

Subject card

Subject name and code	Freshwater biodiversity and protection, PG_00207333						
Field of study	Biology						
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 Optional subject group 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		Polish		
Semester of study	2		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Tadeusz Namiotko				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	30.0	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		4.0		16.0	50
Subject objectives	1. Knowledge of the general taxonomic diversity and the main threats to biodiversity in inland waters. 2. Ability to identify common plant and animal species found in aquatic ecosystems. 3. Introduction to methods of aquatic environment assessment based on phyto- and zoobenthos. 4. Ability to assess aquatic ecosystems on the basis of the characteristics of the abiotic environment and the structure of biocoenoses.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[BIOLMU2_W01] has a deep knowledge and understanding of natural phenomena and processes at various levels of complexity	The graduate understands the basic assumptions of the use of bioassays in relation to water quality assessment and critically evaluates the different systems used to assess the aquatic environment. The graduate has knowledge of the general taxonomic diversity of inland waters and knows how to measure it and is aware of threats and ways to protect freshwater biodiversity.	[SW4] test/exam - oral or written
	[BIOLMU2_U07] is able to critically compare biological information from various sources and draw justified conclusions on this basis	The graduate analyses and correctly interprets the basic problems of freshwater conservation based on acquired knowledge.	[SU3] text preparation/written work
	[BIOLMU2_U04] is able to plan and carry out complex research tasks or expert opinions in the field of the biological specialty studied, independently or in a team, also in changing and unforeseen conditions	The graduate is able to make independently a basic assessment of freshwater quality. Can present the results of own research work and evaluate it critically.	[SU3] text preparation/written work [SU8] observation of student's independent or team work
	[BIOLMU2_K02] is ready to work effectively as a team member and to comply with the rules of teamwork and take responsibility for the tasks carried out	The graduate works in a small team during data collection, analysis of results and formulation of conclusions. He/she is responsible for his/her own work and follows the rules of teamwork. Discusses and poses questions on contemporary problems of quality assessment and protection of aquatic ecosystems and understands the need to update this knowledge.	[SK8] observation of student's independent or team work
Subject contents	Species richness of plant and animal organisms living in inland waters. Threats to freshwater biodiversity. Adaptations of animals to life in subterranean waters. Phyto- and zoobenthos survey methods. Overview of the most important groups of organisms used in assessing the status of inland water quality. Water quality assessment systems, methods for assessing the susceptibility of lakes to degradation.		
Prerequisites and co-requisites	Knowledge of basic general ecology and plant and animal systematics will be useful.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written exam test	51.0%	75.0%
	reports	51.0%	25.0%
Recommended reading	Basic literature	Kolada A. (red.). 2020. Podręcznik do monitoringu elementów biologicznych i klasyfikacji stanu ekologicznego wód powierzchniowych. Aktualizacja metod. Biblioteka Monitoringu Środowiska, Warszawa. Podbielkowski Z., Tomaszewicz H. 1996. Zarys hydrobotaniki. PWN, Warszawa. Szmeja J. 2006. Przewodnik do badań roślinności wodnej. Wyd. Uniw. Gdańskiego, Gdańsk. Kryśka G. 2013. Freshwater invertebrates in Central Europe. A field guide. Springer-Verlag, Wiedeń	
	Supplementary literature	Damska I. 1964. Flora słodkowodna Polski. Charophyta ramienice. PWN, Warszawa. Jones I.D., Smol J.P. 2024. Wetzel's Limnology: Lake and River Ecosystems, Fourth Edition. Academic Press, Elsevier. Pełechaty, M., Pukacz, A., 2008. Klucz do oznaczania ramienic jezior i rzek. Inspekcja Ochrony Środowiska. Biblioteka Monitoringu Środowiska, Warszawa.	
	eResources addresses		
	Example issues/ example questions/ tasks being completed		
Work placement	Not applicable		

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