



UNIVERSITA' DEGLI STUDI DI MILANO
PROGRAMME DESCRIPTION - ACADEMIC YEAR 2025/26
MASTER DEGREE
SUSTAINABLE NATURAL RESOURCE MANAGEMENT (Classe LM-73 R)
Enrolled in the 2025/26 academic year

HEADING

Degree classification - Denomination and code:	LM-73 R
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:	1st
Access procedures:	Open, subject to entry requirements
Course code:	GBD

PERSONS/ROLES

Head of Study Programme

Prof. Luca Bechini

Tutors - Faculty

Tutors are assigned based on the initial letter of student's family name, as follows:

A-D Prof. Fabrizio Araniti

E-L Prof. Daniele Masseroni

M-Q Prof.ssa Chiara Mazzocchi

R-Z Prof. Giulio Senes

Students can contact their tutor to ask any information regarding university career that cannot be found on official sources, to ask support for the compilation of the study plan and to identify a thesis supervisor.

Referent for periods abroad (Erasmus): Prof. Stefano Corsi

Degree Course website

<https://snrm.cdl.unimi.it/>

Didactic Secretariat of the Faculty of Agricultural and Food Sciences

via Celoria 2 - Milano Città Studi Phone 0250316511 Public opening hours: Monday from 10 am to 12 am and from 2 pm to 4 pm Contacts: <https://informastudenti.unimi.it/saw/ess?AUTH=SAML>

Head of study programme

Phone 0250316590 Email: didattica.disaa@unimi.it

Student registrar

via Celoria 18 - Milano Città Studi Phone 0250325032 <https://www.unimi.it/en/node/360> <https://www.unimi.it/en/node/359>

CHARACTERISTICS OF DEGREE PROGRAMME

General and specific learning objectives

This study programme intends to provide a wealth of knowledge, skills and abilities for natural, environmental and land resources management, with a view to achieving Green Deal and ecological transition goals. Graduates will understand the role of natural resources in economic activities, as well as mastering governance, design, conservation, regulation and restoration techniques that are required to ensure their sustainability and protection.

They will have high-level scientific and operational skills in the field of natural resources protection and enhancement; they will understand the technological and economic aspects of natural resources management, and will be equipped for performing systemic analysis of the environment in its biotic and abiotic components and in the related interactions.

Graduates in Sustainable Natural Resource Management:

- Will have sound general knowledge and a good understanding of the scientific method required for the analysis of

production and territorial systems and their interactions with the environmental system;

- Will be able to assess natural resources and their ecosystem services, and the environmental impacts of economic activities;
- Will be able to use modern technologies for environmental assessment, monitoring and restoration;.
- Must be able to provide technical-scientific support to the analysis and resolution of natural resources planning and public management issues;
- Must be able to carry out studies, research and analysis in support of forest, environmental, production and landscape resources regulation, conservation and enhancement policies, as well as for local sustainable development;
- Must be able to design plans to mitigate hydrogeological risk;
- Must know current environmental laws;
- Must be able to design and coordinate the design and implementation of green infrastructures for the protection and enhancement of the environment, forests, and rural and urban areas.

These skills are integrated by:

- The ability to work with methodological and operational autonomy, including in a coordination or managerial role;
- Good written and oral communication skills, both in their mother tongue and in English, including specialist lexicon;
- Public speaking skills, both in their mother tongue and in English, to convey information, ideas, problems and solutions, share general information and specialist knowledge;
- The ability to work in multidisciplinary groups to produce reports and carry out projects.

Expected learning outcomes

Knowledge and understanding

The theoretical, methodological, and technological preparation provided by the study program will enable graduates to:

- Know and understand the interrelationships characterising complex systems (ecosystems, agro-environmental systems, forest systems, urban and peri-urban systems, etc.) and the role of natural resources within them.
- Know and understand the fundamental elements, both general and specialised, related to the environment, territory, and landscape.
- Know and understand strategies for planning, conservation, and enhancement of natural, forest, ecological, and landscape resources.
- Know and understand the technical tools that support policies for managing and regulating natural resources and environmental assets (water, soils, forests, biodiversity, ecosystems, etc.) in the context of human activities.
- Know and understand design techniques related to green infrastructures and nature-based solutions.
- Know and understand techniques for analysing and monitoring environmental matrices and bioremediation.

The expected outcomes are achieved through different teaching methods, such as lectures, exercises (conducted in class, in the laboratory, or as part of field activities), internships, seminar activities, and thesis preparation.

