

Subject card

Subject name and code	Microbiology - lecture, PG_00091498						
Field of study	Water Management and Protection of Water Resources						
Date of commencement of studies	October 2025		Academic year of realisation of subject			2025/2026	
Education level	Bachelor's studies		Subject group			Obligatory subject group in the field of study Subject group related to scientific research in the field of study Subject group related to practical vocational preparation	
Mode of study	full-time studies		Mode of delivery			at the university	
Year of study	1		Language of instruction			Polish	
Semester of study	2		ECTS credits			1.0	
Learning profile	practical		Assessment form				
Conducting unit	Laboratory of Marine Biotechnology -> Department of Marine Biology and Biotechnology -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Anna Toruńska-Sitarz				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	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		5.0		10.0	30
Subject objectives	To learn about the different groups of microorganisms, the nature of their interactions with other organisms, and their role in the aquatic environment.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[GWOZWL3-W01] in advanced basic biological, physical and chemical processes and phenomena, as well as analyzes their mutual relations and course in relation to natural environment and socio-ecological systems		W_1 [K_W01] Knows and understands at an advanced level the basic microbial processes occurring in the aquatic environment, and analyses them in relation to the whole natural environment and socio-ecological systems.			[SW4] test/exam - oral or written	

Subject contents	1. Structure and diversity of aquatic microorganisms. 2. Mechanisms regulating microbial abundance and biomass. 3. The role of microorganisms in the functioning of aquatic environments. 4. Methods used in microbiological research.		
Prerequisites and co-requisites	none		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Group work (active learning)	51.0%	20.0%
	Final exam	51.0%	80.0%
Recommended reading	Basic literature	Bibliography used during the classes: Błaszczyk M.K., Microbiology of the environments. 2010. PWN, Warszawa; Latest scientific publications in the scope of the lecture topic. Bibliography studied independently by the student: Schlegel H.G., General microbiology. 2000, PWN; Warszawa; Recent scientific publications in the scope of the lecture topic.	
	Supplementary literature	-	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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