

Subject card

Subject name and code	Water Biology - field exercises, PG_00153837						
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	Department of Marine Biology and Biotechnology -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Justyna Kobos				
	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		5.0		10.0	30
Subject objectives	The aim of the class is to teach practical skills for working in the field (collection, preservation and description of samples) and in the biological laboratory (preparation of slides and biological analysis of collected material).						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[GWOZWL3-U02] select and independently apply basic research techniques and tools, with adhering to established analytical procedures in the field of environmental research in water management, adequately to the considered research problem	is able to select and independently apply the basic techniques and research tools used in hydrobiology, with established analytical procedures, in the field of environmental research in water management	[SU1] oral statement/conversation/discussion
	[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	knows and understands to an advanced degree the basic biological processes and phenomena, as well as analyzes their interrelationships and course in relation to the water environment and socio-economic systems	[SW1] oral statement/conversation/discussion
	[GWOZWL3-U15] by solving in groups the assigned problem situations, appropriately set priorities to achieve task defined by themselves or others	by solving in groups the assigned problem situations related to the collection and analysis of environmental samples is able to correctly set priorities for the implementation of a specific task	[SU1] oral statement/conversation/discussion
	[GWOZWL3-K05] take responsibility for the safety of their own work and that of others, dealing with emergencies, exercising caution in the laboratory and in the field, responsibility for entrusted equipment and apparatus	is ready to take responsibility for the safety of his own work and that of others, to deal with emergencies, to be cautious in the laboratory and in the field, to be responsible for the entrusted equipment and apparatus used in the collection and analysis of biological samples	[SK1] oral statement/conversation/discussion
	[GWOZWL3-U01] make basic observations of processes and phenomena occurring in the hydrosphere and carry out basic measurements of selected processes of water purification on a laboratory scale	can carry out basic observations of processes and phenomena occurring in the aquatic environment	[SU1] oral statement/conversation/discussion
Subject contents	The problems of the exercises concern: 1. The ability to properly determine the location and collection of environmental samples (selection of instruments, maintenance, description, proper transportation and storage of samples). 2. The ability to prepare preparations and analyze samples taken from the environment under laboratory conditions. 3. To learn about the interdependence of aquatic organisms and their relationship with the environment.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		51.0%	100.0%
Recommended reading	Basic literature	Burchardt L., 2010, Klucz do oznaczania gatunków fitoplanktonu jezior i rzek - Przewodnik do ćwiczeń laboratoryjnych i badań terenowych. Bogucki Wydawnictwo Naukowe, Poznań Kolada A. [red], 2020, Podręcznik do monitoringu elementów biologicznych i klasyfikacji stanu ekologicznego wód powierzchniowych - aktualizacja metod. Biblioteka Monitoringu Środowiska, Warszawa	

	Supplementary literature	Bąk M., Witkowski A., Żelazna-Wieczorek J., Wojtał A. Z., Szczepocka E., Szulc K., Szulc B. 2012. Klucz do oznaczania okrzemek w fitobentosie na potrzeby oceny stanu ekologicznego wód powierzchniowych w Polsce Główny Inspektorat Ochrony Środowiska, Warszawa Bucka H., Wilk-Woźniak E. 2002. Gatunki kosmopolityczne i ubikwistyczne wśród glonów pro- i eukariotycznych występujących w zbiornikach wodnych Polski południowej. Zakład Biologii Wód PAN, Kraków Picińska-Fałtynowicz J., Błachuta J. 2012a. Klucz do identyfikacji organizmów fitoplanktonowych z rzek i jezior dla celów badań monitoringowych części wód powierzchniowych w Polsce. Biblioteka Monitoringu Środowiska, Warszawa Picińska-Fałtynowicz J., Błachuta J. 2012b. Wytyczne metodyczne do przeprowadzania badań fitoplanktonu i oceny stanu ekologicznego rzek na jego podstawie. Główny Inspektorat Ochrony Środowiska. Warszawa. Szoszkiewicz K., Zbierska J., Jusik S., Zgoła T., 2010b. Makrofitowa Metoda Oceny Rzek. Podręcznik metodyczny do oceny i klasyfikacji stanu ekologicznego wód płynących w oparciu o rośliny wodne. Bogucki Wydawnictwo Naukowe, Poznań
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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