University of Gdańsk

Subject card

Subject name and code	General Hydrology - lecture, PG_00054169		
Field of study	Water Management and Protection of Water Resources		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2024/2025
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	1	Language of instruction	Polish Polish
Semester of study	1	ECTS credits	2.0
Learning profile	practical	Assessment form	
Conducting unit	Pracownia Hydrologii -> Katedra Hydrologii -> Faculty of Oceanography and Geography		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Joanna Fac-Beneda	
	Teachers	dr hab. Joanna Fac-Beneda	

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

Additional information:

- Problem-based lecture
- Lecture with multimedia presentation
- Discussion

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	10.0	10.0	50

Subject objectives

- Basic knowledge of the hydrosphere and the water cycle in the natural environment.
- Causes and geographical determinants of water circulation in nature.
- Hydrographic objects and the links and relationships between them.
- Basic water science terminology.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[GWOZWL3-U07] use literature and other available sources of information, including information technology, multimedia, Internet, databases, and select and critically evaluate information	be able to use literature, reference materials and databases, as well as information technology and multimedia, and to select and critically evaluate hydrological information	[SU1] oral statement/conversation/ discussion
[GWOZWL3-W01] in advanced basic biological, physical and chemical processes and phenomena, as well as analyzes their mutual relations and course in relation to natural environment and socio-ecological systems	has an advanced understanding and appreciation of fundamental biological, physical and chemical processes and phenomena, and analyses their interrelationships and processes in relation to the aquatic environment and hydrographic systems	[SW4] test/exam - oral or written
[GWOZWL3-K03] systematic further education and professional development, updating and expand their knowledge and skills, understands the limitations of his own knowledge in the context of civilization progress and recognizes authorities in the professional and scientific environment	is willing to undergo systematic retraining and professional development, to update and expand his/her knowledge and skills, understands the limits of his/ her own knowledge in the context of the progress of civilisation and recognises authority in the professional and scientific community	[SK1] oral statement/conversation/ discussion
[GWOZWL3-U08] use basic mathematical and statistical methods to analyze data and describe phenomena and processes occurring in the environment, as well as methods of information technology to assess the risk of threats to the of the environment, especially the hydrosphere	is able to use basic mathematical and statistical methods for data analysis and description of phenomena and processes in the hydrosphere, as well as computer methods	[SU6] demonstration of practical skills
[GWOZWL3-W02] the importance of 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	knows and understands the importance of scientific knowledge for understanding processes and phenomena in the hydrosphere and knowledge of water relations in a changing geographical environment	[SW4] test/exam - oral or written

Subject contents

Subject and scope of hydrological research. Systematics of water sciences.Hydrosphere and its properties. Circulation of water in nature - small and large water cycle.The hydrographic system and its components. Hydrographic objects (point, linear, surface).Atmospheric phase of the water cycle (precipitation and evaporation).Underground water cycle link.Surface and underground runoff (variability and measures of runoff).Retention (types and magnitude of retention).Water balance (elements of water balance, types of water balance).Thermal and dynamic processes in inland waters.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
written/oral exam	51.0%	100.0%

<table>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>• Bajkiewicz-Grabowska E., 2011, General hydrology, PWN, Warsaw.
• Bajkiewicz-Grabowska E., 2021, General hydrology, PWN, Warsaw.
• Bajkiewicz-Grabowska E., Magnuszewski Z., 2009, Guide to exercises in general hydrology, PWN, Warsaw.
• Jokiel P., Marszelewski Wł., Pociask - Karteczka J. (ed.), 2017, Hydrologia Polski, podręcznik akademicki, Wyd. PWN, Warszawa.
• Kosowska-Cezak U., Bajkiewicz-Grabowska E., 2009, Podstawy hydrometeorologii. PWN, Warsaw.
• Pociask-Karteczka J. (ed), 2003, Catchment. Properties and Processes, Jagiellonian University IGiGP, Cracow.
• Dynowska I., Tlałka A., 1982, Hydrography, PWN, Warsaw-Poznań.
• Choiński A., 2008, Limnologia fizyczna Polski, Wyd. Nauk. UAM, Poznań.
• Central Office of Geodesy and Cartography [GUGK], 1985, Technical guidelines K 3-4. Mapa hydrograficzna w skali 1:50 000, Warsaw.</td></tr>
<tr><td>Supplementary literature</td><td>• Byczkowski A., 1999, Hydrology, vol. I and II, Wydaw. SGGW, Warsaw.
• Choiński A., Kaniecki A., 1996, Wielka Encyklopedia Geografii Świata t. IV: Wody Ziemi, Wydawnictwo Kurpisz, Poznań
• Parde M., 1957, Rivers, PWN, Warsaw.
• Dynowska I., 1971 Typy reżimów rzecznych w Polsce, Prace IG UJ, Kraków.
• Lange W. (ed.), 1993, Methods of physical-limnological research, Wyd. UG, Gdańsk.</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">1. What is a geyser, how is it formed and where does it occur?
2. What is the importance of lakes in the geographical environment?
3. Explain the impact of glaciers on changes to the globe.
4. The role of wetlands in the geographical environment.
5. Explain what influences the formation of runoff.
6. How do you think water quality can be improved?</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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