



Masters Degree

2nd cycle

Marine Biology and Conservation



ISPA

INSTITUTO UNIVERSITÁRIO
CIÊNCIAS PSICOLÓGICAS, SOCIAIS E DA VIDA

MARINE BIOLOGY AND CONSERVATION

MASTERS DEGREE / 2.nd CYCLE

Why should you choose this course?

Because it's an innovative course which offers a solid specialised background in Marine Biology with particular emphasis on Environmental and Ecosystems Conservation concerns, integrating the main theories and methods of study and analyses with a practical approach to management issues. Students will develop skills to perform scientific studies and to analyse the problems of the economic use and conservation of the marine environment, and may opt for a more applied or research profile in the 2nd year.

Why study at ISPA?

Because throughout its 50 years of history, ISPA has built a path of excellence in higher education. This course is supported by the Eco-Ethology Research Unit of ISPA [uiee.ispa.pt], which obtained the maximum classification (excellent) by the Science and Technology Foundation (FCT), and has been involved for more than 20 years in basic and applied research on Marine Biology and Conservation.

Course description

This Masters (2nd Cycle) offers innovative and solid background in Marine Biology and Conservation of Marine Ecosystems, central areas of research of the course team members. This allows the knowledge gained by the outstanding research performed at ISPA in this areas of knowledge to be translated to a study plan centred in offering to students skills which allow them to have a complete and integrated understanding of the functioning of marine ecosystems.

Additionally, ISPA has been working for many years in close collaboration with many institutions acting in public policies for the oceans and in marine conservation, both at national and international level, namely the establishment of Marine Protected Areas, as is the case of the Arrábida Marine Park and the Sado Estuary Natural Reserve where many research projects have been centered. This applied component to the management of marine ecosystems is an added-value allowing students to apply their knowledge to different case studies during the two years of duration of the Masters Course.

ISPA offers in this areas of knowledge a BSc Course (1st Cycle) in Biology (<http://en.ispa.pt/cursos/biology>), a Masters in Psychobiology (<http://en.ispa.pt/cursos/psychobiology>) and a PhD in Behavioural Biology (<http://en.ispa.pt/cursos/behavioural-biology>).

Course duration and structure

In the 1st year, three nuclear curricular units in each semester cover the main aspects of Marine Biology and Ecology, Experimental Design and Analysis of Ecological Data, Conservation and Behavioural Biology, Ocean Governance and Marine Protected Areas. Two optional curricular units in each semester are also part of the curriculum and cover more specific or applied aspects of Marine Biology and Conservation.

At the 2nd year, an Internship allows the integration of students in one of the numerous institutions with which ISPA has collaboration protocols to allow their contact with work in an applied context. The Dissertation Seminar aims at developing a scientific study, through specialized supervision, following all relevant steps of the scientific process. Students may choose between two profiles with greater weight of: i) the Internship, with an applied component in corporations, businesses, institutes and institutions; ii) the Dissertation Seminar, with a focus on research and development leading to a scientific work.

Course accredited by the Evaluation and Accreditation Agency for Higher Education (A3ES): Process (A3ES) NCE/11/01741

Objectives

The objectives and competencies defined for the 2nd cycle of studies in Marine Biology and Conservation at ISPA were designed considering the current model implemented in most European universities. During the first year, the study cycle promotes the development of the necessary skills for acquiring comprehensive knowledge in Marine Biology and Conservation and its communication to both specialized and generalized audiences. The subsequent year consists in performing a research project with high level of autonomy which will lead to the Master's thesis, as well as an Internship with a professionalization character in institutions of interest to this study cycle. These objectives and competencies are similar to most 2nd cycles in Marine Biology in European and Portuguese universities, but the current proposal stands out through its innovative character by associating Conservation with Marine Biology and differentiating two profiles in the 2nd year (one in which the Internship has a greater weight and another where the Dissertation has more ECTS).

Who can apply?

All students that have a BSc or legally equivalent graduation in Biology or similar areas, namely Environmental Sciences, Taxonomy, Botany, Genetics, Zootechnical Engineering, etc., may apply to this Masters of Science in Marine Biology and Conservation.

