University of Gdańsk

Subject card

Subject name and code	Specialization Workshop on Aquaculture - field classes, PG_00201302		
Field of study	Aquaculture – Business And Technology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
Education level	Bachelor's studies	Subject group	Obligatory subject group in the field of study Subject group related to practical vocational preparation
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish
Semester of study	4	ECTS credits	2.0
Learning profile	practical	Assessment form	credit
Conducting unit	Department of Marine Ecosystems Functioning -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Aleksandra Zgrundo	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	30.0	0.0	0.0	0.0	30

E-learning hours included: 0.0

Learning activity and number of study hours

Learning activity	Participation in didactic classes included in study plan	Participation in consultation hours	Self-study	SUM
Number of study hours	30	2.0	18.0	50

Subject objectives

Familiarizing students with the work related to running and developing the breeding of plants, algae, invertebrates and fish and the equipment used for this purpose. To familiarize students with the specificity of individual types of breeding systems used in aquaculture. Drawing attention to the most important technical, technological, economic and environmental differences.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[AKWAL3-U01] can plan and perform simple tasks under supervision or independently in the analysis of the aquatic environment, using appropriate methods of description and identification	Performs simple tasks under supervision and independently within the scope analysis of the aquatic environment using appropriate methods of description and identification (program content: A, B, C)	[SU3] text preparation/written work [SU8] observation of student's independent or team work
[AKWAL3-U05] can apply basic statistical methods as well as algorithms and computer techniques to describe phenomena and analyze data that are typical in socio-economic activity based on natural sciences	Conducts observations and performs simple physical measurements/ chemical/biological, typical for fields of socio-economic activity based on natural sciences (program content: A, B, C)	[SU3] text preparation/written work [SU8] observation of student's independent or team work

Subject contents

A. Plants and algae: Preparing students to carry out work related to establishing, maintaining, developing and running farms of micro- and macroalgae and cyanobacteria on a laboratory and industrial scale. During the classes, students will set up a culture and scale it to obtain material allowing the extraction of selected chemical compounds. During the workshops, they will also monitor changes taking place in farms using equipment used in industry. The final result of the work will be the acquisition of dried or frozen material ready for industrial use. B. Invertebrates: Preparing students to cultivate invertebrates in laboratory conditions and on an industrial scale natural environment in terms of use to improve environmental quality and for industrial purposes. Students evaluate during classes will be the breeding efficiency depending on the breeding substrate, the depth of foundation of the breeding system and environmental conditions. C. Fish: From aquaponics to aquariums: introducing students to modern monitoring and automation systems in experimental and commercial breeding systems, as well as in educational centres and zoos dealing with aquatic organisms.

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">A. Formal requirements Systematics and basics of biology of breeding organisms. Legal basis of aquaculture. Social and economic aspects of aquaculture. B. Entry requirements Knowledge of biology, ecology and physiology of breeding organisms</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>invertebrates; final paper - project</td><td>51.0%</td><td>33.0%</td></tr>
<tr><td>fish; final paper - project</td><td>51.0%</td><td>34.0%</td></tr>
<tr><td>algae; final paper - project</td><td>51.0%</td><td>33.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">Used during classes: Plants and algae: publicly available literature on the subject of laboratory and mass cultivation of plants and algae; Invertebrates: literature on the subject in Polish and English in the field of laboratory and industrial invertebrate breeding, ze with particular emphasis on marine species; Fish: generally available literature on fish breeding. Studyed independently by the student</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">Used during classes: Plants and algae: publicly available literature on the subject of laboratory and mass cultivation of plants and algae; Invertebrates: literature on the subject in Polish and English in the field of laboratory and industrial invertebrate breeding, ze with particular emphasis on marine species; Fish: generally available literature on fish breeding. Studyed independently by the student</td></tr>
<tr><td>eResources addresses</td><td colspan="2"></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3">fish farming systems in aquaculture</td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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