University of Gdańsk

Subject card

Subject name and code	Aquaculture - laboratory, PG_00054193		
Field of study	Marine Biotechnology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
Education level	postgraduate studies	Subject group	
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	1	Language of instruction	English not applicable
Semester of study	1	ECTS credits	1.0
Learning profile	academic	Assessment form	
Conducting unit	Pracownia Akwakultury -> Katedra Biologii Morza i Biotechnologii -> Faculty of Oceanography and Geography		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Marcin Kuciński	
	Teachers	dr inż. Marcin Kuciński	

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

Additional information:
Seminars,

Project Workshop

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	2.0	10.0	27

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 advanced 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-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
[MBMU2-KU01] Can plan and carry out tests in the laboratory and at sea, and document activities and results; can use laboratory equipment under the guidance of a tutor; applies principles of occupational health and safety	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

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
Preparation of a presentation on the construction, operation, and design of aquaponic systems	51.0%	25.0%
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%

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	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed

Work placement

Not applicable

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