UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2025/26
MASTER DEGREE
Biodiversity and Evolutionary Biology (Classe LM-6)
Enrolled from 2023/2024 to 2024/2025 academic year

HEADING

Degree classification - Denomination and code:	LM-6 Biology
Degree title:	Dottore Magistrale
Length of course:	2 years
Credits required for admission:	180
Total number of credits required to complete programme:	120
Years of course currently available:	2nd
Access procedures:	Open, subject to entry requirements
Course code:	F91

PERSONS/ROLES

Head of Study Programme
Prof.ssa Isabella Dalle Donne

Degree Course Coordinator
Prof.ssa Sara Epis sara.epis@unimi.it

Tutors - Faculty
Tutor per l'orientamento: Marta Valenza (orientamento in ingresso), Federica Marini (orientamento in uscita)
Tutor per la mobilità internazionale e l'Erasmus: Cristina Bonza
Tutor per i piani di studio: Sara Epis, Francesco Bonasoro, Marco Caccianiga, Camilla Della Torre
Tutor per stage e tirocini: Sara Epis, Camilla Della Torre
Tutor per tesi di laurea: Sara Epis, Claudio Bandi
Tutor per trasferimenti: Claudio Bandi, Paolo Gabrieli
Tutor per ammissioni lauree magistrali: Sara Epis, Claudio Bandi, Andrea Binelli, Luca Gianfranceschi, Carlo Polidori.
Tutor per riconoscimento crediti: Sara Epis

Degree Course website
http://bioevo.cdl.unimi.it/it

Admission information contact email
Email: bioevo@unimi.it

Admissions and enrolment
https://www.unimi.it/it/studiare/frequentare-un-corso-di-laurea/iscriversi/iscriversi-un-corso-magistrale

Disability and SLD academic tutor (appointed by the Academic Board):
Dr.ssa Diletta Dolfini Email: diletta.dolfini@unimi.it

New student information center
Via Celoria, 26 - Milano (piano terra, torre C). https://informastudenti.unimi.it/saw/ess?AUTH=SAML

Student registrar
Via Celoria, 18 - Milano Phone 0250325032 https://www.unimi.it/it/node/360 https://www.unimi.it/it/node/359

Study programme head and course management
Via Celoria, 26 - Milano (piano terra, torre C). https://informastudenti.unimi.it/saw/ess?AUTH=SAML

CHARACTERISTICS OF DEGREE PROGRAMME

General and specific learning objectives

The Master of Science (M.Sc.) programme in BIODIVERSITY AND EVOLUTIONARY BIOLOGY (BIOEVO, Class LM-6 Biology) is focused on the organismic biology and is addressed to acquire a comprehensive knowledge of the organisms in their integrity, complexity and evolutionary context.
In terms of formation, the objectives of this Master imply to deepen the basic formation in biology and related applications with particular reference to the knowledge of the organisms at all the organization levels, including their ecological aspects. The central themes of biodiversity and evolution of animals and plants are presented with specific reference to structural and functional adaptations, reproductive and developmental processes, behaviour, interactions between organisms and environment and finally current problems of evolutionary biology.
This M.Sc. programme explores a field of central interest in Biology. Its objectives are addressed to offer an advanced preparation in the field of biodiversity and environment, and to develop specific capacities to apply the learning outcomes in biodiversity protection and conservation. In this view the central themes of this field are proposed in a format that integrates traditional and topical aspects according to an innovative approach to modern biology.

Expected learning outcomes

In compliance with the principles of European harmonization, the expected learning outcomes, developed by M.Sc graduates, meet the specific requirements identified according to the Dublin Descriptor system:
- Knowledge and understanding, in terms of: acquisition of integrated cultural skills in the field of biodiversity and the environment and related application sectors; advanced scientific preparation at the level of organism biology, with particular reference to morpho-functional aspects, ecological aspects, evolutionary aspects; ability to critically process knowledge.
- In-depth multidisciplinary application skills for biological analysis, of a methodological, technological and instrumental type, with reference to the mastery of: instrumental methodology, analytical tools, data acquisition and analysis techniques, mathematical tools, scientific method of investigation.
- Acquisition of conscious independence of judgment with reference to: responsibility and management of projects, structures and personnel, identification of new perspectives and innovative strategies for development, evaluation, interpretation and re-elaboration of literature data, professional ethics, critical and responsible approach to bioethical issues.
- Acquisition of adequate skills and tools for communication and information management with reference to the ability to communicate fluently in a foreign language of the EU using the disciplinary lexicon, develop and present research projects, organize and lead research groups, illustrate the results of the research.
- Acquisition of adequate skills for the continuous development and deepening of skills, with reference to consultation of specialist databases, learning of innovative technologies, advanced cognitive tools for the continuous updating of knowledge.

