UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2025/26
BACHELOR
Biological Sciences (Classe L-13)
Enrolled from 2019/2020 to 2024/2025 academic year

HEADING	
Degree classification - Denomination and code:	L-13 Biology
Degree title:	Dottore
Length of course:	3 years
Total number of credits required to complete programme:	180
Years of course currently available:	2nd , 3rd
Access procedures:	Cap on student, student selection based on entrance test
Course code:	F62

PERSONS/ROLES

Head of Study Programme

Prof.ssa Isabella Dalle Donne

Degree Course Coordinator

Prof.ssa Isabella Dalle Donne (E-mail: isabella.dalledonne@unimi.it)

Tutors - Faculty

Tutor per l'orientamento: M. Valenza, F. Marini
Tutor per la mobilità internazionale e programmi Erasmus: C. Bonza
Tutor per i piani di studio: I. Dalle Donne, F. Lazzaro
Tutor per stage e tirocini: I. Dalle Donne
Tutor per laboratori e altre attività: S. Masiero
Tutor per trasferimenti: I. Dalle Donne
Tutor per ammissioni lauree magistrali: Coordinatori delle lauree magistrali (Prof. Alessandro Aliverti BIONUTRI, Prof.ssa Sara Epis BIOEVO, Prof.ssa Graziella Cappelletti BARB, Prof. Luca Gianfranceschi PS, Prof. Paolo Pesaresi MBC)
Tutor per riconoscimento crediti: I. Dalle Donne

Degree Course website

http://scienzebiologiche.cdl.unimi.it

New student information center

Via Celoria, 26 (piano terra, torre C). Solo su appuntamento. https://informastudenti.unimi.it/saw/ess?AUTH=SAML

Representative for disability services and specific learning disabilities (appointed by the Academic Board):

Prof.ssa Diletta Dolfini Email: diletta.dolfini@unimi.it

Student registrar

Via Celoria, 18 Phone 0250325032 https://www.unimi.it/it/node/360 https://www.unimi.it/it/node/359/ E-mail (collegarsi previa registrazione): https://informastudenti.unimi.it/

Study programme head and course management

Via Celoria, 26 (piano terra, torre C). Solo su appuntamento. https://informastudenti.unimi.it/saw/ess?AUTH=SAML

CHARACTERISTICS OF DEGREE PROGRAMME

General and specific learning objectives

The bachelor programme in Biological Sciences (Class L-13 Biological Sciences) is designed to provide students with a sound basic knowledge of the main areas of Biological Sciences and a good mastery of methodologies and technologies related to the corresponding fields of scientific research, providing adequate preparation for assimilation of scientific and technological progresses and to know and properly treat living organisms.

Expected learning outcomes

Graduates in Biological Sciences will acquire operational and applicative skills and abilities in the biological field and will

be able to carry out technical-operational tasks and professional support activities.
In particular, graduates in Biological Sciences will acquire:
° an adequate basic knowledge of the different sectors of the biological sciences;
° multidisciplinary methodological and technological knowledge for biological investigation;
° operational and applicative skills and abilities in the biological field, with particular reference to broad-spectrum biological and instrumental technical analysis procedures, aimed at both research activities and monitoring and control;
° ability to effectively use, in written and oral form, the English language in the specific area of competence and for the exchange of general information;
° adequate skills and tools for communication and information management;
° ability to work in groups, to operate with defined degrees of autonomy and to fit into the workplace;
° basic cognitive tools for the continuous updating of one's knowledge.

Professional profile and employment opportunities

The degree in Biological Sciences prepares for the profession of biologist and similar professions, biochemist, botanist, zoologist, ecologist.
Graduates of Biological Sciences will be able to work in teams with different degrees of autonomy and to readily enter the working world, both in European and non-European countries. They will possess adequate knowledge to perform professional activities and apply techniques, like: productive and technological laboratory activities (pharmaceutical, industrial, florovivaistic, veterinary, agroalimentary, public and private research centers); activities where is required to classify, manage and use living organisms and their parts, and to manage the relationship between development and quality of the environment; activities in professional multidisciplinary centers involved in assessment of environmenal impact, in development of projects for the conservation and restoration of the environment and the biodiversity; activities in the communication field, scientific information and promotion, scientific life science publishing.
The degree in Biological Sciences affords admission to the Biologists Professional Register (Section B, Junior Biologists), by passing the exam for the profession, to perform the activities recognized by the Italian law.

Initial knowledge required

Qualifications and knowledge required for admission
Applicants to the Bachelor's degree programme in Biological Sciences must hold a high-school diploma or an equivalent international qualification pursuant to Ministerial Decree no. 270 of 22 October 2004.
The knowledge and skills required to sit the entrance test are detailed at https://www.cisiaonline.it/en/area-tematica-tolc-biologia/struttura-della-prova-e-syllabus/

Compulsory attendance

Attendance is strongly recommended for all courses and compulsory for laboratories.

Internship criteria

Students can undertake internships on campus in university laboratories (internal internships), and earn a total of 6 CFU. Internship opportunities are available in the first and second semester of Year III. Admission requirements and application deadlines can be found on the internship page of the Ariel website (http://ariel.unimi.it).

