



UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2019/20
BACHELOR
Physics (Classe L-30)
Enrolled from 2012/2013 Academic Year

HEADING

Degree classification - Denomination and code:	L-30 Physics
Degree title:	Dottore
Length of course:	3 years
Total number of credits required to complete programme:	180
Years of course currently available:	1st , 2nd , 3rd
Access procedures:	Open, subject to completion of self-assessment test prior to enrolment
Course code:	F63

PERSONS/ROLES

Degree Course Coordinator

Prof. Alberto Pullia (Presidente del Collegio Didattico del Dipartimento di Fisica)

Tutors - Faculty

Prof. Franco CAMERA
Dott. Simone CIALDI
Prof. Gianluca COLO'
Prof.ssa Alessandra GUGLIELMETTI
Prof. Giuseppe LODATO
Prof. Nicola MANINI
Prof. Luca Guido MOLINARI
Prof. Matteo PARIS
Prof. Nicola PIOVELLA
Prof. Paolo PISERI
Prof. Pierre M. PIZZOCHERO
Dott. Massimo SORBI
Prof.ssa Roberta VECCHI
Prof. Alessandro VICINI

Tutors - Students

Francesca ASTORI
Caterina BERTI
Jacopo CICCOIANNI
Giorgio FRANGI
Fabiana LAURO
Sergio MARCHESE
Matteo MILANI
Davide ROTA
Martino ZANETTI
Davide BASILICO (dottorando)
Elisabetta SPADARO NORELLA (dottorando)

Degree Course website

www.ccdfis.unimi.it

Via Celoria, 16 - 20133 Milano Phone 02.503.17401 Email: cl.fisica@unimi.it

CHARACTERISTICS OF DEGREE PROGRAMME

Expected learning outcomes

CFU/CREDITS

In order to get their degree, students are required to certify their knowledge of the English language at the B1 level. This level can be certified in one of the following ways:

· By submitting their language certificate, taken no more than 3 years before its submittal and attesting a B1 or higher level (for the list of the language certificates which are accepted by the University of Milan, please refer to the website: <http://www.unimi.it/studenti/100312.htm>).

Students can submit their language certificate during the immatriculation procedure or send it to the Language Centre of the University of Milan (SLAM) via the Infostudente service.

· By sitting the placement test run by SLAM, during the first year exclusively, from September to December. Should they not pass the Placement Test, students will have to attend the English language course organized by SLAM. All students who do not have a valid language certificate must sit the Placement Test. Those students who do not sit the Placement test by December or do not pass the end of course test in one of the 6 attempts granted will have to get a language certificate outside the University of Milan within their degree.

EXPERIENCE OF STUDY ABROAD AS PART OF THE TRAINING PROGRAM

The University of Milan supports the international mobility of its students, offering them the opportunity to spend periods of study and training abroad, a unique opportunity to enrich their curriculum in an international context.

Study and internships abroad

The thesis work may be occasionally carried out in prestigious research centers like CERN or GSI, or important Universities worldwide, in the frame of international collaborations and research programs.

How to participate in Erasmus mobility programs

To gain access to mobility programs for study purposes, lasting 3-12 months, the enrolled students of the University of Milan must attend a public selection that starts usually around the month of February each year through the presentation of specific competition announcements, which contain information on available destinations, respective duration of the mobility, requirements and deadlines for submitting the online application.

The selection, aimed at evaluating the proposed study abroad program of the candidate, knowledge of a foreign language, especially when this is a preferential requirement, and the motivations behind the request, is performed by specially constituted commissions.

Each year, before the expiry of the competition announcements, the University organises information sessions for the specific study course or groups of study courses, in order to illustrate to students the opportunities and participation rules.

To finance stays abroad under the Erasmus + program, the European Union assigns to the selected students a scholarship that - while not covering the full cost of living abroad - is a useful contribution for additional costs as travel costs or greater cost of living in the country of destination.

The monthly amount of the communitarian scholarship is established annually at national level; additional contributions may be provided to students with disabilities.

In order to enable students in economic disadvantaged conditions to participate in Erasmus+ program, the University of Milan assigns further additional contributions; amount of this contributions and criteria for assigning them are established from year to year.

The University of Milan promotes the linguistic preparation of students selected for mobility programs, organising every year intensive courses in the following languages: English, French, German and Spanish.

The University in order to facilitate the organisation of the stay abroad and to guide students in choosing their destination offers a specific support service.