Knowledge and understanding will be assessed through individual exams, reports on laboratory activities and case study analyses, and the discussion of the thesis work during the final examination.

Ability to apply knowledge and understanding

The graduate will be able to design and develop solutions to protect and enhance natural, environmental, and land resources. Depending on the laboratory paths followed, these solutions will aim to:

- Support policies for the enhancement and increase of ecosystem services.
- Apply intervention techniques on the territory through the design of protection and maintenance works following the logic of nature-based solutions, as well as reconnection and redesign with a view to green infrastructure.
- Apply tools to diagnose the health status of environmental sectors, with the goal of remediating and recovering degraded ecosystems.
- Analyze and solve planning and design problems, as well as coordinate and manage interventions to protect and enhance the territory, natural resources, and landscape.
- Effectively interact with public administration through communication tools such as reports, studies, projects, plans, and programs.
- Integrate effectively into work environments where both independent work and teamwork are fundamental.

The expected outcomes are achieved through practical exercises (carried out in the classroom, in the laboratory, or in the context of producing project and technical planning documents), internships, and activities related to thesis preparation. The ability to apply the acquired knowledge is assessed through practical tests conducted in laboratory activities, with a final but significant verification during the experimental thesis development and writing.

Independent judgment, communication skills, learning skills

The graduate will be able to develop and devise solutions to protect and enhance natural, environmental, and land resources. Depending on the laboratory paths followed, these solutions will aim to:

- Support policies for the enhancement and increase of ecosystem services.
- Apply intervention techniques on the territory by designing protective and maintenance works following the logic of nature-based solutions and reconnection and redesign within the framework of green infrastructures.
- Apply tools for diagnosing the health status of environmental sectors, with the aim of remediating and recovering degraded

ecosystems.

- Examine and solve planning and design issues, as well as coordinate and manage interventions to protect and enhance the territory, natural resources, and landscape.
- Interact with public administration through communication tools such as reports, studies, projects, plans, and programs.
- Effectively integrate into work environments where independent problem-solving and teamwork are essential.

The expected outcomes are achieved through exercises (conducted in class, in the laboratory, or during the production of project work and technical planning), internships, and activities related to thesis preparation.

The ability to apply acquired knowledge is verified through practical tests carried out in laboratory activities, with an important final verification taking place during the conduct and writing of the experimental thesis.

The graduate will be able to clearly communicate information, ideas, problems, and solutions to both specialist and non-specialist audiences, including using the English language in the specific disciplinary field. The acquisition of this language skill is supported by the delivery of teaching in English. Furthermore, communication skills will be developed and assessed through oral and written presentations during and after interdisciplinary laboratory courses. Some courses will include opportunities for individual in-depth study on specific topics, which will conclude with group communications and discussions organised using traditional or computer-based communication tools. Communication skills will finally be assessed during the presentation of the final thesis.

The graduate will be able to maintain adequate and continuous professional development and pursue further studies, including in scientific research, with a high degree of autonomy.

Learning capacity will be acquired through various training activities, such as classroom discussions on topics covered in lectures, exercises and educational laboratory activities (conducted in the classroom, laboratory, or field), internships, and activities related to the preparation of the thesis.

Learning skills will be assessed during exams, including oral and written presentations on topics covered during the course, specific in-depth studies carried out by the student, and reports that require active analysis of the results obtained, as in the case of laboratories. The discussion of the final thesis will be an important moment for the evaluation of the student's learning and elaboration skills.

Professional profile and employment opportunities

Specialist in public management of natural resources

In the private sector, graduates can take on tasks of organization, evaluation, management and responsibility for problems that may involve an interaction between human activities and environmental systems. Graduates can enroll in the Italian Register of Agronomists and Forestry Doctors, after passing the State exam. In the public sector, they can support administrations on environmental and territorial policies, with particular reference to sustainable planning and management of the territory and natural resources, environmental protection, analysis and monitoring of environmental systems, to the design and implementation of interventions for the defense and conservation of soil and water resources, for the restoration and conservation of biotic and abiotic components of ecosystems.

