreciated didactical expertise, a friendly and skilful teaching staff, and reliable supporting structures (such as study and work rooms, computer facilities, libraries) in addition to dedicated tutorship services.

### ADMITTANCE CONDITIONS

Students possessing a three-year university degree or equivalent foreign qualification are eligible to register for the Master degree in Physics.

The student who wants to enrol in the Master in Physics must possess a good knowledge and understanding of:

- Classical physics;
- Quantum physics;
- Calculus;
- Geometry and linear algebra;
- Basic experimental techniques;
- Use of basic computing systems and their application to data acquisition and processing.

The student must possess a good command of written and oral English.

### QUALITY ASSURANCE SYSTEM

UNICAM quality management system certificate ISO 9001:2008 (from AFAQ-France, a French leader and one of the first certification bodies at the global level) guarantees students the quality of services provided.

The guarantee is via a rigorous analysis of internal organizational procedures and the prompt addressing of any weaknesses or shortcomings whether detected or reported by the students themselves.

The Quality Management System includes the following support services for students: orientation, mentoring, international mobility, internships and placement, communication.

These integrate with and support the educational activities, so as to contribute to the complete training of the student.



## COURSE STRUCTURE

Classes are held in two different terms, from the beginning of October to the end of January, and then from the beginning of March to the middle of June. The February break is devoted to the Winter Exam Session.

<b>1st year</b>	<b>ECTS</b>	<b>2nd year</b>	<b>ECTS</b>
Advanced Electromagnetism	6	Free choice activities*	12
Theoretical Physics	6	Project/stage	6
Advanced Physics Laboratory	12	Final dissertation (Master thesis)	42
Two courses to be chosen among:			
Many Body Physics	6		
Quantum Computation	6		
Quantum Theory of Magnetism	6		
Quantum Field Theory	6		
Statistical Mechanics	6		
Two courses to be chosen among:			
Atomic Physics	6		
Quantum Optics	6		
Solid State Physics	6		
Topics in Condensed Matter Physics	6		
Two courses to be chosen among:			
Complements of Mathematical Physics	6		
Geophysics	6		
Numerical Methods of Physics	6		
Soft-Matter Physics	6		

\* Elective courses can be chosen among those offered by the master degree in Physics or other degrees in UNICAM. Up to 6 ECTS can be acquired also with 'soft-skills' training activities organized by UNICAM, language courses, etc.

## DOUBLE DEGREE WITH GDANSK UNIVERSITY OF TECHNOLOGY (POLAND)

Students enrolled in the Master Degree in Physics can participate to the double degree program with the Gdansk University of Technology (GUT). Students coming from UNICAM will attend the first year of the Master program at UNICAM and the second year at GUT.

In this case, the student will prepare a Master thesis under the joint supervision of a UNICAM and a GUT Professor. The Master thesis should be written and discussed in English.

Three copies will be prepared according to the Regulations of the Gdansk University of Technology and delivered to the Students' Office of the Faculty of Applied Mathematics and Physics. One copy will be prepared according to the Regulations of the University of Camerino and delivered to the Students' Office of UNICAM.

The defence of the Master thesis will take place only once, provided that there is at least one professor from the other institution in the examination committee. Otherwise, the defence of the Master thesis will take place separately at both Universities.

## AFTER COMPLETING THE DEGREE

Students seeking further training and education can choose a Professional Master course (typically lasting one year), a Specialization School (for example, the School of Specialization in Health Physics of four year duration), or a Doctoral course. The School of Advanced Studies at the University of Camerino offers a three-year Doctoral course in Physics, enabling students to start a research activity at the international level.

A Master Degree in Physics opens up a broad range of job opportunities and professional careers, in both the public and private sectors: from higher education to R&D in industry and research institutions, and even in the financial markets. Physicists carry out technical tasks or provide professional support in monitoring and diagnostics of medical, health and environmental activities, in energy production, storing, and saving, or in the conservation and restoration of cultural heritage. They take part in quality control, by identifying and selecting the items to be checked, devising the control methods and their range of tolerance.

Physicists are also employed as financial analysts and consultants.