

ART.1 The Programme at a Glance

The Master's Degree Programme in Marine Sciences – Scienze Marine is an international study programme delivered entirely in English, welcoming both Italian and international applicants. Classified nationally under Environmental and Territorial Sciences and Technologies (LM-75), this two-year programme requires the completion of 120 University Credits (CFU).

The credit framework is structured as follows:

72 CFU: examinations

12 CFU: activities "To be chosen by the Student"

4 CFU: internship

4 CFU: additional language proficiency acquisition

28 CFU: final examination.

Students typically undertake nine examinations in their first year and two in their second year.

Admission to the programme is contingent upon specific academic curricular requirements. Candidates must hold a Bachelor's degree (or an equivalent, internationally recognised qualification) in one of the following Italian degree classifications:

- Environmental and Natural Sciences and Technologies (L-32 or 27);
- Geological Sciences (L-34) or Earth Sciences (16);
- Biological Sciences (L-13 or 12).

Graduates from other degree classifications may be considered, provided they have accrued a minimum of 24 CFU across the following disciplinary areas: Chemical Sciences (CHEM-*, previously CHIM/*), Biological and Ecological Sciences (BIOS-*, previously BIO/*), Earth Sciences (GEOS-*, previously GEO/*).

As the medium of instruction is English, applicants must demonstrate proficiency at B2 level, or higher, evidenced by a recognised certificate valid at the time of application.

Candidates meeting the entry requirements must complete an English-taught interview to assess their initial academic preparedness.

The Master's Degree Programme includes seven compulsory core courses (totaling 48 CFU) and four related or integrative compulsory multiple-choice courses (24 CFU), enabling students to tailor their studies to one of three learning areas: 1) BIO-ECOLOGICAL; 2) GEO-ENVIRONMENTAL; 3) GEOGRAPHICAL AND LEGAL.

In addition to the compulsory internship (4 CFU), students can acquire a further 6 or 12 CFU in practical training as part of their activities "To be chosen by the Student". Alternatively, students may earn these 12 CFU by taking English-taught exams selected from the University's full academic offering. Finally, students complete their academic pathway with activities related to the preparation of the final dissertation.

During their studies, international students are required to achieve a minimum B1 level of proficiency in Italian. Students already holding a valid B1 (or higher) Italian language certificate are exempt.

The programme strongly encourages students to participate in international mobility opportunities offered by the University, such as Erasmus+ for study and Erasmus and/or Erasmus Exchange Extra-EU for traineeships. In 2024, 74% of graduates earned at least 12 CFU abroad, compared to the national average of 13%.

The Master's Degree Programme in Marine Sciences provides students with a solid cultural and methodological background in biological, chemical, ecological, Earth sciences, legal, and geographical disciplines applied to the marine environment. Special attention is given to the study of natural processes and the assessment of anthropogenic impacts and environmental changes affecting marine spaces, with the aim of promoting the conservation and sustainable use of marine resources. The programme covers in detail the legal frameworks of marine spaces, the integrated coastal zone management, and marine spatial planning, using advanced cartographic representations and modern digital systems. Fieldwork and laboratory analyses further contribute to understanding the complexity of marine ecosystems.

The programme adopts a strong multidisciplinary and interdisciplinary approach, integrating the geosphere, hydrosphere, biosphere, and atmosphere and cryosphere, and ensures a cohesive synthesis of these subjects through collaborative, faculty-led initiatives. Graduates will be able to develop tailored solutions and strategies independently, drawing from their expertise in both scientific (chemistry, biology, ecology, Earth sciences) and humanities disciplines (international law, geography, sociology). This enables them to analyse natural processes and environmental risks, understand state obligations and rights, and identify appropriate management policies to prevent, monitor, and mitigate anthropogenic impacts on coastal and oceanic environments.

Graduates in Marine Sciences will be well-prepared for national and international employment in both the public and private sectors, including: institutions, such as environmental protection agencies, marine protected area management bodies, research institutes, and museums; private companies, including those in sustainable fisheries and aquaculture, marine waste management and remediation, environmental consultancy, and offshore industries; international organisations and NGOs. Additionally, graduates may pursue careers in freelance professions, including environmental consultancy for companies or public institutions, and certification professionals for sustainable planning and environmental impact assessments.

The Master's Degree in Marine Sciences allows graduates, upon passing the relevant state examination, to enroll in the Professional Register of Biologists (Section A) or Geologists (Section A). Graduates are also eligible to enrol both in second-level master's and PhD programs in Italy and abroad.

In 2024, 82% of graduates secured employment within one year of graduation.

ART. 2 Specific Learning Objectives and Programme Description

The Master's Degree Programme in Marine Sciences, delivered in English, aims to provide in-depth knowledge and competences on chemical, physical, biological, ecological, and geological processes concerning the marine and coastal environment. The objective is to train graduates with a multidisciplinary preparation enabling them to work in the management, monitoring, and protection of the marine–coastal environment, in both its biotic and abiotic components, and in relation to human activities and climate change. Particular emphasis is placed on the study and evaluation of natural processes and anthropogenic impacts affecting the marine–coastal environment, in order to provide the multidisciplinary skills required to develop effective strategies for conservation and the sustainable use of its resources, with specific reference to integrated coastal zone management and marine spatial planning. The Master programme provides the necessary theoretical knowledge and technical–practical competences to enable graduates to work with awareness and autonomy in facing the challenges imposed by global change.

During the first year, students acquire, through compulsory courses, the core knowledge and competences defining the cultural and professional profile of graduates, including:

- processes and mechanisms regulating the chemical composition of seas and oceans, including the exchange of material with other environmental compartments and biogeochemical cycles, and the impact of climate change;
- sampling techniques, data collection and analysis methods for the biological and ecological characterisation of resources, and the assessment of related risks in coastal and marine environments, aimed at the management and conservation of living marine resources. These skills allow students to understand not only natural resources but also the limits and opportunities of biological resource management in relation to climate change, anthropogenic impacts, and risk forecasting;
- marine geological–technical and geophysical survey methods, and data collection and analysis techniques for geomorphological characterisation and risk assessment of continental shelf and slope areas, also in relation to geophysical fluid dynamics. In addition, sampling techniques from the seabed and water column for the evaluation of biosphere–hydrosphere–geosphere interactions, biogeochemical fluxes, and the reconstruction of present and recent marine environments, with attention to ongoing climate change and possible future scenarios;
- application and interpretation of legal instruments regulating, at international and regional level, the management of marine and coastal spaces, the exploration and exploitation of related natural resources (living and non-living), and maritime activities.

From the first year onwards, including the second, students can develop their own professional interests and aspirations by choosing elective courses (lectures, exercises, laboratories, fieldwork) aimed at integrating and strengthening their knowledge and competences in order to:

- understand social and political processes affecting marine and coastal areas, with particular focus on issues such as the geopolitics of the sea, tourism, and human geography;
- identify and apply specific methods and techniques of investigation and analysis on particular aspects of the marine system;
- identify, assess, manage, and mitigate natural and anthropogenic risks;
- address issues related to monitoring, control, and management of marine and coastal areas, including ecosystem structure and function, human interaction included, assessed according to the principles of sustainability and environmental ethics;
- evaluate resources and environmental impacts through modelling and methodological tools from natural sciences, human geography, law, and environmental planning.

The learning pathway is completed with elective activities, verification of language skills upon completion, a compulsory internship, and activities related to the preparation of the final dissertation. Given the importance of direct engagement with the professional world, students may include additional practical training among their elective activities.

Through high-quality teaching and hands-on activities linked to courses, the internship, and the preparation of the experimental thesis, graduates will have full command of the scientific method, enabling them to work with autonomy and assume positions of responsibility in various contexts, including public and private institutions dealing with coastal management, marine water quality, biological resource management, and marine parks and protected areas. Furthermore, graduates may work in environmental monitoring and remediation, as well as in the analysis, management, and mitigation of natural and anthropogenic risks.

