



University of Camerino

Master Degree

Physics

International Agreement with Gdansk University of Technology (Poland)

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>

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 centers. The master benefits of a longstanding and well appreciated didactical expertise, a friendly and skillful teaching staff, and reliable supportino 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 enroll to the Master in Physics must possess a good knowledge and understanding of:

- i) Classical physics;
- ii) Quantum physics;
- iii) Mathematical analysis;
- iv) Geometry and linear algebra;
- v) Basic experimental techniques;
- vi) 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, equivalent to the level of the Cambridge Preliminary English Test (PET).



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.

1st year

Teaching Activity	ECTS
Complements of Mathematical Physics	6
Advanced Electromagnetism	6
Numerical Methods of Physics	6
Theoretical Physics I	6
Advanced Physics Laboratory	12

2nd year

Teaching Activity	ECTS
Free choice activities	12
Project/stage	6
Final dissertation (Master thesis)	42

Two courses to be chosen among:

Topics in Condensed Matter Physics	6
Many Body Physics	6
Quantum Computation	6
Statistical Mechanics	6
Theoretical Physics II	6

Two courses to be chosen among:

Atomic Physics	6
Physics of Nanotechnologies	6
Solid State Physics	6
Quantum Optics	6
Superconductivity	6

FEATURES OF THE FINAL EXAM

The candidate must prepare a dissertation on an original research topic in a field of physics. The candidate must then conduct a discussion in front of the Degree Board which will evaluate the candidate's contribution to the work presented.

The dissertation must be written in English.

For the joint program with Gdansk University of Technology (GUT), the student will prepare a Master thesis under the joint supervision of an UNICAM and GUT Professor. The Master thesis will be written and presented in English.

Three copies will be prepared according to the Regulations of the Politechnika Gdańska 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 there is at least one professor present from the other institution to serve on the local Board for the final exam. If this condition cannot be satisfied, the defence of the Master thesis will take place separately at both Universities.

AFTER COMPLETING THE DEGREE

Students who wish to pursue further studies, in the third phase can choose a Professional Master course (typically lasting one year), a Specialized School (for example, the School of Specialization in Health Physics of four years duration, or a course of Doctoral Research. Every year at the University of Camerino a Doctorate in Physics (three-year) is activated, enabling students to start a research activity at international level.

Graduates of the undergraduate degree in Physics find positions in the Labour Market in the fields of industry, finance, services and public administration. They carry out technical tasks or professional support in monitoring and diagnostics in medical, health and environmental activities or related to energy savings, or conservation and restoration in the field of cultural heritage. They also carry out analysis and financial management, and quality control, taking part to the identification of items to be checked, range of tolerance, methods of control.

INFORMATION FOR ADMISSIONS, COURSES AND OTHER SERVICES

at www.unicam.it/international

COURSE COORDINATOR AND DELEGATES

School of Science and Technology Director

Prof. Marino Petrini

direttore.scienze@unicam.it

Didactic Manager

Anna Maria Santroni

0737 402849 - annamaria.santroni@unicam.it

Course Coordinator

Prof. Pierbiagio Pieri

0737 402517 - pierbiagio.pieri@unicam.it

Delegates for Stage and Traineeship

Prof. Fabio Marchesoni

fabio.marchesoni@unicam.it

Delegate for International Mobility

Prof. Roberto Gunnella

roberto.gunnella@unicam.it

Delegates for Orientation

Dr. Irene Marzoli

0737 402537 - irene.marzoli@unicam.it

Delegate for Tutoring

Prof. Stefano Mancini

0737 402577 - stefano.mancini@unicam.it



QUALITY ASSURANCE SYSTEM

The 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 defects 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.