More information in Italian are available on www.unimi.it > Studenti > Studiare all'estero > Erasmus+

For assistance please contact:

Ufficio Accordi e relazioni internazionali

via Festa del Perdono 7 (ground floor)

Tel. 02 503 13501-12589-13495-13502

Fax 02 503 13503

E-mail: mobility.out@unimi.it

Desk opening hour: Monday-friday 9 - 12

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1st COURSE YEAR Core/compulsory courses/activities common		
Learning activity	Ects	Sector
COMPUTER SCIENCE	6	INF/01
English assessment B1 (2 ECTS)	2	L-LIN/12
GEOMETRY 1	7	MAT/03
MATHEMATICAL ANALYSIS 1	8	MAT/05
MATHEMATICAL ANALYSIS 2	8	MAT/05
MECHANICS	7	FIS/01
PHYSICS LABORATORY WITH INTRODUCTION TO STATISTICS	10	FIS/01
WAVES AND OSCILLATIONS	7	FIS/01
Total compulsory credits		55
2nd COURSE YEAR Core/compulsory courses/activities common		
Learning activity	Ects	Sector
CLASSICAL MECHANICS	7	MAT/07
ELECTROMAGNETISM	15	FIS/07, FIS/01
EXPERIMENTAL DATA PROCESSING LABORATORY	6	FIS/01
MATHEMATICAL ANALYSIS 3	6	MAT/05
MATHEMATICAL METHODS IN PHYSICS	7	FIS/02
OPTICS,ELECTRONICS AND MODERN PHYSICS LABORATORY	10	FIS/01
QUANTUM PHYSICS 1	7	FIS/02
THERMODYNAMICS	6	FIS/07, FIS/01
Total compulsory credits		64
3rd COURSE YEAR Core/compulsory courses/activities common		
Learning activity	Ects	Sector
CHEMISTRY 1	6	CHIM/03
INTRODUCTION TO NUCLEAR AND PARTICLE PHYSICS	9	FIS/04
QUANTUM PHYSICS 2	8	FIS/02
STRUCTURE OF MATTER 1	9	FIS/03
Total compulsory credits		32
Elective courses		
ASTRONOMY LAB	6	FIS/05, FIS/01
COMPUTATIONAL PHYSICS LABORATORY	6	FIS/08, FIS/07, FIS/06, FIS/05, FIS/04, FIS/03, FIS/02, FIS/01
CONDENSED MATTER PHYSICS LABORATORY	6	FIS/03, FIS/01
EARTH PHYSICS LABORATORY	6	FIS/07, FIS/06, FIS/01
ELECTRONICS 1	6	ING-INF/01, FIS/01
ENVIRONMENTAL PHYSICS LABORATORY	6	FIS/07, FIS/06, FIS/01
GAMMA SPECTROSCOPY LABORATORY	6	FIS/04, FIS/01
INTRODUCTION TO ASTROPHYSICS	6	FIS/05
INTRODUCTION TO GENERAL RELATIVITY	6	FIS/02
INTRODUCTION TO HEALTH AND MEDICAL PHYSICS	6	FIS/07
INTRODUCTION TO STATISTICAL PHYSICS	6	FIS/03, FIS/02
NUCLEAR PHYSICS LABORATORY	6	FIS/04, FIS/01
NUMERICAL SIMULATION LABORATORY	6	FIS/08, FIS/07, FIS/06, FIS/05, FIS/04, FIS/03, FIS/02, FIS/01
OPTICS LABORATORY	6	FIS/03, FIS/01
COURSE YEAR UNDEFINED Core/compulsory courses/activities common		
Learning activity	Ects	Sector
ENGLISH 2	2	L-LIN/12
Total compulsory credits		2
End of course requirements		
FINAL EXAM	9	NA
Total compulsory credits		9

COURSE PROGRESSION REQUIREMENTS

The course contains the following obligatory or advised prerequisites

Learning activity	Prescribed foundation courses	O/S
MATHEMATICAL ANALYSIS 3	MATHEMATICAL ANALYSIS 1	Core/compulsory
	MATHEMATICAL ANALYSIS 2	Core/compulsory
MATHEMATICAL ANALYSIS 2	MATHEMATICAL ANALYSIS 1	Core/compulsory
ELECTROMAGNETISM	MECHANICS	Core/compulsory
THERMODYNAMICS	MECHANICS	Core/compulsory