

Subject card

Subject name and code	Basic biochemistry and genetics of cultured organisms - laboratory exercises, PG_00075874						
Field of study	Aquaculture – Business And Technology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group				
Mode of study	full-time studies		Mode of delivery		at the university		
Year of study	2		Language of instruction		Polish		
Semester of study	3		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 hab. Katarzyna Smolarz				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	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		10.0		15.0	55
Subject objectives	C1. Analysis of the biochemical composition of aquacultured organisms. C2. Cytogenetic techniques used in breeding invertebrates, identification of abnormalities in reproductive cell division. C3. The use of molecular markers in breeding (estimation of genetic variability in breeding material, creation of criteria for the selection of reproductive material, selection supported by molecular markers).						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[AKWAL3-K03] is ready to follow the ethical principles in biological research and adhere to the principles of intellectual honesty		the student is ready to comply with the principles of ethics in biological research and the principles of intellectual honesty (program content: C1-C3).		[SK1] oral statement/conversation/discussion		
	[AKWAL3_W03] knows and understands the conceptual categories and terminology related to the biological basis of aquatic organisms breeding, as well as concepts directly relevant to the practical applications of this knowledge		the student knows and understands the conceptual categories and terminology regarding the biological basis of breeding aquatic organisms in the field of biochemistry and genetics, as well as concepts directly related to the practical applications of this knowledge (program content: C1-C3)		[SW4] test/exam - oral or written [SW3] text preparation/written work		
	[AKWAL3-U07] can come to the right conclusions on the basis of available data		the student is able to make correct conclusions based on available biochemical and genetic data regarding breeding activities (program content: C1-C3).		[SU4] test/exam - oral or written		

Subject contents	C1. Analysis of the biochemical composition of aquacultured organisms.		
	C2. Cytogenetic techniques used in breeding invertebrates, identification of abnormalities in reproductive cell division.		
	C3. The use of molecular markers in breeding (estimation of genetic variability in breeding material, creation of criteria for the selection of reproductive material, selection supported by molecular markers).		
Prerequisites and co-requisites	Systematics and basics of biology of breeding organisms (Invertebrates).		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	report	50.0%	20.0%
	knowledge of the material covered in classes	50.0%	80.0%
Recommended reading	Basic literature	A. Literatura wymagana do ostatecznego zaliczenia zajęć: Brown T., 2001, Genomy. Wydawnictwo Naukowe PWN, Warszawa. Charon K., Świtoński H., 2006, Genetyka zwierząt. Wydawnictwo Naukowe PWN, Warszawa. Gajewski W., 1987, Genetyka ogólna i molekularna. Wydawnictwo Naukowe PWN, Warszawa. Kłyszajko-Stefanowicz Leokadja, Ćwiczenia z biochemii, 2013, Wydawnictwo Naukowe PWN Węgleński Piotr, Genetyka molekularna, 2012, Wydawnictwo Naukowe PWN	
	Supplementary literature	none	
	eResources addresses		
Example issues/ example questions/ tasks being completed	none		
Work placement	Not applicable		

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