The following expected learning outcomes are expressed according to the Dublin Descriptors:

a) Knowledge and Understanding (Summary)

Graduates possess knowledge and understanding that reinforce and expand the competences acquired in the first cycle. They are therefore able to design and apply integrated methods of analysis, evaluation, and management in the marine–coastal environment, drawing on various disciplinary fields, including chemistry, bioecology, Earth sciences, technical–evaluative, and socio-legal sciences.

Specifically, graduates:

- possess a solid cultural background concerning the biotic and abiotic components of natural and human-impacted marine and coastal systems;
- understand the mechanisms of interaction between the Earth's climate system and the biotic and abiotic components of the marine–coastal system, both in natural conditions and under strong anthropogenic pressure;
- have full mastery of integrated scientific methodology and a holistic knowledge of the marine and coastal environment;
- master techniques for surveying, sampling, analysing, and representing data from different disciplines, and their integration at different scales within geographic information systems;
- possess knowledge and competences to evaluate data and information on marine and coastal ecosystems, in both their biotic and abiotic components, also in relation to human activities, with specific attention to social, legal, and economic aspects.

With this knowledge, graduates are able to understand:

- natural processes characterising the marine–coastal environment;
- interaction processes between the marine–coastal environment and increasing anthropogenic pressure;
- the adequacy of environmental monitoring systems and remediation strategies adopted in contaminated contexts;
- the role of climate change within scenarios of environmental modifications at local and global scales.

Knowledge and understanding are acquired through lectures, exercises, laboratories, fieldwork, integrated seminars, traineeship, and independent study. Assessment is carried out through written and/or oral examinations.

b) Applying Knowledge and Understanding (Summary)

Graduates are able to apply their acquired knowledge to solve problems related to the marine–coastal environment using multidisciplinary and innovative competences.

In particular, they are able to:

- work independently at sea, in adjacent areas, and in laboratories, with management skills;
- apply evaluative and technical survey methods in coastal and marine areas using tools from chemistry, biology, Earth sciences, ecology, and socio-legal disciplines;
- plan monitoring, control, and management activities for the marine environment and adjacent coastal areas, in order to protect humans and ecosystems from natural and anthropogenic risks;
- assess the availability and quality of natural resources and environmental impacts, ensuring their ethical and sustainable use;
- promote and coordinate activities supporting environmental policies developed by public administrations and private entities, contributing to public awareness of human–environment interaction;
- actively participate in integrated coastal zone management and appropriate marine spatial planning through: environmental impact assessments, strategic environmental risk evaluations, pollution monitoring and treatment, remediation interventions, waste management, and decontamination techniques.

These abilities are developed through practical classes, laboratories, fieldwork, integrated seminars, and preparation of the final dissertation. Competences are assessed through written and/or oral examinations and the final dissertation.

In detail, the graduates are expected to possess specific knowledge and competences in the following learning areas:

1) BIO-ECOLOGICAL AREA

a.1) Knowledge and Understanding

Graduates have advanced knowledge in bio-ecological disciplines, particularly in marine sampling techniques, ecological and biological analysis of marine ecosystems and natural resources, and risk assessment in coastal and oceanic environments. Their training includes strong foundations in biology, supporting a deeper understanding of biotic components in natural and anthropogenic ecosystems, and the scientific theories and methodologies necessary to operate in these contexts. They are thus able to understand the natural processes governing the ecology and biodiversity of oceanic and coastal environments, and the impacts of environmental changes caused by human activities.

Learning takes place through lectures, practical classes, laboratories, fieldwork, and integrated seminars, ensuring continuous interaction with lecturers. Independent study and traineeship further contribute to the learning. Knowledge acquisition is assessed mainly through oral and/or written examinations and scientific reports.

b.1) Applying Knowledge and Understanding

Graduates are able to: conduct environmental research and analyses, from sample collection at sea to laboratory assessment, working independently with managerial capability; plan environmental surveys and evaluations using advanced bio-ecological techniques; and design and implement monitoring activities for the protection, conservation, and restoration of marine ecosystems, as well as for their ethical and sustainable use.

These competences are developed through practical classes, laboratories, fieldwork, integrated seminars, and the final dissertation. Assessment is conducted through written and/or oral exams and evaluation of the dissertation.

The acquisition and assessment of knowledge and skills take place through the following learning activities:

BIODIVERSITY AND MARINE ECOLOGY

COASTAL AND MARINE BOTANY

FUNDAMENTALS OF MARINE BIOLOGY

MANAGEMENT OF AQUATIC RESOURCES: FISHERIES

MARINE ENVIRONMENTAL MICROBIOLOGY

MARINE INVERTEBRATE ZOOLOGY

MARINE MOLECULAR BIOLOGY

MARINE VERTEBRATE ZOOLOGY

MARINE BIOPROSPECTING

UNDERWATER SCIENTIFIC METHODOLOGIES FOR ECOLOGICAL STUDIES

CLIMATE CHANGE IMPACTS ON MARINE ECOLOGY

2) GEO-ENVIRONMENTAL AREA

a.2) Knowledge and Understanding

Graduates possess knowledge and competences in marine geological–technical and geophysical surveying, geomorphological characterisation, and risk assessment of continental shelf and slope areas. They are also trained in geobiology, combining a strong theoretical foundation with practical skills in seabed and water column sampling techniques. They are capable of evaluating interactions between geosphere, biosphere, and hydrosphere, analysing biogeochemical fluxes, geomorphological processes (natural and anthropogenic), and climate change on both local and global scales.

This knowledge enables them to monitor environmental changes and assess conservation, protection, and remediation strategies, also with a view to future scenarios.

Learning is achieved through lectures, practical classes, laboratories, fieldwork, and seminars, supported by independent study of reference texts, scientific literature, and teaching materials. Assessment occurs via written and/or oral exams, and scientific reports.

b.2) Applying Knowledge and Understanding

Graduates can operate across different contexts, from basic and applied research to environmental monitoring and marine ecosystem restoration, both in the field and in laboratories. They are able to produce geomorphological, bathymetric, sedimentological, and thematic maps, essential tools for stakeholders working in marine environments.

They can also develop quantitative indicators to analyse climate and environmental changes affecting marine ecosystems across decades, centuries, and millennia, contributing to forecasting future scenarios. These abilities are essential for planning maritime activities, including environmental impact assessments, strategic risk analysis, pollutant monitoring, and sustainable management.

Competences are developed through practical classes, laboratories, fieldwork, integrated seminars, and the final dissertation. Assessment is through written and/or oral examinations and evaluation of the dissertation.

The acquisition and assessment of knowledge and skills take place through the following learning activities:

CHEMISTRY OF THE MARINE ENVIRONMENT

APPLIED GEOMORPHOLOGY AND HABITAT

APPLIED MARINE GEOLOGY

APPLIED MICROPALEONTOLOGY AND BIOMONITORING

COASTAL RISKS AND DYNAMICS

MARINE GEOMORPHOLOGY

BIOGEOSCIENCES AND GLOBAL CHANGES

OCEAN MONITORING AND DATA ANALYSIS

CONSERVATION PALEOBIOLOGY

PHYSICAL OCEANOGRAPHY

MULTIDISCIPLINARY MARINE LAB

3) GEOGRAFICAL and LEGAL AREA

a.3) Knowledge and Understanding

Graduates have knowledge of legal instruments regulating, at international and regional level, the management of marine and coastal spaces, the exploration and exploitation of related natural resources (living and non-living), and maritime and underwater activities.

They are familiar with the rules governing maritime boundaries, marine geospatial data management and cartographic representation, dispute resolution mechanisms between states, and the functioning of relevant judicial and arbitral bodies. Furthermore, graduates understand social and political processes concerning marine and coastal areas, with particular attention to the geopolitics of the sea, tourism, and human geography of small island systems.