Skills associated with the function

Graduates in Sustainable Natural Resource Management will have a strong scientific and operational preparation in disciplines concerning the protection of natural resources and the technological and economic aspects of nature-based solutions for the territory (green and blue infrastructures, ecological restoration, environmental bioremediation, protection of environmental and biodiversity matrices). They will possess the cultural tools to address the systemic analysis of the environment in all its biotic and abiotic components and their interactions. Graduates will then be able to:

- examine and solve problems of planning and management of natural resources;
- design and coordinate interventions for the protection and enhancement of the environment and the territory, both agricultural-forestry and urban;
- carry out basic and applied research and promotion and development of scientific and technological innovation for the planning, conservation and enhancement of natural resources and for sustainable development;
- evaluate natural resources and environmental and ecological impacts of economic activities;
- use modern technologies of investigation and monitoring of the environment and of the territory in their biotic and abiotic constituents;
- carry out complex and interdisciplinary coordination and management activities on environmental and forestry issues.

At the end of the studies, the graduate in Sustainable Natural Resource Management will have developed skills for personal communication, multidisciplinary teamwork and judgment, on a scientific, technical, economic and legal level.

The graduate will be able to use the English language, in written and oral form, with specific reference to the disciplinary lexicons.

Career opportunities

Due to their skills, graduates will be able to find employment in:

- national and regional bodies and services for the defense and development of the environment and the territory (State Technical Services, National and Regional Agencies and Bodies for the Environment and the Territory, Parks and Protected Areas, Watershed Authority, Technical Services and Regional, Provincial and Municipal Departments, Land Reclamation and Irrigation Consortia, Mountain Communities and Mountain Watershed Consortia);
- laboratories, professional offices and service companies operating both in the fields of environmental and territorial planning and management, and in environmental monitoring and recovery;
- companies operating in the environmental, forestry, green infrastructure and environmental remediation management;

- companies operating in the protection and conservation of soil and water resources;
- environment and territory division of large companies;
- freelance professional in the environmental, agricultural, forestry, land and landscape sectors;
- institutions carrying out scientific research.

Initial knowledge required

A. Students with an Italian University Degree

Applicants to this Master's degree programme are required to hold a Bachelor's degree in one of the following classes:

- L-21 Town, Regional and Environmental Planning
- L-25 Agricultural Science and Technology
- L-32 Environmental Sciences

Those holding a Bachelor's degree in other degree classes are also eligible, provided they have earned at least 30 credits (CFU) in one or more of the following subject areas:

Agricultural Sciences

- AGR/01 - Economy and rural appraisal
- AGR/02 - Agronomy and herbaceous crops
- AGR/03 - General arboriculture
- AGR/04 - Horticulture and floriculture
- AGR/05 - Forest settlement and forestry
- AGR/07 - Agricultural genetics
- AGR/08 - Agricultural hydraulics
- AGR/09 - Agricultural mechanics
- AGR/10 - Rural constructions and agro-forestry territory
- AGR/11 - General and applied entomology
- AGR/12 - Plant pathology
- AGR/13 - Agricultural chemistry
- AGR/14 - Pedology
- AGR/16 - Agricultural microbiology

Natural Sciences

- BIO/01 - General botany
- BIO/02 - Systematic botany
- BIO/03 - Environmental and applied botany
- BIO/04 - Plant physiology
- BIO/07 - Ecology
- BIO/13 - Applied biology
- BIO/19 General microbiology
- CHIM/01 - Analytical chemistry
- CHIM/06 - Organic chemistry
- CHIM/12 - Chemistry for the environment and for cultural Heritage
- GEO/02 - Stratigraphic and sedimentological geology
- GEO/04 - Physical geography and geomorphology
- GEO/05 - Applied geology

Regional planning

- ICAR/06 - Topography and cartography
- ICAR/15 - Landscape architecture
- ICAR/20 - Urban planning and policy design
- ICAR 21 - Urban planning
- IUS/03 - Agricultural law
- IUS/09 - Institutions of public law
- IUS/14 - European Union law
- SECS-P/08 - Economics and business management

B. Students without an Italian University degree

Those holding another qualification obtained abroad and recognized as suitable by the admission commission will also be able to access.

Admission procedure for all students

Admission requires the verification of the curricular requirements specified above and of personal preparation. These verifications are carried out by a Commission. The curricular requirements are evaluated on a case-by-case basis, checking

the coherence between the student's background and the three classes. The personal preparation is considered adequate if the mark obtained in the BSc is higher than 21/30. The verification aims to ascertain the candidate's possession of the necessary preparation in the basic subjects. If needed, the commission may require the candidate to integrate the information provided. The candidates will be informed of the outcome of the procedure via the online admission application system.

