

MANIFESTO OF STUDIES
JOINT MASTER'S DEGREE IN PHYSICS
academic year 2023/2024

MIUR code LM-17 – Physics
(ministerial decree 270/2004)

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INTRODUCTION

The Joint Master's Degree in Physics was born from the renewed collaboration between the Universities of Trieste and Udine. Thanks to a rare concentration of laboratories and research facilities in the field of Physics in the Region, particularly in the area of Trieste, the Joint Master's Degree offers its students unique research training opportunities. Master's degree teachers are present in many of these laboratories, often with coordination or collaboration responsibilities, as well as in various important international laboratories. They carry out experimental, theoretical and computational research in several fields of Physics. Hence, students can experience a stimulating environment, which gives them specialized knowledge useful for a future working career both in the field of scientific research and in the most technologically advanced sectors of the non-academic world of work.

ACADEMIC TITLE

The Joint Master's Degree Course in Physics lasts two years and is organized in accordance with the Ministerial Decree (from now on "m.d.") 270/04.

After passing the exams of this Joint Master's Degree Course and successfully discussing a thesis of recognized scientific value on a topic of interest in the world of research, industry or training, students obtain a Master's Degree in Physics.

CURRICULAR REQUIREMENTS

To be admitted to the Joint Master's Degree Course, students have to possess a L-30 (according to m.d. 270/04) or L-25 (according to m.d. 509/99) degree or, alternatively, a three-year degree or another qualification obtained abroad recognized as suitable, which has led to the acquisition of an adequate number of ECTS in the following areas:

Mathematical analysis, Geometry and Linear Algebra, Computer Science, equivalent to a total of no less than 15 ECTS;

Classical Physics (Mechanics, Thermodynamics, Electromagnetism, Acoustics, Optics), Quantum Mechanics, Special Relativity, Statistical Physics, Physics of Matter, Nuclear and Subnuclear Physics, Physics Laboratory (execution of experiments and statistical analysis of data), equivalent to a total of no less than 30 ECTS

KNOWLEDGE TEST

The verification of adequate preparation will be based on the personal curriculum of studies and potentially on an interview. Candidates possessing a L-30 or L-25 degree (in accordance with m.d. 509/99) with a degree grade higher than or equal to 90 points out of 110 may be admitted without further verifications. Candidates with a lower degree grade, although fulfilling the previously mentioned curricular requirements, may be asked to undergo an interview to verify their possession of the necessary basic knowledge and understanding skills.

LANGUAGE KNOWLEDGE

Knowledge of the English language at level B2 (CEFR levels) is required.

This verification is done by analysing the exams students have taken during the three-year degree or by analysing the language certifications and/or diplomas students have provided or by an interview or other form of verification of language knowledge.

Further information will be available on the website of the Department of Physics (Didactics section) at <https://df.units.it/it/didattica/corsi-laurea/laurea-magistrale> before enrolment opens.

DIDACTIC PERIODS

The academic year is divided into two semesters of 12 working weeks (plus a remedial week), followed by periods dedicated to further independent study and exams. Exams are also scheduled for September. Second semester of the second year is intended to be entirely dedicated to thesis work.

Starting and ending dates of lessons for the academic year 2023-2024 are:

1st SEMESTER: 25th September 2023 – 22nd December 2023

2nd SEMESTER: 4th March 2024 – 31st May 2024

Easter break from 29th March 2024 to 2nd April 2024

Furthermore, lessons will be suspended on 2nd November 2023 and 26th April 2024.

As a rule, exam sessions cannot be scheduled during teaching periods, with two obvious exceptions: (i) exams for second-year students in the second teaching period and (ii) any exams for students who intend to shorten the period within which to obtain the Master's Degree. Students who intend to shorten the duration of their studies must agree with the Teaching Commission on the drafting of a study plan.

CURRICULUMS AND STUDY PLANS

For the academic year 2023/2024, this Joint Master's Degree in Physics (LM-17) establishes the following six curricula:

a) Physics of matter

b) Nuclear and subnuclear physics

c) Theoretical physics

d) Environmental and interdisciplinary physics

e) Astrophysics and cosmology

f) Quantum sciences and technologies

Curriculums and related training objectives and study plans are attached as an addition to this manifesto. Students may present individual study plans. Such individual study plans have to agree with the following rules for those who enrolled in the academic year 2023-2024:

- having 40 characterizing (TAF B) ECTS, of which a minimum of 6 and a maximum of 24 ECTS in each of the following disciplinary fields
 - I) experimental application field (FIS/01 and FIS/07);
 - II) theoretical and fundamentals of physics field (FIS/02);
 - III) microphysics and the structure of matter field (FIS/03 and FIS/04)
 - IV) astrophysical, geophysical and spatial field (FIS/05, FIS/06, GEO/10 and GEO/12);
- having a minimum of 15 and a maximum of 21 TAF C ECTS for Master's Degree-alike activities;
- having a minimum of 9 and a maximum of 12 TAF D ECTS for free-choice activities;
- having a minimum of 5 and a maximum of 8 TAF F ECTS for further formative activities;
- having 40 ECTS exclusively dedicated to the final exam;
- containing no more than 11 teaching courses, excluding free-choice activities and extra-study plan exams;

Students may ask the Teaching Commission for help in drafting their study plans.

EDUCATIONAL OFFER

The list of courses for students enrolling in the academic year 2023/2024 is reported in annex B2 to the Regulations of the Joint Master's Degree in Physics. That document is also attached to this document.

For further information relating to enrolment, please check 'Futuri Studenti' at www.units.it or please contact the Admissions Office areatecnoscientifica.ammissioni@amm.units.it

INTERSHIPS

During the second year, each student is required to undertake an internship, which normally corresponds to 5 credits. The purpose is to learn training work techniques aimed at writing the thesis. Typically, internships are done under the control of the Thesis Supervisor or another Master's Degree Course Council-approved manager. At the end of the internship, interns present their work in a public seminar in the presence of the internship manager and of the tutor. Further information regarding internships can be found at <http://df.units.it/it/didattica/stage-tirocini>

SCHOLARSHIPS

Thanks to funding by the Department of Physics and by some scientific institutions operating in Trieste in the field of Physics, Luciano Fonda University College, based in the *ex-Ospedale Militare* University Residence (at 40 Fabio Severo st., Trieste), grants deserving students that are enrolled in Physics Degree Courses some places accommodations and scholarships.

Further information can be found at <http://web.units.it/page/collegiofonda/it>

CONTACTS AND SERVICES

DEPARTMENT OF PHYSICS

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ADMINISTRATIVE OFFICE/SECRETARIAT

Via A. Valerio, 2 - 34127 Trieste – Building F

Tel. 040-558.3361-2771

e-mail: didattica.df@units.it

RECEPTION: Mondays 3-5pm and Wednesdays 10-12am in room T23 of the Department or by appointment.

ADMISSIONS OFFICE for information relating to enrolment

e-mail: areatecnoscientifica.ammissioni@amm.units.it

Telephone help desk 040/558.3546

Mondays and Thursdays 12-1pm and 3-4pm

Tuesdays, Wednesdays and Fridays 12-1pm

STUDENTS CAREER OFFICE for administrative information

e-mail: fisica.studenti@amm.units.it

Telephone help desk 040/558.2895

Mondays and Thursdays 12-1pm and 3-4pm

Tuesdays, Wednesdays and Fridays 12-1pm