Integration of legal–geographical knowledge with bio-ecological and geo-environmental competences allows for a holistic understanding of issues related to human activities in the marine environment.

Learning is achieved through lectures, practical classes, laboratories, fieldwork, integrated seminars (with continuous lecturer feedback), traineeship, and independent study. Assessment is through written and/or oral exams and evaluated reports.

b.3) Applying Knowledge and Understanding

Graduates are able to consult and interpret legal texts (international and regional treaties, bilateral agreements, European Union legislation, soft law instruments) concerning marine and coastal spaces, their resources, and activities conducted therein.

They can also design integrated action plans to forecast, monitor, and mitigate natural and anthropogenic impacts on ecosystems, and manage coastal–marine zones from both social and economic perspectives.

Legal–geographical knowledge further enables graduates to consider risks linked to traditional uses of natural resources and socio-political conflicts triggered by their exploitation.

Competences are acquired through exercises, laboratories, fieldwork, integrated seminars, and dissertation preparation. Assessment is by written and/or oral exams and the dissertation.

The acquisition and assessment of knowledge and skills take place through the following learning activities:

COASTAL AND MARINE HAZARD AND RESILIENCE

COASTAL AND MARITIME TOURISM

ENVIRONMENTAL JUSTICE AND GEOPOLITICS OF THE SEA

HUMAN GEOGRAPHY OF SMALL ISLAND SYSTEMS

INTERNATIONAL LAW OF THE SEA I

OCEAN AFFAIRS LAW AND POLICY

c) AUTONOMY OF JUDGEMENT

Graduates are capable of carrying out responsibilities in Marine Sciences with full autonomy. They can:

- critically analyse scientific literature;
- evaluate the reliability of collected data, uncertainties in measurements, and the complexity of available models for problem-solving;
- provide judgements based firmly on results obtained;
- independently and critically assess problems and propose solutions, even with limited or incomplete information;
- evaluate the quality and efficiency of their work, also by comparison with other professional profiles;
- identify objectives and responsibilities, both collective and individual, and act appropriately in their role;
- evaluate the environmental and socio-economic consequences of choices made and solutions proposed.

These skills are acquired during lectures, practical classes, laboratories, fieldwork, traineeship, autonomous activities, and dissertation preparation. They are assessed through written and/or oral examinations and written reports. The final dissertation represents the most significant test of autonomy, analytical capacity, and data management.

d) COMMUNICATION SKILLS

Graduates are able to:

- communicate clearly and effectively information, ideas, problems, evaluations, and solutions to both specialist and non-specialist audiences, also in English;
- engage in dialogue with experts from related fields, acknowledging complementary perspectives;
- produce technical documentation, also in English;
- work effectively in groups.

Communication skills are developed through the preparation of reports in English (individual or group work, as well as the thesis), which are subsequently presented and discussed in exams and during the dissertation defence.

e) LEARNING SKILLS

Graduates are able to:

- identify and manage main data sources for continuous updating of their knowledge and competences, with particular attention to specialised databases, innovative technologies, and advanced learning tools;
- identify and pursue professional development pathways in line with their personal and career ambitions, setting appropriate objectives;
- work towards objectives both independently and collaboratively.

Learning skills are acquired throughout the programme and assessed via examinations, the traineeship, and dissertation preparation.

ART. 3 Professional Profiles and Career Opportunities

Professional profile to be developed by the Master's Degree Programme:

Expert in the Protection and Management of the Marine and Coastal Environment

3.1. Role in a Work Context:

- Analyse and manage marine resources within a framework of environmental sustainability and biodiversity conservation.
- Analyse and monitor the quality of the marine environment (physical, chemical, and biological parameters).
- Collect geospatial data in marine environments and produce thematic maps to support environmental planning and management.
- Contribute to the planning of environmental protection and restoration interventions for marine–coastal ecosystems.
- Assess the impact of human activities on marine and coastal ecosystems.
- Carry out environmental impact assessments and contribute to the management of Marine Protected Areas (MPAs).
- Monitor and collect data to characterise the marine and coastal environment.
- Provide technical–scientific support for the development of monitoring strategies that address the full complexity of marine–coastal variables.
- Prepare Environmental Impact Assessments for marine areas, including offshore contexts.
- Develop environmental risk models for coastal and marine ecosystems.
- Conduct research on marine biodiversity, climate change, and anthropogenic impacts.
- Apply innovative methodologies for the monitoring and modelling of marine ecosystems.
- Design strategies to reduce ecological impacts in the fields of fisheries, aquaculture, and maritime infrastructure.
- Develop environmental education and scientific communication programmes to promote marine biodiversity and sustainability.
- Apply inclusive approaches to raise public awareness of environmental issues.
- Collaborate in managing marine environmental emergencies, such as oil spills or shipping accidents.
- Coordinate containment, remediation, and ecological damage assessment operations.

3.2 Skills Associated with the Role:

- Scientific and analytical competences.
- Knowledge of physical, chemical, and biological analysis techniques for assessing marine ecosystems.
- Proficiency in using advanced monitoring tools, such as underwater sensors and marine drones.
- Competence in natural resource management and environmental planning.
- The ability to manage marine resources sustainably and to plan conservation interventions.
- Knowledge of national and international environmental regulations.

- Technical and operational competences for the use and management of marine instrumentation.
- The ability to manage environmental monitoring projects and apply advanced technologies to the study of marine ecosystems.
- Research and scientific analysis competences.
- Competence in the use of statistical software for analysing data acquired through advanced monitoring and sampling techniques at sea.
- Managerial and strategic planning competences.
- The ability to conduct scientific and socio-economic evaluations for business management and sustainable project development.
- Scientific communication competences.
- The ability to convey complex scientific concepts in an accessible manner, promoting educational initiatives and public awareness campaigns.

3.3 Career Opportunities:

Public and private institutions

Agencies for environmental protection (e.g. ARPA, ISPRA), authorities managing Marine Protected Areas, research institutes, and scientific museums.

Private sector companies

Fisheries and sustainable aquaculture enterprises, companies specialising in marine remediation and waste management, environmental consultancy firms, companies focused on marine environmental monitoring, and enterprises operating in the offshore sector.

Consultancy and freelance practice

Environmental consultants for companies or public bodies, professionals in environmental certification, sustainable planning, and environmental impact assessment.

International organisations and NGOs

Graduates of the Master's Degree in Marine Sciences may register (subject to passing the relevant State Examination) with the **Professional Register of Biologists** – Section A or the **Professional Register of Geologists** – Section A, in order to carry out the activities formally defined by these professions.

They may also access **PhD programmes** and **second-level Master's programmes** in Italy and abroad, available to graduates of the LM-75 Master's Degree Class.

The programme prepares for the following professions (according to Italian ISTAT codes):

Geologists (2.1.1.4.1)

Geophysicists (2.1.1.4.3)

Biologists and related professions (2.3.1.1.1)

Zoologists (2.3.1.1.6)

Ecologists (2.3.1.1.7)

Planners, landscape architects, and specialists in land recovery and conservation (2.2.2.1.2)

Researchers and graduate technicians in Earth sciences (2.6.2.1.4)

Researchers and graduate technicians in biological sciences (2.6.2.2.1)

Cartographers and photogrammetrists (2.2.2.2.0)

ART. 4 Admission Requirements

In order to be admitted to the Master's Degree Programme in Marine Sciences, applicants must hold a Bachelor's Degree in one of the following Italian degree classifications (pursuant to Ministerial Decree 270/04 or Ministerial Decree 509/99), or an equivalent qualification obtained abroad and recognised as valid:

- L-32 Environmental and Natural Sciences and Technologies, or 27 Environmental and Natural Sciences and Technologies;
- L-34 Geological Sciences, or 16 Earth Sciences;
- L-13 Biological Sciences, or 12 Biological Sciences.

