



General information	
Academic subject	Applied Zoology
Degree course	<i>Environmental Biology</i>
Academic Year	2021 - 2022
European Credit Transfer and Accumulation System (ECTS)	6
Language	<i>Italian</i>
Academic calendar (starting and ending date)	05.10.2021 – 21.01.2022
Attendance	<i>mandatory</i>

Professor/ Lecturer	
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Virtual headquarters	
Tutoring (time and day)	Any day, by appointment

Syllabus	
Learning Objectives	<i>Acquire skills on: land and marine environmental protection, including brackish and transitional environments; management of criticalities generated by problematic animal species (alien and / or invasive); management of the environments where mariculture and aquaculture takes place; forms of integrated aquaculture through the use of invertebrates; environmental impacts resulting from human activities.</i>
Course prerequisites	<i>Knowledge of systematic zoology and animal biodiversity</i>
Contents	Emerging environmental problems: fishing, hunting and harvesting, pollution, biological invasions, habitat degradation. Review of the main groups of Metazoans that present application possibilities in the zoological field. Study methodologies. Ecological and biological evaluation of animal populations, Censuses and environmental preferences. Biological indicators of environmental status. Fouling. Monitoring of threatened animal populations. Management interventions: feed, breeding, wildlife planning, ecosystem vulnerability to alien species, control and management of pests (native and alien), bioremediation and environmental mitigation through the use of invertebrate fauna. Laboratory: Microscope sorting techniques; Data management and analysis techniques; Field exercises.
Books and bibliography	<i>There are no textbooks available on the market and therefore didactic handouts are distributed during the lessons.</i>
Additional materials	

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
150	32	24	94
ECTS			
6	4	2	
Teaching strategy	<i>Lectures, case studies, simulation of data analysis, problem solving. Teaching will</i>		



	<i>take place in blended learning mode (mixed, frontal and distance teaching).</i>
Expected learning outcomes	
Knowledge and understanding on:	<ul style="list-style-type: none"> ○ Knowledge of the role of the main animal groups ○ Knowledge of the main environmental problems ○ Ability to read the environmental condition ○ Ability to apply study criteria, data acquisition, analysis to environmental problems ○ Ability to apply zoological knowledge to monitoring tools
Applying knowledge and understanding on:	<ul style="list-style-type: none"> ○ autonomy of choice in identifying the different approaches that involve the use of zoological knowledge in the management of environmental criticalities, ecosystem services and functions and the protection of biodiversity ○ Knowing how to apply the knowledge acquired to real situations.
Soft skills	<ul style="list-style-type: none"> • <i>Making informed judgments and choices</i> <ul style="list-style-type: none"> ○ Students acquire autonomy of judgment in the ability to recognize which of the different approaches (biological, chemical, physical) prove to be more appropriate in assessing the state of a specific relationship between man and the environment. • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ Autonomy of judgment Students acquire autonomy of judgment in the ability to recognize which of the different approaches (biological, chemical, physical) prove to be more appropriate in assessing the state of a specific relationship between man and the environment. • Communication skills The student must be able to develop communication processes (graphics, verbal, etc.) and express themselves correctly and competently on issues relating to the use of zoological methods and knowledge in the various application areas • <i>Capacities to continue learning</i> <ul style="list-style-type: none"> ○ Ability to learn independently The student must be able to operate ongoing learning processes and address the main environmental problems that require specific skills in the zoological field, relating the different processes that characterize them.

Assessment and feedback	Oral interview
Methods of assessment	
Evaluation criteria	<ul style="list-style-type: none"> • <i>Knowledge and understanding</i> <ul style="list-style-type: none"> ○ The student must demonstrate to be able to evaluate what knowledge is acquired on each topic and expanded in a personal way • <i>Applying knowledge and understanding</i> <ul style="list-style-type: none"> ○ The student will have to demonstrate the ability to apply the acquired knowledge to real situations. • <i>Autonomy of judgment</i> <ul style="list-style-type: none"> ○ The student must demonstrate the ability to interpret the experimental data acquired in the laboratory, in the field or during the proposed case studies • <i>Communicating knowledge and understanding</i> <ul style="list-style-type: none"> ○ The student will have to demonstrate that they are able to apply the skills acquired to real case studies • <i>Communication skills</i> <ul style="list-style-type: none"> ○ The student must demonstrate that he is able to correctly argue what has been acquired



	<ul style="list-style-type: none">• <i>Capacities to continue learning</i><ul style="list-style-type: none">○ The student must demonstrate to be able to broaden the knowledge acquired during the course
Criteria for assessment and attribution of the final mark	<i>The final grade is awarded taking into account the components of the course and in particular is based on: general questions on the content of the course, application of a monitoring technique, description of a case study proposed by the teacher (description of the environment, choice of a animal species (population), definition of the main characteristics of the chosen species, evaluation tools, expected results.</i>
Additional information	