



# UNIVERSITÀ DEGLI STUDI DI PALERMO

Department: Earth and sea sciences

A.Y. 2014/2015

## DEGREE COURSE IN NATURAL SCIENCES

### Characteristics



Class of Master's Degree  
(MSc) on Natural sciences  
(LM-60)



2 YEARS



PALERMO



FREE ACCESS



2056

### Educational objectives

This 2nd cycle degree course is characterised by a manifest interdisciplinarity.

It is, in fact, one of the natural opportunities for graduates of the class L 32 - Science and Technology for the environment and nature, -also interdisciplinary in its articulation.

The course aims at deepening the knowledge acquired during the 1st cycle of three years and aims at training graduates possessing a thorough knowledge of structural and functional components of ecosystems, in current environment as well as in the past, and outline the conceptual tools for the environmental conservation, defense and management.

Adequate knowledge will be also provided for the analysis of biodiversity at various levels of organisation (from the genetic one to specific and environmental ones), as well as competences to evaluate ecosystems.

The course might be articulated in various curricula, described in the educational Regulations, in order to address the various aspects of the evolution of ecosystems.

Among the areas which are investigated in depth, it is worth mentioning: the analysis, management and conservation of natural environments through the acquisition of the theoretical principles and modern technologies for the analysis of environment; the systemic analysis of recent past natural environments, and namely of its evolutionist and anthropological dimension; the study and analysis of continental water ecosystems in a way to conjugate the exploitation of water resources with the defence and conservation of the biological heritage, in accordance with EU directives and with the requirements of the local agencies for land management.

The educational programme is integrated with laboratory activities, stages and practice periods, also within public institutions and private facilities, as well as with field experimentation, through multi- and interdisciplinary educational trips.

At the end of the course, graduates will have acquired advanced knowledge with respect to the study of the biotic and abiotic components of ecosystems, to the conservation of these latter, to the management techniques for land and for the processes affecting the quality of the environment and the conservation of biodiversity.

### Professional opportunities

Graduates may find professional opportunities in the public sector: universities and research institutions, companies in the field of environment management and services, ministries and administrations of local authorities and other public bodies, National and Regional Agencies for Environmental Protection, National Health Institute, experimental Stations, archaeological Superintendence.

In the private sector, graduates can pursue their activities in different types of businesses and professional firms dealing with environmental issues. The educational programme prepares for further courses for the training of science teachers at different school levels.

Additional areas of employment are: activities in the context of science museums or nature; - science dissemination and journalism; design of parks and preparation of Park plans; management of protected areas.

### Final examination features

It consists of the discussion of an original experimental or theoretical research project, which will be awarded with 24 to 30 credits. The research work should be carried out during the internship in a public or private research laboratory; it should be prepared by the student under the guidance of a supervising Professor and possibly a co-examiner. Students must also produce a written paper and/or other form of communication adequate to the research, clearly indicating the studied issue, the used experimental approach, the results obtained and the critical discussion of these latter. Students must be able to discuss the content during the final examination. The Course Board regulates the criteria for assigning an appropriate mark to the

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quality of work, taking also into account the coherence between expected learning outcomes and objectives achieved throughout the course.

Subjects 1 ° year	CFU	Sem.	Val.	SSD	TAF
17519 - APPLIED ZOOLOGY FOR MANAGEMENT AND CONSERVATION <i>Lo Valvo(PA)</i>	6	1	V	BIO/05	B
11598 - STATISTICS FOR EXPERIMENTAL AND TECHNOLOGICAL RESEARCH <i>Augugliaro(PO)</i>	6	1	V	SECS-S/02	B
16168 - VOLCANOLOGY <i>Parello(PO)</i>	6	1	V	GEO/08	B
03014 - APPLIED ENTOMOLOGY <i>Manachini(PA)</i>	6	2	V	AGR/11	B
01585 - BIOGEOGRAPHY <i>Marrone(PO)</i>	6	2	V	BIO/05	B
09534 - PHANEROGAMS SYSTEMATICS <i>Romano(CU)</i>	6	2	V	BIO/02	B
02693 - PLANT ECOLOGY <i>Sajeva(PA)</i>	6	2	V	BIO/03	B

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Subjects 2 ° year	CFU	Sem.	Val.	SSD	TAF
16487 - BIOLOGY AND HUMAN EVOLUTION - INTEGRATED COURSE	12	1	V		
- APPLIED ANTHROPOLOGY <i>Dumas(RU)</i>	6	1		BIO/08	B
- HUMAN BIOLOGY AND ECOLOGY <i>Sineo(PO)</i>	6	1		BIO/08	B
16512 - ECOLOGY APPLICATIONS - INTEGRATED COURSE	12	1	V		
- APPLIED NATURE CONSERVATION <i>Bonaviri(RD)</i>	6	1		BIO/07	B
- ECOLOGY APPLICATIONS <i>Calvo(PQ)</i>	6	1		BIO/07	C
13121 - PRACTICE	6	1	G		F
17209 - ENVIRONMENTAL GEOLOGY <i>Agnesi(PQ)</i>	6	2	V	GEO/04	C
16490 - PALAEOONTOLOGY OF THE QUATERNARY <i>Masini(CU)</i>	6	2	V	GEO/01	B
05917 - FINAL EXAMINATION	24	2	G		E
Free subjects	12				D

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