Proficiency in English at a B2 level or higher per the Common European Framework of Reference for Languages (CEFR) is required for admission.

The B2-level requirement will be ascertained by the University Language Centre (SLAM) upon admission as follows:

- Language certificate of B2 or higher level issued no more than three years before the date of admission application. 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 when submitting the online application;
- English level achieved during a University of Milan degree programme and certified by the University Language Centre (SLAM) no more than four years before the date of admission application, including levels based on language certificates submitted by the applicant during their Bachelor's degree at the University of Milan. In this case the process is automatic, the applicant does not have to attach any certificates to the application;
- Entry test administered by the University Language Centre (SLAM) according to the calendar published on the website: (<https://www.unimi.it/en/node/39267/>)

All those who fail to submit a valid certificate or do not meet the required proficiency level will be instructed during the admission procedure to take the Entry test.

Applicants who do not take or pass the Entry test will be required to obtain a language proficiency certificate recognized by the University (see <https://www.unimi.it/en/node/39322>) and deliver it to the SLAM via the InformaStudenti service by the deadline fixed for the master's programme (<https://www.unimi.it/en/node/39267/>).

Applicants who do not meet the requirement by said deadline will not be admitted to the master's degree programme and may not sit any further tests.

Compulsory attendance

Lesson attendance is strongly suggested. Attendance is especially recommended for the integrated courses of 15 ECTS, which involve field, laboratory and practical activities.

Degree programme final exams

The MSc in Sustainable Natural Resource Management is achieved after passing a final test which consists in the presentation and discussion of a thesis prepared by the student under the guidance of a supervisor. The supervisor can indicate a second professor or an external expert with the function of co-supervisor. The MSc thesis is a paper written in English, structured along the lines of a monograph or a scientific publication.

To be admitted to the final exam, which involves the acquisition of 24 ECTS, the student must have passed all the exams of the courses listed in the study plan.

Notes

Other activities: STUDENTS HAVE TO ACQUIRE AN ADDITIONAL 3 CREDITS

The study plan includes 3 ECTS for additional language skills, normally of the English language. These credits are acquired by deepening the knowledge of technical English on the specific vocabulary of the thesis, in agreement with the thesis supervisor.

Among the electives, those who do not hold an Italian high school diploma or degree can obtain 3 credits in Additional language skills: Italian by demonstrating A2 level in Italian per the Common European Framework of Reference for Languages (CEFR). This level can be assessed in one of the following ways:

- by submitting a certificate of A2 or higher level issued no more than three years prior to the date of submission. You will find the list of language certificates recognized by the University at: <https://www.unimi.it/en/node/349/>). The language certificate must be uploaded <https://cas.unimi.it/login?service=https%3A%2F%2Fstudente.unimi.it%2FuploadCertificazioniLingue%2F;>
- by an entry-level test administered by SLAM that can be taken only once and is compulsory for all students who do not have a valid language certificate. Those who fail to reach A2 level will have to attend one or more than one 60-hour Italian course(s) geared to their level. Those who do not take the entry-level test or fail to pass the end-of-course test after six attempts will have to obtain language certification privately in order to earn the 3 credits of Additional language skills: Italian. As an alternative, they can modify their course programme by choosing a different elective.

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 organisations.

Similar international mobility opportunities are provided outside Europe, through agreements with a number of prestigious institutions.

The University of Milan is a member of the 4EU+ European University Alliance that brings together eight public multidisciplinary universities: University of Milan, Charles University of Prague, Heidelberg University, Paris-Panthéon-Assas University, Sorbonne University of Paris, University of Copenhagen, University of Geneva, and University of Warsaw. The 4EU+ Alliance offers integrated educational pathways and programmes to promote the international mobility of students (physical, blended and virtual).

Study and internships abroad

The MSc in Sustainable Natural Resource Management offers many opportunities for study abroad, mainly through the Erasmus+ program which includes about 30 foreign universities located in the countries of the European Union. The disciplines that can be developed at the partner universities embrace all those specific to the MSc. During their stay abroad, students can follow courses to expand their scientific knowledge, or carry out internships or the degree thesis.

Subject to an agreement established before departure with the professors of the University of Milan, the mark and related credits obtained in the partner universities are recognized, thus giving students the certainty that what has been done in the host university is then positively evaluated in their curriculum. There are also other opportunities for cultural exchanges with universities that have established agreements with our university and are not part of the Erasmus system. These belong to non-community areas such as China, Japan, and Latin America.