Graduates from other degree classifications may also be admitted, provided they have obtained at least 24 Italian university credits (CFU) in total within the following disciplinary areas:

CHIM/* (Chemical disciplines)

BIO/* (Biological disciplines)

GEO/* (Earth Sciences disciplines)

Admission to the programme also requires knowledge of English at a level equivalent to or higher than B2 of the Common European Framework of Reference for Languages (CEFR).

Article 5 of this Programme Regulations specifies the knowledge required and the procedures for assessing applicants' personal preparation.

ART. 5 The manner of admission

Admission to the Master's Degree Programme in Marine Sciences is subject to fulfilling specific curricular requirements, demonstrating English language proficiency at level B2 or above, and passing an evaluation of personal academic preparation, as conducted by a dedicated Committee (see Article 4).

The assessment of English language proficiency (level B2 or above) will be conducted in accordance with the procedures established by the University, which are available on the e-learning page <https://elearning.unimib.it/course/view.php?id=17872>

Once compliance with the curricular requirements has been verified, the candidate's academic preparation is evaluated by means of an interview conducted by the Admissions Committee, appointed by the Programme Coordination Board of the Master's Degree in Marine Sciences.

The interview, held in English, focuses on basic knowledge of chemistry, biology–ecology, geology, and geography. At the conclusion of the interview, the Committee may provide guidance aimed at strengthening basic competences in order to support successful progression in the programme.

Recommended texts for interview preparation are published on the e-learning page <https://elearning.unimib.it/course/view.php?id=17872#>

Applicants are exempt from the interview if they meet the admission requirements and have obtained:

- a Bachelor's Degree awarded in Italy (L-32 o 27, L-34 o 16, L-13 o 12 Italian degree classification) with a final mark of at least 99/110
- or
- an equivalent and suitable foreign qualification with a GPA of at least 3.7

For international students, or students residing more than 100 km from the University, as well as for documented work or health reasons, the Committee may authorise, upon request, the interview to be conducted by videoconference.

The dates, admission procedures, and results of the interviews are published on the web page <https://www.unimib.it/graduate/marine-sciences>. For further details: <https://elearning.unimib.it/course/view.php?id=17872>

ART.6 Structure of the Programme

The Master's Degree Programme in Marine Sciences – Scienze Marine requires, in the first year, the acquisition of 48 CFU from compulsory courses in core subjects, providing students with a common interdisciplinary background in marine environmental sciences. In addition, students also have to select 4 mandatory multiple-choice courses (Electives within Groups: 2 in the first year and 2 in the second year) from predefined lists, classified as “related and integrative” learning courses, amounting to 24 CFU.

In the second year, students are required to obtain 12 CFU in educational activities “To be chosen by the Student” (Free Electives), 4 CFU from the compulsory traineeship, and 4 CFU from “Further linguistic knowledge”.

The final examination is worth 28 CFU.

Courses are designed to address key environmental issues, such as: sustainability in marine environments; sustainability of productive activities and their impact on the marine environment; understanding the interaction between natural and anthropogenic processes in marine and coastal contexts; land and coastal management; evaluation and management of marine resources; assessment of marine and coastal environmental quality and recovery; evaluation of risks related to human activities; and management of the impacts of climate change.

1° YEAR (60 CFU): 9 examinations

COMPULSORY COURSES (Core learning courses):

- Chemistry of marine environment, CHEM-01/B - 1 exam, 6 CFU
- Fundamentals of marine biology, BIOS-03/A - 1 exam, 6 CFU
- Marine geomorphology, GEOS-03/A - 1 exam, 6 CFU
- Biogeosciences and global changes, GEOS-02/A - 1 exam, 6 CFU
- Biodiversity and marine ecology, BIOS-05/A - 1 exam, 12 CFU
 - modulo Biodiversity - 6 CFU
 - modulo Marine ecology - 6 CFU
- Physical oceanography, PHYS-05/B - 1 exam, 6 CFU
- International law of the sea, GIUR-09/A - 1 exam, 6 CFU

COMPULSORY MULTIPLE-CHOICE COURSES (related and integrative learning courses)

The Student has to choose 1 course (6 CFU) from the following:

- Coastal and marine hazard and resilience, GEOG-01/B - 1 exam, 6 CFU –
- Environmental justice and geopolitics of the sea, GEOG-01/B – 1 exam, 6 CFU

The Student has to choose 1 course (6 CFU) from the following:

- Marine invertebrate zoology, BIOS-03/A – 1 exam, 6 CFU
- Marine vertebrate zoology, BIOS-03/A – 1 exam, 6 CFU
- Applied micropaleontology and biomonitoring, GEOS-02/A – 1 exam, 6 CFU
- Applied geomorphology and habitat, GEOS-03/A – 1 exam, 6 CFU
- Marine bioprospecting, BIOS-08/A - 1 exam, 6 CFU
- Human geography of small island systems, GEOG-01/A – 1 exam, 6 CFU
- Ocean affairs law and policy, GIUR-09/A – 1 exam, 6 CFU

2° YEAR (60 CFU): 3 examinations

OTHER COMPULSORY ACTIVITIES

- Educational activities “To be chosen by the student” – 12 CFU - 1 exam
- Traineeship - 4 CFU
- Further linguistic knowledge – 4 CFU
- Final examination – 28 CFU

COMPULSORY MULTIPLE-CHOICE COURSES (related and integrative learning courses):

The Student has to choose 2 courses (6 CFU) from the following:

- Coastal and marine botany, BIOS-01/A – 1 exam, 6 CFU
- Management of aquatic resources: fisheries, BIOS-05/A – 1 exam, 6 CFU
- Marine molecular biology, BIOS-08/A – 1 exam, 6 CFU
- Marine environmental microbiology, BIOS-15/A – 1 exam, 6 CFU
- Applied marine geology, GEOS-03/A – 1 exam, 6 CFU
- Conservation paleobiology, GEOS-02/A – 1 exam, 6 CFU
- Ocean monitoring and data analysis, GEOS-04/C – 1 exam, 6 CFU
- Coastal risks and dynamics, GEOS-03/A – 1 exam, 6 CFU
- Coastal and maritime tourism, GEOG-01/B– 1 exam, 6 CFU
- Climate change impacts on marine ecology, BIOS-05/A - 1 exam, 6 CFU
- Multidisciplinary Marine Lab – 1 exam, 6 CFU
 - modulo Bio-Ecology Lab, BIOS-05/A – 3 CFU
 - modulo Environmental Lab, GEOS-02/A – 3 CFU
- Underwater Scientific Methodologies for Ecological Studies, BIOS-05/A – 1 exam, 6 CFU
- Communication skills and interpersonal relation management, PSIC-04/B – 1 exam, 6 CFU

The syllabus of each course can be consulted on the Master's Degree e-learning platform under the section “COURSES”

<https://elearning.unimib.it/course/index.php?categoryid=3626>)

6.1 Core Learning Courses (48 CFU)

Core courses provide the knowledge and competences defining the cultural and professional profile of graduates. The programme includes compulsory core courses in the following subject areas: Biological sciences (6 CFU); Chemical sciences (6 CFU); Earth sciences (12 CFU); Ecological sciences (12 CFU); Agricultural, mathematical, physical, and computer sciences (6 CFU); Legal, economic, engineering, management, and evaluation disciplines (6 CFU).

6.2 Related or Integrative Learning Courses (24 CFU)

The MSc Degree Programme offers theoretical and practical complementary and integrative activities, enabling students to acquire the multidisciplinary skills and competences necessary to comprehend the complex nature of coastal and marine environmental issues. These skills are also essential for successful entry into the labour market, with a particular focus on the 'Blue Jobs' sector within the framework of the European Blue Growth strategy.