Professional profile and employment opportunities

The M.Sc. graduates in BIOEVO possess a specific and modern cultural preparation in the field of organism biology and a deep knowledge of the organism in its integrity, complexity and evolutionary context. The wide differential expertise acquired in biodiversity knowledge and conservation will provide a specific professional preparation in biology for a successful employment in industrial or public sectors whenever it is required: 1) deep understanding of biological phenomena at all levels and dissemination/divulgation activities related to these competences; 2) deep knowledge of biodiversity; 3) identification and analysis of animal and plant communities and species, and activities addressed to their management and conservation; 4) conscious employment and sustainable development of biotic resources; 5) analysis and control of ecosystems, environmental impact evaluation; 6) broad spectrum biological applications in the environmental and cultural heritage fields.
The master's graduate will therefore be able to carry out:
- positions of responsibility in public or private institutions in charge of environmental protection and management, in biological research laboratories and in all professional fields in which a complete knowledge of organisms is required, in terms of adaptations and biological phenomena, and their interactions each other and with the environment;
- advisory function in environmental impact investigations, responsible management of natural resources and repopulation projects;
- basic and applied research activities in university laboratories, in other public or private research institutions, and in industry;
- promotion and development of scientific methodologies and biological monitoring;
- scientific publishing and dissemination activities;
- teaching: the preparation of the master's degree is in fact also particularly suitable for the development of the activity aimed at teaching the biological disciplines at all levels of school education, subject to verification of the additional training requirements established by national legislation, and possible passing of supplementary exams relating to disciplines for which a lack of requirements is highlighted.
After passing the exam for the profession, M.Sc. graduates in BIOEVO can enroll the Biologist?s Professional Register, section A, with the title of Biologist, to perform the activities recognized by the Italian law.

Initial knowledge required

- Admission requirements
Applicants to the programme must hold minimum curricular requirements and prove adequate knowledge (Ministerial Decree 270/04).
Graduates in Biological Sciences (Class L-13) fully meeting curricular requirements can access the Master's Degree Programme in BIODIVERSITY AND EVOLUTIONARY BIOLOGY, provided that their course of studies is consistent with the CBUI Italian National Board's guidelines, as duly certified. These guidelines, provided in the CBUI model table,

specify the required academic fields and the respective recommended credits (CFU): 66-96 CFU in basic biological disciplines (BIO/01, BIO/02, BIO/04, BIO/05, BIO/06, BIO/07, BIO/09, BIO/10, BIO/11, BIO/18, BIO/19); 12-15 CFU in basic non-biological chemical disciplines (CHIM/01, CHIM/02, CHIM/03, CHIM/06); 15-18 CFU in basic non-biological mathematical, physical and computer science disciplines (MAT/01-09, FIS/01-08 and INF/01).
The programme can also be accessed by graduates of the same class (L-13), who have not followed a course of studies in line with the CBUI's guidelines, or of class L-12 - Biological Sciences pursuant to Ministerial Decree 509/99, or of other classes, as long as they meet certain curricular requirements. More specifically, they must have earned an adequate number of CFU (normally not less than 90 CFU) in groups of academic fields equivalent or similar to those listed in the table for class L-13 - Biological Sciences across non-biological and basic biological disciplines.
In order to meet CFU requirements, you can sit for the relevant exams at our or other universities before enrolling in the MDP.
For all categories of candidates, adequate knowledge and personal skills will be key for admission and will be assessed by an individual interview.
FOR INFORMATION ON CURRICULAR REQUIREMENTS, students from degree programmes outside class L-13 should submit their academic curriculum for assessment to bioevo@unimi.it well in advance, ideally during their Bachelor's programme. Based on your curriculum, you may be required to take any additional exams before applying for enrolment.