Skills to be acquired by students

The Masters of Science in Marine Biology and Conservation has the primary objective of offering a high level specialised training centred on the understanding of the main theoretical approaches in Marine Biology and Conservation and on the application of those concepts to practical case-studies. The main following skills to be acquired by the students are therefore identified:

1. Understand and integrate in a proficient manner the main theories of Marine Biology and Conservation of Ecosystems and use in a professional and competent way the main methods and techniques
2. Understand the basic biological phenomena which influence marine ecological processes and their implications to conservation strategies
3. Acquire practical knowledge through the application of the theoretical concepts in particular on managing activities with impacts on the marine environment
4. Master the advanced statistical analysis of ecological data and the interpretation of the results obtained

5. Design, project, adapt and execute scientific research in Marine Biology and Conservation, respecting the ethical principles underlining the research process and the use of animals in research
6. Communicate in a clear and professional way the conclusion of the research as well as its theoretical and methodological assumptions to diverse audiences: scientists, decision makers, managers and the general public
7. Promote scientific knowledge through its outreach and integration in the social and cultural context

ADDITIONAL INFORMATIONS

Schedule

The course has a diurnal schedule

Duration, structure and qualification level

The Masters in Marine Biology and Conservation has the duration of 4 semesters corresponding to 120 ECTS.

ISPA offers its students opportunities for attending mobility and interchange programs, under a vast number of collaboration protocols with international universities, in particular in Europe, North America and Brasil. There is also a strong relationship with enterprises, businesses and institutes which receive students during the Internship.

The completion of this study cycle offers the degree of Masters in Marine Biology and Conservation and allows students to apply for a PhD Course (3rd cycle).

For international students, all course materials are provided in English and, if enough students are attending the course, the classes will also be presented in English. ISPA offers to all students specialised tutorial meetings with faculty members in English.

COURSE PLAN

1 st YEAR / 1 st SEMESTER	TOTAL ECTS 30	ECTS
Marine Ecology		9
Biodiversity, Population Biology and Marine Biogeography		9
Experimental Design and Ecological Data Analysis		6
Optional I (*)		3
Optional II (*)		3

(*) To choose from the list of optional curricular units

OPTIONAL CURRICULAR UNITS	ECTS
Fish Biology and Ecology	3
Applied Genetics of Marine Populations	3
Biology and Conservation of Marine Mammals	3
Biology and Conservation of Birds and Marine Reptiles	3
Animal Welfare	3
Environmental Ethics	3
Larval Biology and Recruitment	3
Ecological modelling and spatial statistics	3

1 st YEAR / 2 nd SEMESTER	TOTAL ECTS 30	ECTS
Marine Conservation Biology		9
Ocean Governance and Marine Protected Areas		9
Behavioural Ecology and Sociobiology		6
Optional I (*)		3
Optional II (*)		3

(*) To choose from the list of optional curricular units

2 nd YEAR/3 rd AND 4 th SEMESTER	TOTAL ECTS 60	ECTS
PROFILE 1 (more weight to the Internship)		
Internship		42
Dissertation Seminar		18
PROFILE 2 (more weight to the Dissertation Seminar)		
Internship		18
Dissertation Seminar		42

COORDINATION

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 Coordinator of the Eco-Ethology Research Unit
 Associate Professor
 ISPA - Instituto Universitário



PhD in Ecology and Biosystematics from Lisbon University; Associate Professor at ISPA - Instituto Universitário; Co-director of the Behavioural Biology PhD Course; Coordinator of the Eco-Ethology Research Unit; President of ISPA/CRL Directive Board; Member of the National Council for Environment and Sustainable Development. Was Deputy-head of the Task Force for Sea Affairs, where contributed to the approval and implementation of the National Ocean Strategy; developed and coordinated the M@rBIS Program (Marine Biodiversity Information System) integrated in the Strategic Action Plan of the National Ocean Strategy; headed the European Union group that lead the negotiations on marine and coastal affairs at COP9 of the Convention on Biological Diversity (CBD). Is involved in the designation of marine protected areas at both the national and international levels and coordinated the baseline studies that led to the creation and implementation of the Arrábida Marine Park. Is Associate Editor of the scientific journal Acta Ethologica (Springer-Verlag) and founding member of the Portuguese Ethological Society. Published more than 50 papers in international scientific journals and edited 2 scientific books (<http://uiie.ispa.pt/pagina/emanuel-goncalves>).



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HOW TO APPLY

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