

**ACADEMIC YEAR 2024/2025**

<b>General information</b>	
Academic subject	<b>DESIGN AND CONSTRUCTION OF AN AQUATIC ORGANISMS FARMING SYSTEM</b>
Degree course	Science of Marine Productions and Resources (L38)
Academic Year	II
European Credit Transfer and Accumulation System (ECTS)	6 ECTS
Language	Italian Didactic material in English will be given to foreign students if requested
Academic calendar (starting and ending date)	II semester
Attendance	Optional attendance

<b>Professor/ Lecturer</b>	
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Virtual headquarters	TEAMS code for tutoring activities: z061s8i
Tutoring (time and day)	by appointment set by email

<b>Syllabus</b>	
<b>Learning Objectives</b>	Provide theoretical principles and applicative skills in the design of an aquatic organisms farming system
<b>Course prerequisites</b>	
<b>Contents</b>	Structural, technological, equipment and construction aspects of aquatic organisms farming systems (intensive, extensive, semi-intensive and hyper-intensive; open, semi-closed and closed; fixed and mobile). Design of a farm for fish farming, shellfish farming, crustacean farming, algae farming. Control of water parameters based on the aquatic organisms farmed: temperature, oxygen, ammonia, nitrites and nitrates, pH, carbon dioxide, suspended materials, water flow. Sensors.
<b>Books and bibliography</b>	Notes of the lectures and scientific papers distributed during the course
<b>Additional materials</b>	

<b>Work schedule</b>			
Total	Lectures	Hands on (Laboratory, working groups, seminars, field trips)	Out-of-class study hours/ Self-study hours
<b>Hours</b>			
<b>150</b>	<b>48</b>		<b>102</b>
<b>ECTS</b>			
<b>6</b>	<b>6</b>		

<b>Teaching strategy</b>	
	The teacher will use PowerPoint presentations.
<b>Expected learning outcomes</b>	
<b>Knowledge and understanding on:</b>	<ul style="list-style-type: none"> <li>• Knowledge and understanding of the technological, structural and equipment elements of an aquatic organisms farming system</li> <li>• Knowledge and understanding of the design criteria for an aquatic organisms farm</li> </ul>
<b>Applying knowledge and understanding on:</b>	<ul style="list-style-type: none"> <li>• Capacity to identify the most suitable technical, structural and equipment elements for an aquatic organisms farming system in relation to the species farmed and the geographical area</li> <li>• Design of an aquatic organisms farming system</li> </ul>
<b>Soft skills</b>	<p>Making informed judgments and choices</p> <ul style="list-style-type: none"> <li>○ Ability to design an aquatic organisms farming system</li> </ul> <p>Communicating knowledge and understanding</p> <ul style="list-style-type: none"> <li>○ Ability to communicate information, ideas, problems and solutions to specialist and non-specialist interlocutors</li> <li>○ Ability to use informatics (drawing, simulation, graphic representation, and so on)</li> </ul> <p>Capacities to continue learning</p> <ul style="list-style-type: none"> <li>○ Ability to continue learning by consulting books, papers and computerized catalogues</li> </ul>

<b>Assessment and feedback</b>	
<b>Methods of assessment</b>	<p>The exam consists of an oral exam on the topics developed during the course. The exam is passed with a vote of at least 18/30.</p> <p>For foreign students, the exam can be done in English.</p>
<b>Evaluation criteria</b>	<p>Knowledge and understanding</p> <ul style="list-style-type: none"> <li>• Knowledge and understanding skills of the technological and structural aspects of an aquatic organisms farming system</li> <li>• Knowledge of the design criteria for an aquatic organisms farming system</li> </ul> <p>Applying knowledge and understanding</p> <ul style="list-style-type: none"> <li>• Design of an aquatic organisms farming system by choosing the different technological, construction and equipment elements in relation to the species farmed and the geographical area</li> </ul> <p>Autonomy of judgment</p> <ul style="list-style-type: none"> <li>• Ability to justify the choices made in the design process of an aquatic organisms farming system in relation to the species farmed and the geographical area</li> </ul> <p>Communication skills</p> <ul style="list-style-type: none"> <li>• Ability to clearly communicate the knowledge to specialists and non-specialists</li> </ul> <p>Capacities to continue learning</p> <p>Ability to learn and deepen in a self-directed and autonomous way</p>



Criteria for assessment and attribution of the final mark	Ability to present knowledge in a technical way and to apply it.  The mark is expressed out of thirty, the exam is passed with a mark of at least 18/30.
<b>Additional information</b>	