These complementary and integrative activities serve to strengthen the following competences:

- the ability to analyse the coastal and marine environments at different scales through the acquisition, representation, and modelling of data from diverse academic disciplines;
- the capacity to operate independently in the management, monitoring, and protection of marine and coastal environments, encompassing their biological, ecological, anthropogenic, and geological components;
- the ability to analyse the relationship between anthropogenic systems and marine habitats (including tourism, fisheries, risk reduction, international relations, and marine protected areas), along with their associated geographical and spatial implications;
- the capacity to apply technical aspects of the international law of the sea (including boundary-related cartography), to understand both judicial and arbitral dispute settlement methods in maritime conflicts and the application of international law of the sea alongside specific legal instruments and so-called 'soft law' in macro-regional contexts (such as the Mediterranean Sea and the Arctic Ocean);
- the ability to effectively communicate and share ideas and information with professionals from other disciplines.

These competences are acquired through courses designed to enhance complex problem-solving capacities by integrating approaches and tools from biological sciences, ecology, earth sciences, chemical sciences, physical sciences, geography, legal studies, sociology, psychology, civil engineering and architecture, and chemical and materials engineering.

6.3 Study Plan

When enrolling in the first year, students are automatically given the “statutory” study plan, which includes the mandatory educational activities. Later, students have the opportunity to submit their own study plan, in which mandatory multiple-choice courses, foreign language and the educational activities “To be chosen by the Student” should be stated.

Students may sit examinations only if the corresponding courses are included in their approved study plan. The study plan must comply with the required credit load, constraints, and prerequisite rules stipulated in the Programme Regulations.

In accordance with the Programme Regulations, students may choose between two types of study plan:

- “Pre-approved”: if the educational activities “To be chosen by the Student” are selected exclusively from those offered by the MSc Degree Programme in Marine Sciences – Scienze Marine;
- “To be approved”: if the educational activities “To be chosen by the Student” include courses delivered by other University MSc degree programmes or undertaken as part of the Erasmus for Study programme.

It is possible to draw up a customised study plan including educational activities other than those provided for in the Programme Regulations of the MSc Degree Programme, as long as they are consistent with the “Academic Disciplines” (SSD – Settori Scientifico-Disciplinari) set out in one’s own “Teaching System” (Ordinamento Didattico). For any matters not specified herein, reference should be made to the University Student Regulations (<https://www.unimib.it/ateneo/organizzazione/statuto-regolamenti-e-codici/regolamenti>).

The Study Plans Commission, appointed by the Programme Coordination Board, assesses whether the student's choices are consistent with the educational purposes of the MSc Degree Programme.

Further information is available on the e-learning page <https://elearning.unimib.it/course/view.php?id=17853#section-2>.

Every year, the University sets and publishes on its website the [Procedures and deadlines](#) for submitting the study plan.

6.4 Educational activities “To be chosen by the Student” (12 CFU)

The activities “To be chosen by the Student” are part of the study plan and must be submitted for approval to the Programme Coordination Board to ensure their coherence with the overall educational objectives.

In order to calculate the total number of the exams, the activities “To be chosen by the Student” count for just one exam, regardless of the number of exams taken to earn 12 CFU.

The student may acquire the expected 12 CFU by choosing one of the following ways:

- Courses for a total amount of 12 CFU offered by this or other MSc Degree Programmes at the University;
- 6-CFU practical training activity (150 hours) plus one 6-CFU course offered by this or other Master's Programmes at the University;
- 12-CFU practical training activity (300 hours).

Further details on practical training activities are provided in the following Article 6.5

6.5 Traineeship and Practical Training

Throughout the programme, students must complete a compulsory traineeship worth 4 CFU. In addition, the Master's Programme offers the opportunity to carry out further practical training activities worth 6 or 12 CFU, as part of the educational activities “To be chosen by the Student”.

The traineeship and practical training activities allow students to apply knowledge gained during their studies, acquire additional technical competences not provided by the courses, and engage with the professional world, enhancing their awareness of their skills and future career paths.

These activities must be carried out externally to the University, in Italy or abroad, with public or private institutions, research centres, companies, international organisations, or NGOs, under specific agreements signed by the University. They must take place during the second year, or after students have acquired at least 30 CFU through examinations, and must be completed before graduation.

The maximum total duration permitted is 12 months for all traineeship and practical training activities combined, or 24 months for students with disabilities. During the traineeship and practical training activities, students are covered by specific accident and liability insurance.

The list of partner institutions, activation procedures, administrative forms, and deadlines are available at following link: <https://elearning.unimib.it/course/view.php?id=17855>

The University provides an online system for the management of traineeship and practical training activities: <https://en.unimib.it/study/services-students-and-graduates/guidance-and-career-services/internships>

The Stage Office provides support to all students and to all institutions wishing to activate traineeship or practical training. As an alternative, students may carry out practical training activities abroad, by participating in international mobility projects such as Erasmus+ Traineeship (<https://en.unimib.it/study/international-mobility-programmes/erasmus-traineeship>) and Extra-EU Exchange (<https://en.unimib.it/international/international-students/outgoing-students/exchange-extra-ue>).

6.6 Further linguistic knowledge

To obtain the degree, students must be proficient in a foreign language in one of the following ways:

Italian students only:

- by passing a University test of foreign language proficiency at level B2 or higher among French, Spanish or German;
- or
- by passing a University test of English proficiency at level C1 or higher.

International students only:

- by passing a University test of Italian proficiency at level B1 or higher.

Alternatively, students having the above language proficiency certifications, issued by University-accredited Institutions, will be exempted from the test. The language certificate must be submitted to segr.studenti.scienze@unimib.it to receive the validation of the expected 4 CFU.

Click [French, Spanish, German and Italian](#) or [English](#) to know language proficiency certificates recognised as valid.

Students with disabilities or Specific Learning Disorders (SLD) who hold an Individualised Educational Plan (PUOI) may sit the foreign language proficiency examination using the support measures provided for under current legislation. For further information, please visit the webpage: <https://en.unimib.it/study/services-students-and-graduates/disability-sld-binclusion-space>

The [Languages@unimib](#) manages all University foreign and Italian languages tests. Information concerning the procedures for carrying out the language proficiency tests is defined by University and is available at the following webpage: <https://www.unimib.it/studiare/opportunita/lingue-unimib/ideita-ateneo-e-accertamento-linguistico>

6.7 Supernumerary credits

Students have the opportunity to include in their own study plan a maximum of up to 16 CFU in excess of those required for graduation. The CFU and grades earned for these supernumerary activities do not count in the final average exam grade, but are reported in the [Diploma Supplement](#).

Students may include the following activities as supernumerary credits:

- Courses offered by this or other MSc Degree Programmes at the University
- [Bbetween](#) and [iBicocca](#) activities offered by the University (see Article 6.13)

6.8 Prerequisites

There are no formal prerequisites. However, it is strongly recommended that students first acquire the competences related to the compulsory first-year courses.

6.9 Attendance

Attendance at lectures is not compulsory, but is highly recommended. Attendance at practical classes, laboratories, and fieldwork is compulsory, with a minimum requirement of 75% participation.

6.10 Educational activities

Courses may consist of a single unit or several integrated units, even multidisciplinary and with multiple teachers. Each unit consists of lectures, usually combined with practical class, laboratory and/or field activities. Courses are taught in English.

The knowledge and competences acquired by students are measured in Italian university credits (CFU). One CFU corresponds to 25 hours of total workload, including lectures, practical activities (practical class, laboratory, fieldwork), and independent study, according to the following scheme:

- Lecture: 1 CFU = 7 classroom hours
- Practical class: 1 CFU = 12 classroom hours
- Laboratory: 1 CFU = 12 laboratory hours
- Fieldwork: 1 CFU = 12 hour in the field
- Traineeship and practical training activities: 1 CFU = 25 hour (independent work)
- Final examinations: 1 CFU = 25 hour (independent work)

Depending on the course, the modalities of delivery may be:

- in-person lectures
- e-learning lectures, delivered remotely (synchronous or asynchronous mode) and supported by multimedia audio-visual tools, may include interactive activities (c.d. e-tivities), as stated in the [University's Students Regulations](#)
- in-person exercises and laboratories
- virtual laboratories, delivered remotely (synchronous or asynchronous mode) and supported by multimedia audio-visual tools, may include interactive activities (c.d. e-tivities), as stated in the [University's Students Regulations](#)
- in-person seminar-based lectures
- fieldwork (in-person)

The release of video recordings of lectures is at the discretion of each lecturer, and may be granted upon a motivated request submitted by student.

