University of Gdańsk

Subject card

Subject name and code	Hydrology, PG_00050799		
Field of study	Environmental Protection		
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
Mode of study	full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish Polish
Semester of study	3	ECTS credits	2.0
Learning profile	academic	Assessment form	
Conducting unit	Pracownia Limnologii -> Katedra Hydrologii -> Faculty of Oceanography and Geography		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Joanna Fac-Beneda	
	Teachers		

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	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	33.0	50

Subject objectives

Familiarity with sources of hydrological information. To master the skills of basic methods of processing data from hydrometric measurements. To be able to spatially characterise water objects within the boundaries of natural hydrographic units (catchments). Preparation for interpretation of the contents of hydrographic maps.The course prepares the student to independently analyse and interpret basic information from water science knowledge.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[OŚL3_U10] Participates in the analyses and evaluation of alternative solutions to environmental problems and selects methods and instruments to rationally resolve them.	Uses acquired theoretical knowledge as well as available hydrological information from various sources, including electronic sources, to correctly interpret basic natural processes and phenomena	[SU5] implementation of a problem task
[OŚL3_W09] Describes the basic methods, techniques and tools that allow the rational use, shaping and restoration of natural resources.	Be familiar with sources of hydrological information. Knowledge of basic methods for processing data from hydrometric measurements. To be able to spatially characterise water objects within the boundaries of natural hydrographic units (river basins). To prepare for the interpretation of the contents of hydrographic maps. The course prepares the student to independently analyse and interpret basic information from hydrological knowledge.	[SW4] test/exam - oral or written [SW3] text preparation/written work
[OŚL3_K05] Identifies the level of her/his knowledge and skills, demonstrates the need to update knowledge about the environment and its protection, demonstrates the need for continuous professional training and personal development.	Demonstrates responsibility in carrying out assigned tasks and appreciates professional preparation for their correct execution	[SK6] demonstration of practical skills
[OŚL3_W04] explains the meaning and indispensability of empirical data in the description and interpretation of natural phenomena and processes (occurring in the environment).	Draws conclusions based on analysis of hydrological data and interpretation of hydrographic map content	[SW3] text preparation/written work
[OŚL3_W01] Discusses the basic concepts of mathematics, physics, chemistry and biology. Describes physical, chemical and biological phenomena occurring in nature as well as geological, geomorphological and climatic conditions of the functioning of nature.	Identifies and explains the impact of human economic activities on hydrological relations	[SW3] text preparation/written work
[OŚL3_W02] Characterises the relationships and relationships between various disciplines of natural sciences and science, uses knowledge of mathematics, physics, chemistry and biology in the description of basic concepts, concepts and principles in environmental protection.	Names, describes and defines processes and phenomena occurring in the hydrosphere, recognizes their relationships and connections with other components of the natural environment	[SW5] implementation of a problem task

Subject contents

1. Hydrographic units and principles of their delineation.
2. Basic elements of general hydrographic characteristics of a catchment (morphometric description of the catchment, measures of physical-geographical differentiation of the catchment area, water network parameters, hydrographic structure of the catchment).
3. Analysis of river runoff (temporal variability of states and flows, measures of runoff, magnitude and structure of runoff, river watersheds).
4. Balancing of water resources within the boundaries of hydrographic units.
5. Selected elements of limnological characteristics (morphometric characteristics of lake bowls, elements of thermal structure of lake waters).
6. Groundwater and its characteristics.
7. Hydrographic map of Poland in the scale 1:50 000 as a source of synthetic information on water relations of a given region (content of the hydrographic map and its interpretation).

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
	51.0%	70.0%
	51.0%	30.0%

Recommended reading	Basic literature	1. Bajkiewicz-Grabowska E., Mikulski Z., 2010, General hydrology, PWN, Warsaw, 340 p.2. Bajkiewicz-Grabowska E., Magnuszewski A., 2012, Guide to exercises in general hydrology, PWN, Warsaw, 196 p.3. Bajkiewicz-Grabowska E., 2021, General hydrology, PWN, Warsaw, 714 p.4. Dynowska I., Tlałka A., 1982, Hydrography, PWN, Warsaw, 299 p.5 Jokiel P., Marszelewski W., Pociask-Karteczka J., eds, 2017, Hydrology of Poland, PWN, Warsaw, 342 p.6 Pociask-Karteczka J. (ed.), 2003, Catchment. Properties and processes, IGGW UJ, Krakow, 228 p.
	Supplementary literature	1 Choiński A., Kaniecki A., 1996, The great encyclopedia of world geography. T. 4: Wody Ziemi, Wyd. Kurpisz, Poznań, 367 s2 Duxbury A. C., Duxbury A. B., Sverdrup K. A., 2002, Oceans of the world, PWN, Warsaw, 636 p.3 Parde M., 1957, Rivers, PWN, Warsaw, 233 p.4. Pazdro Z., Kozerski B., 1990, General hydrogeology, Wyd. Geol., Warsaw, 623 p.
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	delineation of catchment boundaries, catchment and river network characteristics, analysis of water level variability, flow rate calculation, elements of water balance, retention and its forms, hierarchy of the hydrographic network, flow rate curve, construction of a bathigraphic curve and its use, thermal structure of lakes	
Work placement	Not applicable	

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