Compulsory attendance

Attendance is strongly recommended for all courses.

Internship criteria

INTERNSHIP AND THESIS

Thesis work and the final exam may award a total of 45 credits. Upcoming graduates are required to undertake an internship at a laboratory of the University or another public or private institution. The thesis must be an original work of biological interest, intended to solve a scientific problem and documenting the candidate's ability to correctly use the experimental method. Descriptive theses will not be accepted. Therefore, the internship is mandatory, and must last approximately one year.
Laboratory attendance for thesis work will be ascertained by thesis supervisors as appropriate. Each upcoming graduate will have a thesis supervisor (and possibly one or more co-supervisors) and a co-examiner. You can work on your thesis on or off campus, i.e. in any of the departments where faculty members for your MDP teach, or in other departments of the University of Milan or in laboratories or non-university institutes/entities as pre-selected based on their proven scientific reputation. Upcoming graduates may earn a portion of 45 CFU through internships or other experiences in work environments that provide specific theoretical and technical skills. The thesis can be written in Italian or English.

THESIS SUPERVISOR

All professors and researchers who are part of the Academic Board of the Department of Biological Sciences, as well as the professors and researchers of the Department of Biosciences, can be thesis supervisors.
Upcoming graduates may submit their proposed thesis subjects to the programme coordinator well in advance, according to the timeline set by the Departmental Academic Board.
To help students choose their topic, the following initiatives will be launched:
1. Departmental web page listing thesis subjects proposed by faculty members:
http://tesi.bioscienze.unimi.it/
2. Thesis orientation meetings for the specific academic year, with reference to the number of places available for on- and off-campus theses by area. The thesis application outcome will be discussed with the student or notified shortly after submission. The internship activity (thesis topic, supervisor, internship start and end dates) must in any case be formalized with the course administration office and the programme coordinator.

The coordinator, or his/her deputy, will advise students to work on their thesis off campus only if there are no on-campus thesis opportunities. They will direct students to an official professor of the degree programme who will act as supervisor for off-campus theses. The latter will check internship reports and ensure that the internship takes place in compliance with programme rules. The supervisor will critically assess the candidate's work and decide whether their thesis meets the requirements for a Master's Degree in Biology. The name of the research facility where experimental work was conducted must appear on the first page the thesis.

Degree programme final exams

The exam of graduation consists in the discussion of a written dissertation concerning the research carried out during the internship in a public session, in front of a commission of at least 5 professors who will express an evaluation out of 110.
This commission will evaluate the knowledge acquired by the student in terms of methodology, analytical tools and data analysis and processing techniques, as well as the ability to correctly set up the experimental method and interpret the research work carried out. The evaluation is expressed out of 110 and considers the weighted average of the marks of the individual courses envisaged in the study plan, plus maximum 9 points for the final thesis and up to a maximum of 1 point for the career (at least 3 exams supported abroad, internship abroad).
The points for the final work are distributed as follows: 1-2 just sufficient; 3-4 more than sufficient; 5-6 discrete; 7 good; 8 very good/excellent; 9 excellent on the basis of the quality of the manuscript, the ability to present the results and to answer the commission's questions and on the basis of the judgment expressed by the rapporteur and the co-rapporteur. For further details consult: https://bioevo.cdl.unimi.it/it/studiare/laurearsi

The degree certificate carries the title of II level graduate (Doctor Magistral) in Biology, with reference to the LM in Biodiversity and Biological Evolution.

Admission criteria
To be admitted to the final exam, the student must:
1. have passed the exams relating to compulsory courses, the guided and free choice courses and have obtained the relative credits, including the 3 credits dedicated to deepening the English language;
2. have completed the appropriately certified internship activity.

Campus

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

Laboratories

The CLM is characterized by an intense laboratory activity that is mainly carried out in the internship activity for the thesis.

