University of Gdańsk

Subject card

Subject name and code	Hydrology - laboratory excercise, PG_00092778		
Field of study	Marine Hydrography		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
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	1	Language of instruction	Polish Polish
Semester of study	2	ECTS credits	2.0
Learning profile	practical	Assessment form	credit
Conducting unit	Pracownia Hydrologii -> Department of Hydrology -> Faculty of Oceanography and Geography -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Wojciech Maślanka	
	Teachers	dr Wojciech Maślanka	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	0.0	0.0	20.0	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	6.0	25.0	51

Subject objectives

- Sources of information about water.
- Application of basic methods for processing data obtained from hydrometric measurements.
- Performing basic hydrological measurements and calculations.
- Delimitation of hydrographic units (catchment, river basin).
- Spatial characteristics of water features within the boundaries of natural hydrographic units.
- Preparation to interpret the content contained on hydrographic maps.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[HML3-U03] recognise natural (including geological) and anthropogenic objects and link them to the processes leading to their formation	The student is able to recognize natural and anthropogenic hydrographic objects and indicate the genesis of their formation.	[SU1] oral statement/conversation/ discussion [SU3] text preparation/written work
[HML3-U02] select and apply basic research techniques and tools in the field of aquatic environment research, as well as plan and carry out measurements, develop the obtained results and interpret them correctly	The student is able to select and apply basic research methods and tools for examining water objects, as well as plan and perform hydrometric measurements, develop the obtained results and interpret them properly using cause-and-effect reasoning.	[SU2] presentation/project/paper/ report [SU3] text preparation/written work
[HML3-U01] plan and conduct experiments, including computer simulations, interpret the results obtained and draw conclusions	The student is able to present the obtained measurement results using computer tools, interpret them properly and draw conclusions.	[SU1] oral statement/conversation/ discussion [SU3] text preparation/written work
[HML3-K01] correctly identify and resolve professional dilemmas, especially in the aspects of security and entrusted property	The student is ready to critically evaluate the acquired knowledge and received content and recognize the importance of knowledge in solving cognitive problems practical and seeking expert opinions in case of difficulties in solving the problem on your own. He takes care of the equipment entrusted to him.	[SK1] oral statement/conversation/ discussion [SK8] observation of student's independent or team work
[HML3-W04] the issue of measurements related to the exploration of sea basins and inland waters and tools allowing to describe, interpret and present the results of measurements	The student knows and understands the issues of measurements related to water research inland waterways and tools to describe, interpret and presenting measurement results related to water circulation in nature and water resources.	[SW1] oral statement/ conversation/discussion [SW3] text preparation/written work [SW5] implementation of a problem task
[HML3-U14] use the applicable terminology in presenting and discussing problems related to the field of study	The student is able to efficiently use professional terminology in presenting and discussing problems in the field of hydrology, taking into account its various sections.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report
[HML3-U18] work individually and in team, manage the work of the team, in particular comply with health and safety regulations and ergonomics	The student demonstrates the ability to work independently or in a team when carrying out design work in the field of terrestrial hydrology	[SU8] observation of student's independent or team work
[HML3-U08] independently use the professional literature available in traditional and electronic form, make an assessment, critical analysis and synthesis as well as the correct interpretation of the information obtained	The student knows the sources of hydrological information and is able to independently use them and evaluate, critically analyze and synthesize, and correctly interpret the obtained information.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU3] text preparation/written work

Subject contents

- Hydrographic units and principles of their separation.
- Hydrographic characteristics of the catchment area (morphometric and physical-geographic parameters of the catchment area, parameters of the water network, hydrographic structure of the catchment area).
- Characteristics of river runoff (temporal variability of water levels and flows, runoff measures, size and structure of runoff, river water systems).
- Water balance of the controlled catchment.
- Selected elements of limnological characteristics (morphometry of lake bowls, thermals of lake water).
- Groundwater (methods of mapping the groundwater table - hydroisobaths, hydroisohypses, relationship of groundwater with river waters).
- Hydrographic map - content and application.

Prerequisites and co-requisites

General knowledge of physical geography at secondary school level.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
projects realization	100.0%	100.0%

Recommended reading	Basic literature	• Bajkiewicz-Grabowska E., 2021, General hydrology, PWN, Warsaw. • Bajkiewicz-Grabowska E., Magnuszewski Z., 2009, Guide to exercises in general hydrology, PWN, Warsaw. • Kosowska-Cezak U., Bajkiewicz-Grabowska E., 2009, Basics of hydrometeorology. PWN, Warsaw. • Pociask-Karteczka J. (ed.), 2003, Zlewnia. Properties and processes, UJ IGiGP, Kraków. • Tarka R., 1999, Hydrology - Guide for laboratory and field exercises, University of Wrocław, Wrocław.
	Supplementary literature	• Dynowska I., Tlałka A., 1982, Hydrografia, PWN, Warszawa-Poznań. • Choiński A., 2008, Physical limnology of Poland, Ed. Science. Adam Mickiewicz University, Poznań. • GIS-3, Hydrographic Map of Poland at a scale of 1:50,000, Technical Guidelines, 2005, GUGiK, Warsaw. • Terrain Information System, Hydrographic Map of Poland, scale 1:50,000, Technical Guidelines K-3.4, 1997, GUGiK, Warsaw. Technical guidelines K 3-4. Hydrographic map at a scale of 1:50,000, Warsaw.
	eResources addresses	
Example issues/ example questions/ tasks being completed	• Based on topographic maps on a scale of 1;25,000, determine the watershed of the mountain and lake catchment areas. • Calculate the river flow using the accounting method based on the attached data. • Draw a bathygraphic curve of the lake and calculate its capacity. • Draw the course of groundwater fluctuations and interpret their variability over time.	
Work placement	Not applicable	

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