ACADEMIC YEAR 2024/2025

General information	
Academic subject	**AQUACULTURE**
Degree course	SCIENCES OF SEA RESOURCES AND PRODUCTION
Academic Year	II
European Credit Transfer and Accumulation System (ECTS)	7+1E
Language	Italian
Academic calendar (starting and ending date)	1st semester
Attendance	no

Professor/ Lecturer	
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Virtual headquarters	Teams when required
Tutoring (time and day)	Monday 10.00-12.00; Thursday 15.00-17.00 by appointment confirmed by email

Syllabus	
Learning Objectives	The aquaculture course aims to impart knowledge to students regarding the production of marine species. Topics include broodstock management, larval rearing, phytoplankton and zooplankton production, pre-fattening and fattening techniques, and management of the rearing environment for productive purposes. Additionally, the course covers water oxygenation and ammonia management. The educational objectives include learning important concepts related to species farmed in marine aquaculture, characterized by their short biological cycles and the industrialization of production, processing, and marketing processes.
Course prerequisites	The "Anatomy and Physiology of Farmed Marine Species" exam is a prerequisite.
Contents	Introduction. Historical background. Purposes of aquaculture. The status of aquaculture in the world, in Europe, and in Italy. Description and physicochemical characteristics of natural aquatic environments. Description and physicochemical characteristics of artificial aquatic environments suitable for fish production. Farming of sea bass and gilthead sea bream. Production cycle: egg production, fry production, feeding and weaning, plankton cultivation, pre-fattening, production of market-size fish, feed rationing, conversion efficiency, methods for biomass evaluation. Economics and management of production facilities. Guided tours to aquaculture facilities and scientific research laboratories in the field.
Books and bibliography	

	Lesson notes. Cataudella S., Bronzi P. "Acquacoltura Responsabile", Uniprom
Additional materials	The teaching material distributed during the course integrates the reference texts.

Work schedule			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
Hours			
200	***56***	***10***	***134***
ECTS			
7+1E	***7***	***1***	

Teaching strategy	
	The teaching will consist mainly of lectures, complemented by active learning methods such as problem solving, case studies, and role-playing to integrate information and facilitate learning. The entire teaching process will be enhanced through iconic, verbal, and graphic communication models, utilizing available educational resources and technologies. Practical lessons will be conducted in laboratories and fish farming enterprises.
Expected learning outcomes	
Knowledge and understanding on:	• Knowledge for correct management of teleost and mollusc farms • Knowledge of aquaculture farming techniques.
Applying knowledge and understanding on:	• Demonstrate the ability to cope with incomplete information, deal with the unexpected and adapt to change. • Demonstrate that you recognize personal and professional limitations and know how to seek professional advice, assistance and support when necessary. • Assess the physical condition, well-being and nutritional status of an animal or group of animals and advise the client on breeding and feeding principles • Provide advice and implement preventative programs that are appropriate for the species and in line with aquatic animal health, welfare and health standards.
Soft skills	• Autonomy of judgement Ability to independently judge data relating to livestock contexts or to represent and solve complex problems inherent to livestock contexts. • Communication skills Rationing of animals in livestock production. • Ability to learn independently Ability to maintain, develop, deepen and broaden the knowledge acquired.

Assessment and feedback	

Methods of assessment	Oral exam on topics as scheduled. The student will have to demonstrate the skills acquired during the course, knowledge of the principles of aquaculture; you will have to demonstrate that you have acquired mastery of technical language.
Evaluation criteria	• Knowledge and understanding: o The student must demonstrate that they know and understand the contents of the course, also through data processing, setting up theoretical schemes and critical interpretation of the concepts acquired. • Applied knowledge and understanding: o The student must demonstrate that they have application skills in relation to what they have learned, also through the evaluation of their ability to approach the problem and identify possible solutions. • Independent judgment: o The student must demonstrate that they are able to formulate their own judgments, also through the autonomous development and application of the knowledge and skills acquired. • Communication skills: o The student must possess language skills and expository clarity, also in the use of sector-specific scientific-technical terminology. • Ability to learn: o The student must be able to re-elaborate the concepts learned, demonstrating the ability to solve new and complex theoretical-practical problems.
Criteria for assessment and attribution of the final mark	The final grade is awarded out of thirty. The exam will take place orally and is considered passed when the grade is greater than or equal to 18.
Additional information	

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