

Subject card

Subject name and code	Hydrographic research method - lectures, PG_00091519						
Field of study	Water Management and Protection of Water Resources						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2025/2026		
Education level	undergraduate 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	2	Language of instruction			Polish		
Semester of study	4	ECTS credits			2.0		
Learning profile	practical	Assessment form					
Conducting unit	Pracownia Limnologii -> Katedra Hydrologii -> Faculty of Oceanography and Geography						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Kamil Nowiński				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	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		5.0		20.0	55
Subject objectives	Discussion of methods for the study of hydrographic objects and interpretation of measurement results.Characterization of various typologies and classifications of hydrographic objects.Discuss the role of hydrographic objects in the geographic environment.Identify the relationship between hydrographic objects and their environment.						

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	Can select appropriate research techniques and tools to solve tasks and problems arising from the variability of natural phenomena. Using his/her knowledge, he/she is able to identify regularities and draw conclusions in the field of causes and effects of phenomena occurring in the water environment and mutual relations between the hydrographic object and its environment	[SU4] test/exam - oral or written
	[GWOZWL3-W04] research techniques, methods and tools currently used in water management and protection of water resources both in the field of natural sciences and social sciences, including basic statistical and information technology tools that make it possible to describe, model and interpret data on phenomena and processes occurring in the aquatic environment, as well as tools for describing relationships in social-ecological systems	The student knows and understands basic terminology and processes related to the existence of hydrographic objects; knows basic research techniques and methods that allow describing, interpreting and explaining the relationships between the various natural phenomena that condition the functioning of hydrographic objects	[SW4] test/exam - oral or written
Subject contents	1. Hydrography and hydrometry as fields of water science.2. Division of hydrographic objects.3. Basic classifications of hydrographic objects.4. Determination of the genesis of hydrographic objects and their identification.5. Morphometric parameters of lakes and rivers.6. Basic physico-chemical characteristics of waters and sediments in individual hydrographic objects.7. Natural and anthropogenic transformations of hydrographic objects.8. Hydrological characteristics and methods of quantification of the water cycle.9. The role of the catchment and its individual components in the functioning of the water environment.10. Remote sensing and GIS techniques in hydrographic analysis of catchments.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written exam with open and closed questions (tasks)	51.0%	100.0%
Recommended reading	Basic literature	Borowiak D., 2011, Optical properties of lake waters of Pomerania, Wyd. UG, Gdansk 275 p.Bajkiewicz-Grabowska E., Magnuszewski A., Mikulski Z., 1993, Hydrometry, Wyd. Nauk NWN, Warsaw, 314 p.Lange W. (ed.), 1993, Methods of limnological research, UG, Gdansk, Poland.Dębski K., 1965, Hydrology: Hydrometrics, Part 1, Publishing Department of SGGW, Warsaw, 223 p.	
	Supplementary literature	Byczkowski A., 1999, Hydrology, Volume 1, Wyd. SGGW, Warsaw, 416 p.Choiński A., 2007, Physical Limnology of Poland, Wyd. UAM, Poznań, 547 p.Pasławski Z., 1973, Methods of river hydrometry, PIHM Instructions and Manuals No. 115, Wyd. Komunikacji i Łączności, Warsaw.	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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