Degree programme final exams

Upcoming graduates must:
- have earned 177 CFU, including 3 CFU for English language proficiency;
- have written a final paper. By writing and defending the final paper, the student may earn an additional 3 credits.
The final exam consists of discussing the final paper on the internship before an examining board. The latter's assessment will count towards the degree mark (on a scale of 110). More details on the web page: https://scienzebiologiche.cdl.unimi.it/it/studiare/laurearsi
The programme awards the title of "Laureato di I livello (Dottore) in Scienze Biologiche" (Bachelor's graduate in Biological Sciences).

Campus

Classrooms and laboratories are located in the University buildings in: Via Celoria, 26 (Biology buildings); Via Celoria, 20 (Teaching Sector); Via Golgi, 19 (Teaching Sector); Via Venezian, 15 (Teaching Sector).
The Academic Services Office is located in the Department of Biosciences, Via Celoria, 26 – Milano (Tower A, II Floor).

Laboratories

The CdS is characterized by an intense laboratory activity. The laboratory courses, in particular, must normally be attended in the year of competence, with the exception of transfer students (from other courses of study or from other locations). During the practical lessons the necessary safety rules and correct behavior in the laboratory are provided.

Notes

In order to obtain their degree, students must be proficient in English at a B1 level under the Common European Framework of Reference for Languages (CEFR). This proficiency level may be certified as follows:
- By submitting a language certificate attesting B1 or higher level in English and issued no more than three years before the date of submission. You will find the list of language certificates recognized by the University at: https://www.unimi.it/en/node/39322). The certificate must be uploaded during the enrolment procedure, or subsequently to the portal http://studente.unimi.it/uploadCertificazioniLingue;

- By taking a placement test offered by the University Language Centre (SLAM) between October and December of the first year. Students who fail the test will be required to take a SLAM course.
The placement test is mandatory for all those who do not hold a valid certificate attesting to B1 or higher level.
Those who have not taken the placement test by the end of December or fail the end-of-course exam six times must obtain the necessary certification privately before graduating.

Students who are supposed to earn 3 credits (CFU) for basic computer skills, as provided by their degree programme, have to attend the "Computer Science Course" through the e-learning platform of the project called "3CFU Informatica" accessible at the following link: https://3cfuinformatica.unimi.it
It is a blended course with a compulsory final exam.
The first exam session is scheduled for January, and more will follow according to a calendar to be made available on the course delivery platform.
Students who have already fulfilled an ICT Assessment during their previous studies should submit the related certification to their degree Secretariat, seeking its acknowledgement: it will be evaluated and they will receive a positive or negative feedback.
The "Computer Science Course 3CFU" course is managed by the CTU - Teaching and Learning Innovation and Multimedia Technology Centre.

EXPERIENCE OF STUDY ABROAD AS PART OF THE TRAINING PROGRAM

The University of Milan supports international mobility by providing its students with the opportunity to spend study and internship periods abroad. It is a unique chance to enrich your educational path in a new exciting environment.
The agreements entered into by the University with over 300 universities from the 27 EU member countries under the European Erasmus+ programme allow regularly enrolled students to carry out part of their studies at one of the partner universities or to undertake internships at companies, training and research centres and other organizations.
Similar international mobility opportunities are provided outside Europe, through agreements with a number of prestigious institutions.

Study and internships abroad

Students of Scienze Biologiche are given the opportunity to spend part of their curriculum abroad, at a University within the European Union (EU) in the frame of the Erasmus+ program of the European Commission. Students can attend courses and take exams that can be included in the core curriculum and/or perform laboratory stage (6 CFU of the free choice CFU) in several European Universities localized in Denmark, Netherland, Norway, France, Germany, Spain and Portugal (see https://dbs.unimi.it/it/rapporti-internazionali/mobilita-internazionale). The admitted student will present a study plan including all the activities he/she intends to perform abroad, detailing the corresponding CFU: the number of proposed CFU should roughly correspond to those the student would achieve in the same time lapse remaining in his/her university. The study plan proposed by the student within the Erasmus+ program should be coherent with the Scienze Biologiche course and must be evaluated and approved by the Teaching Board. The Teaching Board, if necessary, will require the student to integrate the program of exams taken abroad. At the end of the Erasmus + program, according to the rules established by the Academic Senate, the approved exams will be recorded, possibly with the original denomination, as part of the student's curriculum upon conversion of the European Credit Transfer and Accumulation System (ECTS) into CFU. The contact person for the Biological Sciences area is Prof. M. Cristina Bonza (cristina.bonza@unimi.it).

How to participate in Erasmus mobility programs

The students of the University of Milan can participate in mobility programmes, through a public selection procedure.
Ad hoc commissions will evaluate:
• Academic career
• the candidate's proposed study programme abroad
• his/her foreign language proficiency
• the reasons behind his/her application

Call for applications and informative meetings
The public selection for Erasmus+ mobility for study generally begins around February each year with the publication of a call for applications specifying destinations and requirements. Regarding the Erasmus+ Mobility for Traineeship, the University of Milan usually publishes two calls a year enabling students to choose a destination defined by an inter-institutional agreement or to find a traineeship position on their own.
The University organizes informative meetings to illustrate mobility opportunities and rules for participation.