Lecturers make use of the [Moodle platform](#) to provide students with course materials, including lecture slides, supplementary teaching materials, internet links to useful websites, additional in-depth resources, self-assessment tests, and any other digital learning materials aimed at facilitating the acquisition of the subject matter.

6.11 Assessment Methods

Assessment may result either in a mark (ranging from 18/30 to 30/30) or in a pass/fail judgement. The methods of assessment may include: 1) oral examination; 2) written examination with a compulsory oral component; 3) written examination with an optional oral component. For examinations that include a written test, students always have the right

to request an oral examination in addition. Likewise, lecturers have the right to require students to sit an oral examination in addition to the written test. If the written test consists exclusively of multiple-choice questions, the oral examination is compulsory. Written reports may also be required by lecturers and, in such cases, form an integral part of the examination process.

Details on the assessment methods and evaluation are available in the syllabi published on the e-learning page <https://elearning.unimib.it/course/index.php?categoryid=3628>

Students with disabilities or Specific Learning Disorders (SLD) who require compensatory measures and/or tools in order to sit examinations must inform the lecturer at least one month before the exam, by e-mail, attaching the relevant certification (P.Uo.I – Progetto Universitario Individualizzato), and copying helpdesk.binclusion@unimib.it

6.12 Scheduling of Learning Activities and Examinations

Courses are organised into two terms (October-January; March-June), conventionally called semesters, each of which includes a teaching break for examinations. At least six examination sessions are scheduled for each course during the academic year, generally distributed as follows: 2 sessions at the end of the first semester (January/February), 2 sessions at the end of the second semester (June/July), 1 session in September, 1 session during the teaching break in March/April, and 1 session during the teaching break in November. Up to two additional extraordinary sessions may be scheduled to meet specific and justified student needs.

Students may only register for examinations included in their approved study plan, provided they are in good administrative and financial standing (with all tuition fees paid). Registration for examinations must be completed via the Online Student Registry (Segreterie OnLine) between 30 and 3 days prior to the scheduled examination date. For each course, registration is permitted for only one examination session at a time.

The timetable of courses and the calendar of examination sessions are published on the University's Agenda Web, available at the following link: <http://gestioneorari.didattica.unimib.it/PortaleStudentiUnimib/>

6.13 Soft Skills

The University promotes the development and recognition of transferable skills through specific projects and initiatives, which allow students to obtain Open Badges (https://www.unimib.it/certificazioni_digitali). Open Badges are digital certifications that can be included in electronic curricula to provide a clear and immediate record of the skills and competences acquired.

Among the University's initiatives are:

- Bbetween project (<https://www.unimib.it/bbetween>)
- iBicocca project (<http://ibicocca.it/>)

6.14 International Mobility Projects

The Master's Degree Programme strongly encourages study periods abroad, which are carried out within the framework of the University's International Mobility projects (<https://en.unimib.it/study/international-mobility-programmes>). Through these projects, students may undertake a study experience abroad during which they may attend courses and sit examinations, or carry out practical activities related to the traineeship, practical training activities or the final dissertation.

The main international mobility projects in which the Master's Programme participates are:

- Erasmus+ for study (<https://en.unimib.it/study/international-mobility-programmes/erasmus-study>),
- Erasmus+ Traineeship Programme (<https://en.unimib.it/study/international-mobility-programmes/erasmus-traineeship>), dedicated exclusively to traineeship, practical training and/or thesis activities in Europe;
- the Extra-EU Exchange Programme (<https://en.unimib.it/international/international-students/outgoing-students/exchange-extra-ue>), aimed at preparing traineeship, practical training and/or thesis activities at higher education institutions, research centres, and NGOs in non-European countries.

Participation in a mobility period abroad requires application to a call for admission for the specific academic year.

Upon return from a mobility period abroad, the University awards an Open Badge – International Student (<https://bestr.it/badge/show/446>) in recognition of the international experience undertaken.

6.15 Academic guidance and tutoring services

The degree programme offers a guidance service designed to support students in making informed academic and career choices.

INCOMING STUDENT ORIENTATION

The Programme Coordination Board has established a dedicated Orientation Committee, which actively participates in the University's Open Days. During these events, the formal presentation of the degree programme is complemented by an information desk to directly address queries from prospective students. Furthermore, for those unable to attend, the Committee ensures that video recordings and presentation materials are consistently made available on the e-learning page <https://elearning.unimib.it/course/index.php?categoryid=3629>.

ONGOING ACADEMIC GUIDANCE AND SUPPORT

The Orientation Committee organises the annual “Welcome Day”, the initial meeting for newly enrolled students to present the organisation of the Degree Programme and the available support services.

Furthermore, the Programme Coordination Board has appointed some academic tutors from various disciplinary areas. Students may contact them for clarifications or to address specific issues which, if of general interest, are subsequently discussed by the Programme Coordination Council.

The Programme Coordination Council relies on dedicated Committees established to oversee and manage various aspects of the Degree Programme, including:

- *Study Plans Committee*: prior to the opening of the study plan submission window, this committee organises a guidance session to assist first-year students with completing their study plan and to present the contents and learning outcomes of the three distinct subject areas, thereby encouraging an informed choice of optional and elective courses. All materials presented are made available on the dedicated e-learning page: <https://elearning.unimib.it/course/view.php?id=17853#section-2>;
- *Internationalisation Committee*: provides guidance for study abroad experiences, ranging from the definition of a learning agreement aligned with the Degree Programme to the final validation of the activities completed. To promote these opportunities, the Committee organises an information session prior to the publication of international mobility calls for applications, outlining the application procedures. Additionally, the Committee takes part in the departmental event “Happy Erasmus”, offering an opportunity for discussion to resolve any queries prior to the application deadline. All presented materials are accessible via the e-learning page: <https://elearning.unimib.it/course/index.php?categoryid=3629>;
- *Practical Training Commission*: it organises information sessions on internship opportunities, assists with administrative procedures, and coordinates the commencement of activities. Upon completion of the placements, the Commission reviews

and validates the activities undertaken. Furthermore, it manages and regularly updates the dedicated e-learning page: <https://elearning.unimib.it/course/view.php?id=17855>.

Students with disabilities or Specific Learning Disorders (SLD) may contact the University's B.Inclusion Space (<https://en.unimib.it/study/services-students-and-graduates/disability-sld-binclusion-space>) to draft an Individualised University Plan (P.U.o.I.) and to access support services, such as the loan of assistive technology, adaptation of teaching materials, academic tutoring, and methodological advisory. The Department provides a designated Disability and SLD Academic Officer, whom students can contact to request information and report potential issues.

Students whose gender identity differs from their registered legal sex may apply for an Alias Career (<https://en.unimib.it/about-us/governance/equality-committee/anti-discrimination-policies>). This procedure grants a temporary chosen name, distinct from their legal name, only for internal University use. The Department designates an academic contact person (Alias Career Tutor) to whom students can refer regarding any issues related to their Alias Career. To support students engaged in competitive sports, the University offers the Dual Career programme, which aims to facilitate the balance between athletic commitments and academic obligations.

