University of Gdańsk

Subject card

Subject name and code	Water reservoirs of urban habitats, PG_00144426						
Field of study	Natural Resources Conservation						
Date of commencement of studies	October 2026		Academic year of realisation of subject	2028/2029			
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	3		Language of instruction	Polish			
Semester of study	6		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 the water bodies of urbanized areas and anthropogenically transformed areas. 2. to learn the principles of using aquatic plants and environmental conditions in assessing the conservation status of aquatic ecosystems. 3. to be able to recognize aquatic plant species and communities.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[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_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_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
[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 assessing the state of conservation of aquatic ecosystems (O_W13)	[SW4] test/exam - oral or written [SW2] presentation/project/paper/ report
[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 (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

Subject contents

Assessing environmental conditions in water bodies using abiotic environmental features and macrophytes. Recognition of aquatic plant species and communities and the ability to measure features of the aquatic environment. Ecological requirements of macrophytes. The importance of aquatic plants in the functioning of aquatic ecosystems of urbanized areas.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
identification of macrophytes	51.0%	50.0%
written individual report on field activities	51.0%	50.0%

Recommended reading

Basic literature

A.1. used during the class:
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	B. 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 urbanized water bodies	
Work placement	Not applicable	

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