Erasmus+ scholarship
The European Union grants the winners of the Erasmus+ programme selection a scholarship to contribute to their mobility costs, which may be supplemented by the University funding for disadvantaged students.

Language courses
Students who pass the selections for mobility programmes can benefit from intensive foreign language courses offered each year by the University Language Centre (SLAM).

https://www.unimi.it/en/node/8/
Learn more at https://www.unimi.it/en/node/274/

For assistance, please contact:
International Mobility Office
Via Santa Sofia 9 (second floor)
Tel. 02 503 13501-12589-13495-13502
Contacts: InformaStudenti; mobility.out@unimi.it
Student Desk booking through InformaStudenti

1st COURSE YEAR (disactivated from academic year 2025/26) Core/compulsory courses/activities common

Learning activity	Ects	Sector
CALCULUS AND COMPUTER LABORATORY	9	(6) MAT/09, (6) MAT/01, (6) MAT/02, (6) MAT/03, (3) INF/01, (6) MAT/04, (6) MAT/05, (6) MAT/06, (6) MAT/07, (6) MAT/08
CYTOLOGY AND HISTOLOGY	9	BIO/06
English assessment B1 (3 ECTS)	3	NN
GENERAL CHEMISTRY WITH ELEMENTS OF PHYSICAL CHEMISTRY	6	(5) CHIM/03, (1) CHIM/02
ORGANIC CHEMISTRY AND CHEMISTRY LABORATORY	9	(2) CHIM/03, (7) CHIM/06
PHYSICS, PHYSICS LAB, LAB OF MATHEMATICAL AND STATISTICAL METHODOLOGIES	12	(1) SECS-S/02, (6) FIS/07, (3) FIS/06, (2) MAT/06
PLANT BIOLOGY AND SYSTEMATICS	9	(2) BIO/02, (7) BIO/01
Total compulsory credits	57	

2nd COURSE YEAR Core/compulsory courses/activities common

Learning activity	Ects	Sector
ANIMAL BIOLOGY AND SYSTEMATICS	9	BIO/05
BIOCHEMISTRY	9	BIO/10
BIOLOGICAL EVOLUTION AND HISTORY OF BIOLOGY	6	M-STO/05
COMPARATIVE ANATOMY	6	BIO/06
PLANT PHYSIOLOGY	9	BIO/04
Total compulsory credits	39	

Elective courses

The student must choose one of the following courses

MOLECULAR BIOLOGY AND BIOINFORMATICS	12	BIO/11
MOLECULAR BIOLOGY AND BIOINFORMATICS	12	BIO/11

The student must choose one of the following courses

GENETICS	9	BIO/18
GENETICS	9	BIO/18

3rd COURSE YEAR Core/compulsory courses/activities common

Learning activity	Ects	Sector
DEVELOPMENTAL BIOLOGY	6	(3) BIO/06, (3) BIO/01
ECOLOGY	9	BIO/07
ELEMENTS OF HUMAN ANATOMY, PHARMACOLOGY AND IMMUNOLOGY	9	(3) MED/04, (3) BIO/16, (3) BIO/14
GENERAL MICROBIOLOGY	9	BIO/19
INTERNSHIP IN UNIVERSITY LABS	6	NN
Total compulsory credits	39	

Elective courses

The student must acquire 12 CFU by selecting any of the courses offered by the University of Milan, provided that they are coherent with their educational plan.
6 out of the 12 free choice CFU can be spent on internship activities of proven quality.
For the Academic Year 2024/2025 the Biology Academic Board will offer these courses:

CLINICAL BIOCHEMISTRY	6	BIO/12
INNOVATIVE METHODS IN PLANT BIOLOGY	6	BIO/01
INVESTIGATION METHODOLOGIES IN ANIMAL CELL BIOLOGY AND HISTOLOGY	6	(2) BIO/06, (2) BIO/17, (2) BIO/16
METHODS IN APPLIED ECOLOGY	6	BIO/07
METHODS IN EXPERIMENTAL EMBRYOLOGY	6	BIO/06
METHODS IN GENETICS AND HUMAN GENOMICS	6	BIO/18

METHODS IN MOLECULARBIOLOGY		6	BIO/11
METHODS IN PHARMACOLOGY AND TOXICOLOGY		6	BIO/14
PLANT GENOMICS APPROACHES TO ADAPT PLANTS TO A CHANGING CLIMATE AND ENVIRONMENT		6	BIO/18
The student must choose one of the following courses			
GENERAL PHYSIOLOGY AND ANIMAL PHYSIOLOGY		9	BIO/09
GENERAL PHYSIOLOGY AND ANIMAL PHYSIOLOGY *Not activated for the 2025/2026 academic year*		9	BIO/09
End of course requirements			
FINAL EXAM		3	NN
	Total compulsory credits	3	