Full details of all guidance and career services offered by the University can be consulted at the following link: <https://en.unimib.it/study/services-students-and-graduates/guidance-and-career-services>

Other opportunities and facilities are published at the following link: <https://en.unimib.it/study/services-students-and-graduates/bicocca-campus-opportunities-and-facilities>

TUTORING SERVICES

To provide tangible support, the following services are in place:

- *Peer-to-peer tutoring service* (<https://en.unimib.it/study/services-students-and-graduates/orientation-services-network/mentoring>), delivered by senior students of the Master's Programme. First-year students, particularly those coming from outside Milan, may contact peer tutors to obtain general and practical information on how the programme and the University operate, as well as administrative deadlines, thereby receiving support in integrating into their studies.
- *Subject-specific tutoring* linked to individual courses. Subject-specific tutors, selected by a Committee appointed by the Programme Coordination Board, assist lecturers in the classroom during practical activities and/or organise extracurricular support activities to guide students towards their academic assessments.

CAREER GUIDANCE AND EMPLOYABILITY

As part of career guidance, the Master's Programme includes a compulsory curricular internship and offers the possibility of an additional optional practical training activity as part of the activities "To be chosen by the Student" (see Article 6.5). The Degree Programme organises thematic seminars delivered by external professionals. These initiatives aim to demonstrate the practical application of the competencies acquired throughout the study path, whilst showcasing career opportunities across diverse employment sectors.

The University provides an online platform for the management of extracurricular internships (<https://en.unimib.it/study/services-students-and-graduates/guidance-and-career-services/internships>), where companies publish their proposals and students upload their CVs and apply to the most suitable opportunities. The University also offers a Job Placement Service (<https://en.unimib.it/study/services-students-and-graduates/guidance-and-career-services/job-placement>), which supports students and graduates in entering the labour market, working in collaboration with companies and institutions to identify qualified professional profiles through various activities and initiatives.

ART.7 Final Examination

The final examination consists in the preparation by the student, under the supervision of a Supervisor, of an experimental dissertation with original scientific and/or technological content. The dissertation must be written and defended in English.

ART. 8 Final Examination's Procedure

The final examinations are held over at least four sessions distributed across the academic year, divided into three periods: June–July, September–November, and February–March.

In order to be admitted to the final examination, students must have acquired all the CFU required by their study plan, so that, when combined with the credits assigned to the final examination, they reach the total of 120 CFU required for the degree. The activities related to the preparation of the final dissertation account for 28 CFU. The dissertation work may be carried out within the University, in a research group of the Department, or at Italian or foreign research institutions. The dissertation must be written in English and must provide a summary of the activities undertaken and the results achieved.

The relevant forms, regulations for the final examination, the calendar of graduation sessions, and the administrative deadlines are available on the e-learning page: <https://elearning.unimib.it/course/view.php?id=17854#section-4>.

The final examination consists in the public defence, in English, of the dissertation, before a board of programme lecturers and any external co-examiners. The Final Degree Exam Committee provides an overall assessment, awarding a score from 1 to 8 points, based on the scientific method employed, the originality of the work, the depth of the research and bibliographic review, as well as the candidate's ability to present, elaborate, and argue their work during the defence. This score, added to the weighted average of examination marks, results in the final grade, expressed out of 110. The Committee may unanimously award cum laude on the basis of the student's overall academic record.

Upon request, the University issues to graduates of the Master's Degree in Marine Sciences a digital certification of the qualification through an Open Badge (<https://bestr.it/badge/show/412?ln=en>). This digital certification complements the traditional certificates: the Master's Degree Diploma and the Diploma Supplement (<https://en.unimib.it/services/offices-and-facilities/student-services/certificates-and-self-certifications>).

ART. 9 Recognition of Credits and Transfer Procedures

Transfers to or from another University, as well as the recognition of CFU acquired in learning activities undertaken within other Master's Degree Programmes, either at this University or at another institution, are regulated by the University Student Regulations (https://www.unimib.it/sites/default/files/2023-11/reg-stud_Versione%20sito.pdf)

Within the limits established by current legislation (Ministerial Decree 931 of 04/07/2024), Universities may recognise as university credits: individually certified professional knowledge and competences, and other knowledge and competences acquired in post-secondary training activities in which the University has participated in the design and/or implementation, up to a maximum of 24 CFU. Learning activities already recognised as CFU within Bachelor's Degree Programmes may not be recognised again within Master's Degree Programmes. Recognition is carried out exclusively on the basis of competences demonstrated by each individual student; forms of collective recognition are excluded.

Such recognition is subject to the approval of the Marine Sciences' Programme Coordination Board.

ART. 10 Research Activities Supporting the Learning Pathways Characterising the Programme

At the University, multidisciplinary research activities are carried out, both at national and international level, in the following areas:

- Physics: environmental physics; atmospheric physics; physics of the sea; climate physics.
- Chemistry: environmental physical chemistry; computational chemistry; low environmental impact processes; environmental chemistry; atmospheric chemistry; analysis and reactivity of organic micropollutants.
- Earth Sciences: physical geography and marine geomorphology; geosphere–biosphere interactions; risk assessment of exogenous and endogenous processes; climate change; spatial territorial analyses; geographic information systems applied to environmental processes.
- Ecology: marine ecology; landscape ecology; marine biodiversity; management of marine resources.
- Biology: environmental botany; zoology of marine invertebrates; bioindicators and biodiversity; monitoring and management of fauna; ecological networks; environmental microbiology.
- Law: international law; maritime law; environmental law.
- Geography, Sociology, and Psychology.

Numerous research projects are carried out within the Departments at both national and international level. Further details are available at the following link: <https://www.disat.unimib.it/en>.

ART. 11 Teaching Staff of the Programme

Teaching staff of the University of Milano-Bicocca:

BASSO DANIELA MARIA, GEOS-02/A
BRACCHI ALICE VALENTINA, GEOS-02/A
COLETTI GIOVANNI, GEOS-02/A
DELL'AGNESE ELENA, GEOG-01/A
FALLATI LUCA, GEOS-03/A
FERRERO LUCA, CHEM-01/B
GALIMBERTI ANDREA, BIOS-03/A
GALLI PAOLO, BIOS-05/A
GANDOLFI ISABELLA, BIOS-15/A
GENTILI RODOLFO FILIPPO, BIOS-01/A
MAGGIONI DAVIDE, BIOS-03/A
MALATESTA STEFANO, GEOG-01/A
MALINVERNO ELISA, GEOS-02/A
MERONI AGOSTINO, GEOS-04/C
MONTANO SIMONE, BIOS-05/A
ORLANDI IVAN, BIOS-08/A
PASQUERO CLAUDIA, GEOS-04/C
SAVINI ALESSANDRA, GEOS-03/A
SCHMIDT MULLER DI FRIEDBERG MARCELLA, GEOG-01/A
SEVESO DAVIDE, BIOS-05/A
STREPPARAVA MARIA GRAZIA, M-PSI/08

TANI ILARIA, GIUR-09/A

VALSECCHI ELENA AGNESE, BIOS-03/A

ART. 12 Further Information

The Master's Degree Programme in Marine Sciences -Scienze Marine is based at the Department of Earth and Environmental Sciences (DISAT) – Buildings U1 and U4, Piazza della Scienza, 1 and 4 – 20126 Milan, Italy.

Master's Degree Programme in Marine Sciences – Scienze Marine:

Website: <https://www.unimib.it/graduate/marine-sciences>

E-learning page: <https://elearning.unimib.it/course/index.php?categoryid=3626>

Educational Services Office: didattica.ms@unimib.it

Tel.: +39 02 6448 2038

Department of Earth and Environmental Sciences: <https://www.disat.unimib.it/it>

Departmental Joint Staff-Student Committee: paritetica.disat@unimib.it

School of Science: <https://www.scienze.unimib.it/it>

Student Registry – Science: sgr.studenti.scienze@unimib.it

For university administrative procedures and deadlines regarding enrolment/registration, credit transfers, and the submission of study plans, please consult the website <https://en.unimib.it/>

Minor non-substantial amendments to the Programme Regulations may be made. In particular, the provision of elective courses will be subject to number of the registered students.

