University of Gdańsk

Subject card

Subject name and code	Aquaculture - laboratory classes, PG_00192229		
Field of study	Marine Biotechnology		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Master's studies	Subject group	Obligatory subject group in the field of study
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	English
Semester of study	1	ECTS credits	1.0
Learning profile	academic	Assessment form	credit
Conducting unit	Laboratory of Aquaculture -> Department of Marine Biology and Biotechnology -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Marcin Kuciński	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	0.0	0.0	15
	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	15	1.0	9.0	25

Subject objectives	The goal is to gain practical knowledge about modern aquaculture as an example of biotechnology, including the main farmed species, new strategies for sustainable food production characterized by low CO2 emissions, and modern methods for fish nutrition, health and welfare management, as well as reproduction and genetics.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[MBMU2-KW02] Has an in-depth knowledge of the possibilities of biotechnological use of marine resources	Has got complex knowledge on the aquaculture use of water resources including fish	[SW2] presentation/project/paper/ report
[MBMU2-KU01] Can plan and conduct research in the laboratory and at sea, and to document procedures and results. Independently or under the supervision of an authorized staff member, carries out work using specialized equipment. Complies with occupational health and safety regulations.	Has the ability to plan and carry out research in the laboratory, document the experiments and their results; can draw conclusions based on the observations made during the field trip to the aquaculture farm and results obtained during the laboratory activities	[SU2] presentation/project/paper/ report
[MBMU2-KK02] Is ready to effectively plan and organize his individual and team work, especially in the laboratory and at sea; is ready to plan his individual career and act in an entrepreneurial manner	Is ready to plan and organize efficiently individual and team work, especially in laboratory and aquaculture farm, is ready to plan individual professional carrer and work in a enterprising way	[SK2] presentation/project/paper/ report
[MBMU2-KU03] Can use and critically analyze available scientific information; can prepare and present - orally or in writing - a paper covering detailed problems in the field of marine biotechnology on the basis of the scientific information or their own work, with the use of scientific language, including specialized terminology and conceptual apparatus; has the ability to conduct discussions	Can collect and interpret empirical data on the cultivated organisms; applies statistical methods and computer tools in data analysis; formulates conclusions based on empirical data	[SU2] presentation/project/paper/ report

Subject contents

Designing of the experimental RAS Aquaponic system for fish, invertebrates and plant production

Prerequisites and co-requisites

none

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
A self-prepared project of a recirculating aquaculture system according to the recommendations and instructions provided by the course instructor, and an evaluation of the project's presentation	51.0%	75.0%
Preparation of a presentation on the construction, operation, and design of aquaponic systems	51.0%	25.0%

Recommended reading

Basic literature	Pillay T.V.R and Kutty M.N. 2005. Aquaculture; Principles and practices (second Edition). Blackwell Publishing. https://www.agrifs.ir/sites/default/files/AQUACULTURE.pdf Zakęś Z. Biotechnologia w akwakulturze. Wydawnictwo IRS. 2008 Demska-Zakęś K. Innowacyjne techniki oceny biologicznej i ochrony cennych gatunków ryb hodowlanych i raków. Wydawnictwo IRS. 2008.
Supplementary literature	Scientific articles published in specialized journals such as Aquaculture, Aquaculture Research, Aquaculture International, etc. Scientific Reports, PLoS One, etc.
eResources addresses	

Example issues/ example questions/ tasks being completed

Work placement

Not applicable

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