Notes

In order to obtain their degree, students must be proficient in English at a B2 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 B2 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 January 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 B2 or higher level.
Those who have not taken the placement test by the end of January or fail the end-of-course exam six times must obtain the necessary certification privately before graduating.

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

BIOEVO students 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. BIOEVO students can attend courses and take exams that can be included in the core curriculum and/or perform the experimental thesis work in several European Universities localized in Denmark, Holland, Norway, Ireland, Germany - where courses are taught in English - Belgium, France, 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 BIOEVO Master 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. If the student performs the experimental thesis work abroad, he/she must follow the rules outlined below (see Caratteristiche tirocinio). The Erasmus and international mobility tutor for Biological Area is Dr. 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
DEONTOLOGY AND BIOETHICS		6	(3) MED/02, (3) IUS/14
English proficiency B2 (3 ECTS)		3	NN
	Total compulsory credits	9	

Elective courses

Elective activities: the student must choose four of the following courses. The student can also choose fundamental activities that are not chosen among the mandatory activities

ANIMAL ADAPTATIONS AND APPLICATIONS	6	BIO/05
BIODIVERSITY	6	(3) BIO/05, (3) BIO/03
BIOGEOGRAPHY	6	(3) BIO/05, (2) BIO/02, (1) BIO/03
BIOLOGY OF ANIMAL DEVELOPMENT	6	BIO/06
COMMUNITIES AND ECOSYSTEMS	6	BIO/07
ECOTOXICOLOGY	6	BIO/07
ETHOLOGY	6	(2) BIO/05, (4) BIO/07
EVOLUTION AND ADAPTATIONS OF PLANTS TO THE ENVIRONMENT	6	BIO/01
INTEGRATED SYSTEMS OF PLANTS *Not activated for Academic Year 2024/2025.*	6	(3) BIO/18, (3) BIO/04
MARINE BIOLOGY AND ECOLOGY	6	(3) BIO/05, (3) BIO/07
MOLECULAR PHYLOGENETICS AND EVOLUTION	6	BIO/11
PHOTOBIOLOGY AND BIOENERGY	6	BIO/04
PLANT ECOLOGY, EVOLUTION AND DIVERSIFICATION	6	(4) BIO/02, (2) BIO/03
PLANT-ENVIRONMENT INTERACTIONS	6	BIO/01
POPULATION BIOLOGY AND GENETICS	6	BIO/07
REPRODUCTIVE STRATEGIES	6	(1) BIO/06, (2) BIO/05, (3) BIO/01
SYMBIOSIS AND PARASITISM	6	(3) BIO/05, (3) BIO/02

Akin and integrative activities: the student must choose two of the following courses:

BIOINFORMATICS AND COMPUTATIONAL BIOLOGY	6	(3) BIO/11, (3) BIO/19
HISTORY AND PHILOSOPHY OF SCIENCES	6	(1) M-FIL/02, (1) FIS/08, (4) M-STO/05
HUMAN FUNCTIONAL BIOLOGY	6	(3) BIO/17, (3) BIO/16
MATHEMATICAL MODELING IN EVOLUTIONARY AND ENVIRONMENTAL BIOLOGY	6	(1) INF/01, (5) MAT/07

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 and that the course content does not overlap with those present in mandatory and guided-choice courses in the study plan, including the Bachelor's Degree one. The student can pick the remaining principal and guided-choice courses that he/she had not inserted in the study plan.

The student must choose one of the following principal courses:			
ANIMAL ADAPTATIONS AND APPLICATIONS		6	BIO/05
SYMBIOSIS AND PARASITISM		6	(3) BIO/05, (3) BIO/02
The student must choose one of the following principal courses:			
BIODIVERSITY		6	(3) BIO/05, (3) BIO/03
BIOGEOGRAPHY		6	(3) BIO/05, (2) BIO/02, (1) BIO/03
The student must choose one of the following principal courses:			
ETHOLOGY		6	(2) BIO/05, (4) BIO/07
PLANT ECOLOGY, EVOLUTION AND DIVERSIFICATION		6	(4) BIO/02, (2) BIO/03
End of course requirements			
FINAL EXAM		45	NN
	Total compulsory credits	45	