University of Gdańsk

Subject card

Subject name and code	Hydrology of Coasts and Lake Districts - lecture, PG_00201424						
Field of study	Water Management and Protection of Water Resources						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's studies		Subject group		Obligatory subject group 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	3		ECTS credits		1.0		
Learning profile	practical		Assessment form		credit		
Conducting unit	Department of Hydrology -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Roman Cieśliński				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	0.0	0.0	0.0	20
	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	20		1.0		4.0	25
Subject objectives	Familiarising students with the spatial variation of hydrographic relations of the coastal and lake districts of the southern Baltic Sea.To discuss processes in the aquatic environment, the course of which determines and conditions the hydrography and hydrology of the coasts and lake districts.						

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GWOZWL3-U02] The student can 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.	The student is familiar with the basic research methods needed to assess processes occurring in the marine coastal zone.	[SU4] test/exam - oral or written
[GWOZWL3-U01] The student can make basic observations of processes and phenomena occurring in the hydrosphere and carry out basic measurements of selected processes of water purification on a laboratory scale.	The student is able to carry out independent research on coastal and nearshore processes.	[SU4] test/exam - oral or written
[GWOZWL3-W02] The student knows and understands the importance of advanced knowledge in the sciences allowing to understand the processes and phenomena occurring in the hydrosphere, as well as knowledge of the social sciences and of the Earth's geographic environment - as a a system of interrelated and interacting components.	Students will be able to identify the basic processes and phenomena occurring in the sea-land interface and determine the interactions between them.	[SW4] test/exam - oral or written
[GWOZWL3-U13] The student is able to read with understanding specialized scientific texts in Polish and foreign language.	The student is able to read with understanding specialized scientific texts in Polish and English.	[SU1] oral statement/conversation/ discussion

Subject contents

A.1 Identification of factors determining and conditioning the water cycle in coastal and lake areas.

A.2 Surface water characteristics.

A.3 Groundwater characteristics.

A.4 Problems arising in the interface between sea and land.

A.5. Characteristics of hydrographic units (lakeshores, nontidal areas, coastal areas, coastal plains, coastal alluvial plains, bottoms of major river valleys, sea level, sea ice, etc.).alluvial plains, main river valley bottoms, marginal zones).

A.6 Areas with natural and man-made circulation.

A.7 Areas with clean water and with degraded water.Translated with DeepL.com (free version).

Prerequisites and co-requisites

Knowledge of general hydrology, hydrology of alluvial plains.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Pass mark, written test exam.	51.0%	100.0%

Recommended reading

Basic literature

1 Augustowski B., (ed.), 1977, Pomerania, GTN, 5th Department of Earth Sciences, Gdańsk (in Polish).2. Bajkiewicz- Grabowska E., Mikulski Z., 2002, General hydrology, PWN, Warsaw (in Polish).3. Bogdanowicz R., Fac-Beneda J., (eds.), 2009, Water resources and their protection, FRUG, Gdańsk (in Polish).4. Chełmicki W., 2002, Water. Resources, degradation, protection. PWN, Warsaw (in Polish).

	Supplementary literature	1. Byczkowski A., 1979, Hydrological bases of water reclamation projects, PWRiL, Warsaw (in Polish). 2. Chlost I., Cieśliński R., Pietruszyński Ł, Budzisz M., 2018, Influence of human activity on the functioning of the raised bog on the example of the Żarnowska Peatland (in northern Poland), [in:] P. Gâştescu, P. Bretcan (eds.), Water resources and wetlands, Transversal Publishing House, Targoviste, 246-254. 3. Cieśliński R., 2018, Changes in hydrological, physical and chemical properties of water in closed/open coastal lakes due to hydrotechnical structures, Oceanological and Hydrobiological Studies, 47 (4), 345-358, DOI: 10.1515/ohs-2018-0000 4. Cieśliński R., Obolewski K., 2017, Research of Polish coastal lakes with their classification, [w:] Obolewski K., Astel A., Kujawa R. (red.), Hydroecological determinants of functioning of southern Baltic coastal lakes, Wyd. PWN, Warszawa, 11-25 5. Cieśliński R., Olszewska A., 2018, New insight into defining the lakes of the southern Baltic coastal zone, Environmental Monitoring and Assessment, 190 (2), DOI: 10.1007/s10661-017-6447-8. 6. Cieśliński R., Pietruszyński Ł., Budzisz M., Ossowska A., Olszewska A., 2017, Pollution load released into the Bay of Gdańsk by small river catchments in the coastal city of Sopot, Forum geografic. Studii şi cercetări de geografie şi protecţia mediului, 15, 105-114, doi: http://dx.doi.org/10.5775/fg.2016.139.s 7. Partyka J., Pociask-Karteczka J., (ed.), 2008, Waters in protected areas, IG and GP UJ, Cracow (in Polish). 8. Pociask-Karteczka J. (ed.), 2003, Catchment. Properties and processes, Jagiellonian University, Cracow (in Polish).
	eResources addresses	
Example issues/ example questions/ tasks being completed	1. Explain the terms coastal zone and coast. 2. Give examples of hydrological effects of climate change in the coastal zone. 3. Discuss quasiestuarine processes in the Polish coastal zone of the southern Baltic Sea.	
Work placement	Not applicable	

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