

Subject card

Subject name and code	Phytoindycation of aquatic reservoirs, PG_00179640						
Field of study	Environmental Protection						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Master's studies		Subject group		Optional subject group		
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		3.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Laboratory of Freshwater Ecology -> Department of Plant Ecology -> Faculty of Biology -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Eugeniusz Pronin				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	45.0	0.0	0.0	45
	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	45		4.0		26.0	75
Subject objectives	1. Understanding natural phenomena and processes occurring in inland waters. 2. Learning the principles of describing aquatic ecosystems and assessing their threats. 3. Ability to recognize species and communities of aquatic plants. 4. Ability to apply research methods in hydroecology.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[OŚMU2_K10] Has a need for continuous professional development.		- defines their knowledge and understands the need for further education to pursue their interests		[SK1] oral statement/conversation/discussion		
	[OŚMU2_W04] Chooses methods, techniques and research tools used in environmental protection.		- selects methods, techniques, and tools enabling the rational use, shaping, and restoration of aquatic ecosystems and the vegetation occurring in them - knows the latest trends in research in the ecology of inland waters and describes their importance		[SW2] presentation/project/paper/report		
	[OŚMU2_U06] Defines her/his interests and develops them within the chosen specialisation and themes of her/his master's thesis while implementing the process of self-education and planning of own future career.		- assesses one's own skills and sets the direction of one's own professional development by choosing a specialization		[SU6] demonstration of practical skills		
Subject contents	Methods for assessing environmental conditions in water reservoirs. Recognition of species and communities of aquatic plants. Ecological requirements of macrophytes. The importance of aquatic plants in the functioning of the river and lake ecosystem. Bioindicative role of species and communities.						

Prerequisites and co-requisites	Knowledge of the principles of functioning of aquatic ecosystems and the causes of their differentiation in time and space.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Identification of aquatic plants	51.0%	50.0%
	An individual report from field work activities	51.0%	50.0%
Recommended reading	Basic literature	A. Literature required for the final pass of the course: A.1. used during classes: Podbielkowski Z. Tomaszewicz H. 1996. Zarys hydrobotaniki. PWN, Warszawa (in Polish). Lampert W., Sommer U. 1996. Ekologia wód śródlądowych. Wydawnictwo Naukowe PWN. Warszawa (in Polish). Szmeja J. 2006. Przewodnik do badań roślinności wodnej. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk (in Polish). A.2. studied independently by the student Szmeja J. 2006. Przewodnik do badań roślinności wodnej. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk (in Polish)	
	Supplementary literature	B. Supplementary literature Kajak Z. 1998. Hydrobiologia limnologia. Ekosystemy wód śródlądowych. Wydawnictwo Naukowe PWN Warszawa (in Polish). Tobolski K., 2000. Przewodnik do oznaczania torfów i osadów jeziornych. Wydawnictwo Naukowe PWN, Warszawa.(in Polish). Rutkowski L., 2004. Klucz do oznaczania roślin naczyniowych Polski niżowej. PWN, Warszawa.Matuszkiewicz W., 2001. Przewodnik do oznaczania zbiorowisk roślinnych Polski. PWN, Warszawa (in Polish). Kłosowski S., Kłosowski G., 2001. Rośliny wodne i bagienne. Flora Polski. MULTICO Oficyna Wydawnicza, Warszawa (in Polish). Hermanowicz W., Dożańska W., Dojlido J., Koziorowski B., 1999. Fizyko chemiczne badanie wody i ścieków. Wyd. Arkady, Warszawa (in Polish).	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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