

Subject card

Subject name and code	Aquaculture - fieldwork, PG_00192755						
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 Subject group related to scientific research 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		Karolina Pałucha				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	0.0	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 knowledge about modern aquaculture as an example of biotechnology, to learn about the main farmed species, new strategies for sustainable food production with low CO2 emissions, and modern methods of fish nutrition, health care, and welfare.						

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	Students got significant knowledge on food production within aquaculture and knows potential of fish, water invertebrates and plants to be used in this sector	[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.	Students have 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	Students are ready to plan and organize efficiently individual and team work, especially in laboratory and aquaculture farm, is ready to plan individual professional career and work in an 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	Students have knowledge and ability for critical analysis of available scientific data and based on these is able to prepare oral presentation and written study related to issues connected with aquaculture using scientific language and terminology. Has ability to moderate scientific discussion	[SU2] presentation/project/paper/report	
Subject contents	<ol style="list-style-type: none"> 1. Visit to the fish farm - breeding of fish under control conditions, 2. Hot topics in world and local aquaculture panel discussion and presentations 		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Preparation of a report	51.0%	100.0%
Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. Goryczko, K., Grudniewska, J. 2015. Chów i hodowla pstrąga tęczowego. Wydawnictwo IRŚ Olsztyn. 2. Zakęś Z. Biotechnologia w akwakulturze. Wydawnictwo IRS. 2008 3. Demska-Zakęś K. Innowacyjne techniki oceny biologicznej i ochrony cennych gatunków ryb hodowlanych i raków. Wydawnictwo IRS. 2008. 	

	Supplementary literature	<p>1. Zwierzchowski L (red). Biotechnologia zwierząt. Wyd. Naukowe PWN. 1997.</p> <p>2. 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</p> <p>3. Beaumont A.R. and Hoare K. 2003. Biotechnology and Genetics in Fisheries and Aquaculture. Blackwell Sciences. https://www.agrifs.ir/sites/default/files/Biotechnology_and_Genetics_in_Fisheries_and_Aquaculture_0.pdf</p> <p>4. Overturf K. Molecular research in Aquaculture. Wiley. 2007.</p> <p>5. Dunham R. Aquaculture and Fisheries Biotechnology. Genetic approach. CABI publishing. 2004.</p> <p>6. John Liu. Aquaculture Genome Technologies 2007.</p> <p>7. Scientific articles published in specialist scientific journals such as Aquaculture, Aquaculture Research, Aquaculture International, Scientific Reports, PloS One, etc.</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed	not applicable	
Work placement	Field exercises	

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