

Subject card

Subject name and code	Basic biochemistry and genetics of cultured organisms - lectures, PG_00075873						
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		exam		
Conducting unit							
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	30.0	0.0	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		9.0		15.0	54
Subject objectives	The aim of the course is to familiarize students with the basics of biochemistry and genetics used in breeding aquatic organisms						
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: W1-W6).		[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: W1-W6).		[SW4] test/exam - oral or written		
	[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: W1-W6).		[SU1] oral statement/conversation/discussion [SU4] test/exam - oral or written		
	[AKWAL3-U02] can make observations and perform simple physical / biological / chemical measurements that are typical in socio-economic activity based on natural sciences		the student is able to carry out observations and perform simple biochemical and genetic analyses, typical for fields of socio-economic activity based on natural sciences and necessary in breeding farms (program content: W1-W6).		[SU4] test/exam - oral or written		

Subject contents	W1. basic biochemical transformations, cell structure and functions		
	W2. gene replication and expression (including the structure and functions of nucleic acids)		
	W3. characterization of chromosomes as gene carriers		
	W4. quantitative and qualitative features, heritability, variability		
	W5. basics of population genetics		
	W6. application of genetic methods in aquaculture		
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
	Final exan with test and open questions	50.0%	100.0%
Recommended reading	Basic literature	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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