Useful information about the campuses and courses available can be found at the following link: https://drive.google.com/drive/folders/1-u48xSaV9eR9Vg-vU9YRT_DAcYCcI50K

How to participate in Erasmus mobility programs

How to participate in Erasmus+ mobility programmes

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 organises 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;

Student Desk booking through InformaStudenti

1st COURSE YEAR Core/compulsory courses/activities common		
Learning activity	Ects	Sector
Data management	6	INF/01
Environmental law	6	IUS/10
Hydrology	6	AGR/08
Land planning and life cycle assessment	6	AGR/10
Natural resource economics	6	AGR/01
Statistical methods for the environmental research	6	AGR/02
	Total compulsory credits	36

Elective courses**Table 1**

For students holding an Italian degree in the class L-25 Agricultural Sciences and Technologies, or having a similar background if graduated abroad:

Ecology	6	BIO/07
Land use law and public procurement	6	IUS/10

Table 2

For students holding an Italian degree in the class L-21 Territorial, urban, landscape and environmental planning sciences, or having a similar background if graduated abroad:

Agricultural systems and soil science	6	(3) AGR/02, (3) AGR/13
Ecology	6	BIO/07

Table 3

For students holding an Italian degree in the class L-32 Sciences and technologies for the environment and nature, or having a similar background if graduated abroad:

Agricultural systems and soil science	6	(3) AGR/02, (3) AGR/13
Land use law and public procurement	6	IUS/10

Table 4

A first laboratory to be chosen from:

Allelopathy in sustainable land management	15	(5) AGR/16, (5) CHIM/06, (5) AGR/13
Ecological and forest restoration	15	(6) AGR/05, (3) ICAR/06, (3) AGR/14, (3) BIO/03
Green infrastructures and nature-based solutions	15	(4) AGR/08, (5) AGR/10, (3) AGR/03, (3) BIO/03

2nd COURSE YEAR (available as of academic year 2026/27) Elective courses**Table 5**

A second laboratory to be chosen from:

Agricultural water management	15	(4) AGR/08, (4) AGR/10, (4) AGR/14, (3) AGR/01
Bioremediation	15	(5) AGR/16, (5) CHIM/06, (5) AGR/13
Forest management and planning	15	(6) AGR/05, (5) AGR/08, (3) AGR/01, (1) AGR/14

The study plan includes 15 ECTS of elective choice, to be acquired with courses offered by the University of Milan. Part of these 15 ECTS (normally up to 4) can be acquired by attending seminars, conferences, courses, or other activities organized by the University or another institution.

The activities selected to fulfil the 15 ECTS must appear in the study plan and are freely chosen students with the help of their tutor. They must then be approved by the Academic Board, which judges their consistency with the MSc.

See also the paragraph "Programme structure - Study plan definition and submission for approval".

Further elective courses

Other activities: STUDENTS HAVE TO ACQUIRE AN ADDITIONAL 3 CREDITS

The study plan includes 3 ECTS for additional language skills, normally of the English Language (OTHER ACTIVITIES). These credits are acquired by deepening the knowledge of technical English on the specific vocabulary of the thesis, in agreement with the thesis supervisor.

Those who do not hold an Italian high school diploma or degree can obtain 3 credits in Additional language skills: Italian by demonstrating A2 level in Italian per the Common European Framework of Reference for Languages (CEFR). This level can be assessed in one of the following ways:

- by submitting a certificate of A2 or higher level issued no more than three years prior to the date of submission. You will find the list of language certificates recognized by the University at: <https://www.unimi.it/en/node/349/>). The language certificate must be uploaded <https://cas.unimi.it/login?service=https%3A%2F%2Fstudente.unimi.it%2FuploadCertificazioniLingue%2F>;

- by an entry-level test administrated by SLAM that can be taken only once and is compulsory for all students who do not have a valid language certificate. Those who fail to reach A2 level will have to attend one or more than one 60-hour Italian course(s) geared to their level. Those who do not take the entry-level test or fail to pass the end-of-course test after six

attempts will have to obtain language certification privately in order to earn the 3 credits of Additional language skills: Italian. As an alternative, they can modify their course programme by choosing a different elective.

Additional Language Skills: Italian (3 ECTS) <i>Only for foreign students, it replaces "Other activities"</i>	3	ND
Other activities	3	NA
<i>End of course requirements</i>		
Final exam	24	NA
Total compulsory credits	24	