



# UNIVERSITÀ DEGLI STUDI DI PALERMO

Department: Earth and sea sciences

A.Y. 2017/2018

## DEGREE COURSE IN MARINE BIOLOGY

### Characteristics



Class of Master's Degree  
(MSc) on Biology (LM-6)



2 YEARS



PALERMO



FREE ACCESS



2105

### Educational objectives

The 2nd cycle Degree Course in Marine Ecology aims at providing a solid grounding in basic and applied marine biology, with respect, in particular to the conservation and care of the environment and of fishing and aquaculture resources, and the assessment of environmental impacts.

The 2nd cycle degree course in Marine Biology aims at training high level experts possessing:

- i) Sound groundings on the abiotic and biotic characteristics, on the levels of biodiversity and operation processes of various types of marine ecosystems, on the evaluation and monitoring of the effects of anthropic pressures on marine ecosystems;
- ii) good grasp of the scientific research method enabling them to work autonomously and to participate in the design and interpretation of experiments;
- iii) knowledge of the English language, scientific literature and computer techniques enabling them to confront the international scientific community, the continuous scientific updating, and the ability to present scientific data using the most modern methods.

Such graduates are professionals of high qualification able to operate on the territory using advanced and technologically innovative methods and to perform specialized tasks in the management of marine ecosystems. In particular, they will be able to undertake activities to promote and develop scientific and technological innovation in the marine field as well as professional activities in areas related to biological disciplines in industry and public administration, with particular emphasis on environmental management, evaluation and planning. Specific tasks are in fact related to the management of marine ecosystems, environmental assessment and of the conservation status of resources, the proposition of actions and technologies for the increase of resources and environmental quality through the application of consolidated and sustainable methods.

Students will acquire basic and applied knowledge in the fields of experimental and applied marine biology and ecology, of the conservation and management of the environment and resources and of environmental impact evaluation. The specific objectives of the Degree Course are achieved through the teachings of "Marine Ecology", "Conservation and management of the coastline", "Marine environment Chemistry", "Marine Geology and sedimentology", "Statistics applied to ecological systems", "Analysis of ecological systems", "Marine Microbiology", "Marine Phyto-ecology", "Applied Zoology", "Ecology and technology of fishing and aquaculture", "Environmental Impact Evaluation", "Applied Ecology." Completing these teachings there is a series of theoretical and practical exercises, during which the students will gain experience in the design and implementation of research and environmental evaluation activities.

### Professional opportunities

Profile: Marine Biologist

Functions:

The functions of a marine biologist can be assimilated to both managerial and technical roles in public and private research organizations, public agencies or private companies in the management of the marine area and natural resources and in public or private research bodies dealing with environmental impact evaluation.

**Skills:** The multidisciplinary skills gained during the course are mostly related to the conservation of the marine environment and coastal management, resource management (fishing and aquaculture), environmental monitoring and environmental impact evaluation. The skills are complemented by further knowledge in marine chemistry, marine geology and sedimentology, marine microbiology and statistical analysis of ecological systems.

**Job opportunities:** The biologist is a recognized professional. 2nd cycle graduates may enroll in the National Register of Biologists, upon passing a State Examination. They may find employment at: public and private research centers and public agencies managing marine protected areas; Aquaculture and mariculture companies; Scientific consulting and environmental

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monitoring companies and public agencies overseeing environmental monitoring and control; Fishing and fishery products processing companies and agencies and consulting companies in the field of fishing and coastal management. They may also participate to PhD programs and recognized graduate schools that are necessary for research and management career, both in the public and in the private sector.

### Final examination features

It consists of a written dissertation related to the presentation of original experimental outcomes of a research project or part of it, obtained while attending the scientific facility where the project has been developed: university research laboratories, or other public or private laboratories which have agreements with the University. Normally, laboratories will be attended during the second course year. However the Board of the Degree course, with regard to individual candidate's curricula, might admit laboratory attendance starting in the second semester of the first year. The research project is developed under the guidance of a professor (full professor, associate professor, researcher) with the role of tutor. The project will be discussed during the final examination

Subjects 1 ° year	CFU	Sem.	Val.	SSD	TAF
13918 - ECOLOGY AND TECHNOLOGY OF FISHING AND AQUACULTURE <i>Mazzola(PQ)</i>	6	1	V	BIO/07	B
13917 - MARINE CONSERVATION AND COASTAL STRIP MANAGEMENT <i>Chemello(PO)</i>	6	1	V	BIO/07	B
13834 - MARINE ECOLOGY <i>Vizzini(PO)</i>	6	1	V	BIO/07	B
03428 - MARINE PHYTOECOLOGY <i>Mannino(PA)</i>	6	1	V	BIO/02	B
18698 - ENGLISH LANGUAGE - LEVEL B2	3	1	G		F
16177 - ANALYSIS OF ECOLOGICAL SYSTEMS <i>Milazzo(PO)</i>	6	2	V	BIO/07	B
16178 - APPLIED STATISTICS FOR ECOLOGICAL SYSTEMS <i>Sottile(RD)</i>	6	2	V	SECS-S/02	B
14430 - MARINE GEOLOGY AND SEDIMENTOLOGY <i>Agate(PA)</i>	6	2	V	GEO/02	C
11001 - MARINE ZOOLOGY <i>Arculeo(PO)</i>	6	2	V	BIO/05	B

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Subjects 2 ° year	CFU	Sem.	Val.	SSD	TAF
15497 - APPLIED ECOLOGY AND ENVIRONMENTAL IMPACT EVALUATION - INTEGRATED COURSE	12	1	V		
- APPLIED ECOLOGY <i>Sara'(PO)</i>	6	1		BIO/07	B
- ENVIRONMENTAL IMPACT EVALUATION <i>Calvo(PQ)</i>	6	1		BIO/07	B
13793 - MARINE ENVIRONMENT CHEMISTRY <i>Orecchio(PA)</i>	6	1	V	CHIM/12	C
13836 - MARINE MICROBIOLOGY <i>Quatrini(PA)</i>	6	1	V	BIO/19	B
13121 - PRACTICE	3	1	G		F
05917 - FINAL EXAMINATION	30	1	G		E
Free subjects	12				D

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