The table of academic activities follows below.

Classe/Percorso

Classe	Scienze e tecnologie per l'ambiente e il territorio (LM-75 R)
Percorso di Studio	PERCORSO COMUNE

Quadro delle attività formative

Caratterizzante				
Ambito disciplinare	CFU	Intervallo di CFU da RAD	SSD	Attività Formative
Discipline chimiche	6	6 - 12	CHEM-01/B	F7504Q001 - CHEMISTRY OF MARINE ENVIRONMENT, 6 CFU, OBB
Discipline biologiche	6	6 - 12	BIOS-03/A	F7504Q003 - FUNDAMENTALS OF MARINE BIOLOGY, 6 CFU, OBB
Discipline di Scienze della Terra	12	12 - 24	GEOS-02/A	F7504Q041 - BIOGEOSCIENCES AND GLOBAL CHANGES, 6 CFU, OBB
		12 - 24	GEOS-03/A	F7504Q039 - MARINE GEOMORPHOLOGY, 6 CFU, OBB
Discipline ecologiche	12	12 - 24	BIOS-05/A	F7504Q00201 - BIODIVERSITY, 6 CFU, OBB (Modulo dell'Attività formativa integrata BIODIVERSITY AND MARINE ECOLOGY (F7504Q002))
				F7504Q00202 - MARINE ECOLOGY, 6 CFU, OBB (Modulo dell'Attività formativa integrata BIODIVERSITY AND MARINE ECOLOGY (F7504Q002))
Discipline agrarie, matematiche, fisiche e informatiche	6	6 - 12	PHYS-05/B	F7504Q040 - PHYSICAL OCEANOGRAPHY, 6 CFU, OBB
Discipline giuridiche, economiche, ingegneristiche, gestionali e valutative	6	6 - 12	GIUR-09/A	F7504Q005 - INTERNATIONAL LAW OF THE SEA, 6 CFU, OBB
Totale Caratterizzante	48	48 - 96		

Affine/Integrativa				
Ambito disciplinare	CFU	Intervallo di CFU da RAD	SSD	Attività Formative
Attività formative affini o integrative	24	12 - 24	BIOS-01/A	F7504Q017 - COASTAL AND MARINE BOTANY, 6 CFU, OPZ
		12 - 24	BIOS-03/A	F7504Q013 - MARINE INVERTEBRATE ZOOLOGY, 6

				CFU, OPZ
				F7504Q035 - MARINE VERTEBRATE ZOOLOGY, 6 CFU, OPZ
		12 - 24	BIOS-05/A	F7504Q020 - MANAGEMENT OF AQUATIC RESOURCES: FISHERIES, 6 CFU, OPZ
				F7504Q02501 - BIO-ECOLOGY LAB, 3 CFU, OPZ (Modulo dell'Attività formativa integrata MULTIDISCIPLINARY MARINE LAB (F7504Q025))
				F7504Q036 - CLIMATE CHANGE IMPACTS ON MARINE ECOLOGY, 6 CFU, OPZ
				F7504Q042 - UNDERWATER SCIENTIFIC METHODOLOGIES FOR ECOLOGICAL STUDIES, 6 CFU, OPZ
		12 - 24	BIOS-08/A	F7504Q021 - MARINE MOLECULAR BIOLOGY, 6 CFU, OPZ
				F7504Q038 - MARINE BIOPROSPECTING, 6 CFU, OPZ
		12 - 24	BIOS-15/A	F7504Q012 - MARINE ENVIRONMENTAL MICROBIOLOGY, 6 CFU, OPZ
		12 - 24	GEOG-01/A	F7504Q010 - HUMAN GEOGRAPHY OF SMALL ISLAND SYSTEMS, 6 CFU, OPZ
		12 - 24	GEOG-01/B	F7504Q009 - ENVIRONMENTAL JUSTICE AND GEOPOLITICS OF THE SEA, 6 CFU, OPZ
				F7504Q015 - COASTAL AND MARINE HAZARD AND RESILIENCE, 6 CFU, OPZ
				F7504Q018 - COASTAL AND MARITIME TOURISM, 6 CFU, OPZ
		12 - 24	GEOS-02/A	F7504Q008 - APPLIED MICROPALAEONTOLOGY AND BIOMONITORING, 6 CFU, OPZ

				F7504Q023 - CONSERVATION PALEOBIOLOGY, 6 CFU, OPZ
				F7504Q02502 - ENVIRONMENTAL LAB, 3 CFU, OPZ (Modulo dell'Attività formativa integrata MULTIDISCIPLINARY MARINE LAB (F7504Q025))
		12 - 24	GEOS-03/A	F7504Q011 - APPLIED GEOMORPHOLOGY AND HABITAT, 6 CFU, OPZ
				F7504Q016 - APPLIED MARINE GEOLOGY, 6 CFU, OPZ
				F7504Q019 - COASTAL RISKS AND DYNAMICS, 6 CFU, OPZ
		12 - 24	GEOS-04/C	F7504Q022 - OCEAN MONITORING AND DATA ANALYSIS, 6 CFU, OPZ
		12 - 24	GIUR-09/A	F7504Q014 - OCEAN AFFAIRS LAW AND POLICY, 6 CFU, OPZ
		12 - 24	PSIC-04/B	F7504Q037 - COMMUNICATION SKILLS AND INTERPERSONAL RELATION MANAGEMENT, 6 CFU, OPZ
Totale Affine/Integrativa	24	12 - 24		

A scelta dello studente				
Ambito disciplinare	CFU	Intervallo di CFU da RAD	SSD	Attività Formative
A scelta dello studente	12	8 - 12	BIO/07	F7504Q01E - BIODIVERSITY, 6 CFU, OPZ
				F7504Q02E - MARINE ECOLOGY, 6 CFU, OPZ
		8 - 12	NN	F7504Q034 - PRACTICAL TRAINING, 12 CFU, OPZ
				F7504Q300 - CHOSEN ACTIVITIES TAKEN DURING THE ERASMUS PERIOD, 6 CFU, OPZ
				F7504Q033 - PRACTICAL TRAINING, 6 CFU, OPZ
				F7504Q301 - CHOSEN ACTIVITIES TAKEN DURING

			THE ERASMUS PERIOD, 12 CFU, OPZ
Totale A scelta dello studente	12	8 - 12	

Lingua/Prova Finale				
Ambito disciplinare	CFU	Intervallo di CFU da RAD	SSD	Attività Formative
Per la prova finale	28	24 - 30	PROFIN_S	F7504Q032 - FINAL EXAMINATION, 28 CFU, OBB
Totale Lingua/Prova Finale	28	24 - 30		

Altro				
Ambito disciplinare	CFU	Intervallo di CFU da RAD	SSD	Attività Formative
Ulteriori conoscenze linguistiche	4	0 - 4	NN	F7504Q030 - FURTHER LINGUISTIC KNOWLEDGE - ITALIAN - B1 LEVEL (OR HIGHER), 4 CFU, OPZ
				F7504Q027 - FURTHER LINGUISTIC KNOWLEDGE - FRENCH - B2 LEVEL (OR HIGHER), 4 CFU, OPZ
				F7504Q029 - FURTHER LINGUISTIC KNOWLEDGE - SPANISH - B2 LEVEL (OR HIGHER), 4 CFU, OPZ
				F7504Q028 - FURTHER LINGUISTIC KNOWLEDGE - GERMAN - B2 LEVEL (OR HIGHER), 4 CFU, OPZ
				F7504Q026 - FURTHER LINGUISTIC KNOWLEDGE - ENGLISH - C1 LEVEL (OR HIGHER), 4 CFU, OPZ
Tirocini formativi e di orientamento	4	2 - 4	NN	F7504Q031 - TRAINEESHIP, 4 CFU, OBB
Totale Altro	8	2 - 8		

Totale	120	94 - 170		
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