University of Gdańsk

Subject card

Subject name and code	Phyto -ication of water reservoirs, PG_00143454						
Field of study	Natural Resources Conservation						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor'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	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		mgr Rafał Ronowski				
	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		2.0		8.0	25
Subject objectives	1. to understand the natural phenomena and processes occurring in water bodies involving macrophytes. 2. To learn the principles of using aquatic plants in assessing the conservation status of aquatic ecosystems and characterizing their environmental conditions. 3. To be able to recognize aquatic plant species and communities.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OZPL3_U01] The graduate is able to use basic apparatus and research tools and maintains the correct sequence of operations in laboratory and field work	- uses basic apparatus and research tools and maintains the correct sequence of operations in the study of water bodies and the vegetation occurring in them (O_U01)	[SU8] observation of student's independent or team work
[OZPL3_U04] The graduate is able to plan and carry out simple research tasks in the biological sciences under the guidance of a supervisor	- Under the guidance of a mentor, plans and performs simple research tasks (O_U04)	[SU8] observation of student's independent or team work
[OZPL3_K08] The graduate is ready to systematically update his/her natural knowledge and to apply it in practice	- systematically updates knowledge about water bodies and macrophytes and knows its practical applications (O_K08)	[SK8] observation of student's independent or team work
[OZPL3_W13] The graduate has an advanced understanding of the fundamental rules, methods, and techniques of environmental research and their potential applications in nature conservation	- presents the basic rules, methods and techniques of conducting research on the aquatic environment and the possibility of their use in the protection of aquatic ecosystems and macrophytes (O_W13)	[SW2] presentation/project/paper/report
[OZPL3_U06] The graduate is able to make observations and perform basic physical, biological and chemical measurements in the field or laboratory	- makes observations and performs basic measurements of environmental conditions in the field and recognizes aquatic plant species and communities (O_U06)	[SU2] presentation/project/paper/report [SU4] test/exam - oral or written [SU8] observation of student's independent or team work
[OZPL3_K06] The graduate is prepared to demonstrate responsibility for their own and others' safe working conditions in the laboratory and in the field, and is able to recognise hazardous situations and take appropriate action	Demonstrates responsibility for safe working conditions in the field and is able to recognize hazardous situations and take appropriate action (O_K06)	[SK8] observation of student's independent or team work
[OZPL3_W06] The graduate has an advanced understanding of the names and types of natural environments, including their structural and functional characteristics	- names types of water bodies, recognizes aquatic plant species and communities (O_W06) - describes the structure and functioning principles of aquatic ecosystems (O_W06)	[SW4] test/exam - oral or written [SW2] presentation/project/paper/report

Subject contents

Assessing environmental conditions in water bodies using macrophytes. Recognizing aquatic plant species and communities. Ecological requirements of macrophytes. Importance of aquatic plants in the functioning of the river and lake ecosystem. Ecological amplitude of macrophytes and their communities. Bioindicative role of the species and the community.

Prerequisites and co-requisites

Knowledge of the principles of aquatic ecosystems and the reasons for their variation in time and space

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
credit - based on the grade of the report	51.0%	50.0%
credit - on the basis of the grade in the recognition of macrophytes	51.0%	50.0%

Recommended reading

Basic literature

A.1. used during the classes:
Banaś K. 2016. The principal regulators of vegetation structure in lakes of north - west Poland. A new approach to the assembly of macrophyte communities. Publishing House of the University of Gdańsk, Gdańsk.
Podbielkowski Z. Tomaszewicz H. 1996. Zarys hydrobotaniki. PWN, Warsaw.
Lampert W., Sommer U. 1996. ecology of inland waters. PWN Scientific Publishers. Warsaw.
Szmeja J. 2006. guide to the study of aquatic vegetation. University of Gdańsk Publishing House, Gdańsk.
A.2. studied independently by the student.
Szmeja J. 2006. Guide to the study of aquatic vegetation. Publishing House of the University of Gdańsk, Gdańsk.

	Supplementary literature	Banaś K., Gos K. 2007. Habitat specificity, vegetation and conservation status of lobelia lakes. Ch. 13, pp. 223-240, [In:] D. Borowiak (ed.), Lakes of the Kashubian Landscape Park, Ser. Bad. Limnol. 5, Wyd. KLUG, Gdańsk. Banaś K., Gos K. 2008. Features and diversity of Pomeranian peatland lakes. p. 13-17, [In:] E. Bajkiewicz-Grabowska, D. Borowiak (eds), Anthropogenic and natural transfor-mations of lakes. Vol. 2., Wyd. KLUG-PTLim, Gdańsk. Hermanowicz W., Dożańska W., Dojlido J., Koziorowski B. 1999. physico-chemical study of water and wastewater. Arkady Publishing House, Warsaw. Kajak Z. 1998. hydrobiology - limnology. Ecosystems of inland waters. PWN Scientific Publishers. Warsaw. Klosowski S., Klosowski G. 2001. Aquatic and swamp plants. Flora of Poland. MULTICO Oficyna Wydawnicza, Warsaw. Matuszkiewicz W. 2001. Guide to the identification of plant communities of Poland. PWN, Warsaw. Rutkowski L. 2004. Klucz do oznaczania roślin naczyniowych Polski niżowej. PWN, Warsaw. Tobolski K. 2000. Guide to the determination of peats and lake sediments. PWN Scientific Publishers, Warsaw.
	eResources addresses	
Example issues/ example questions/ tasks being completed	- recognition of individual species of macrophytes characteristic of a water body -identification of water bodies on the basis of macrophytes present in them -ecology and functioning of various aquatic plant species -ecology and functioning of water bodies	
Work placement	Not applicable	

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