University of Gdańsk

Subject card

Subject name and code	Essentials of hydrogeology - laboratory exercises, PG_00091503		
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	2	ECTS credits	2.0
Learning profile	practical	Assessment form	
Conducting unit	Katedra Geofizyki -> Faculty of Oceanography and Geography		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Leszek Łęczyński	
	Teachers		

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	30.0	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	25.0	60

Subject objectives	Gain knowledge of the conditions for the formation of groundwater communities and the underground water cycle, as well as potential sources of pollution and ways to protect these waters. To analyse the quality of water resources. To plan and forecast the risks to groundwater and its resources.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[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	describes methods and techniques used to analyse the hydrogeological environment and groundwater chemistry and groundwater movement	[SW3] text preparation/written work
	[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	characterise the physical and hydrogeological properties of groundwater and methods for its protection.	[SW3] text preparation/written work
	[GWOZWL3-U07] use literature and other available sources of information, including information technology, multimedia, Internet, databases, and select and critically evaluate information	knows and understands the potential threats and sources of groundwater pollution resulting from strong anthropopression	[SU3] text preparation/written work
	[GWOZWL3-U03] observe and describe the changes taking place in water management and predict further directions of its development as well as conduct a critical analysis of: case studies of problems of water management and protection of water resources in terms of impact on ecological, social and economic systems natural valorization and assessment of quality of the environment	Assesses the impact of planned investments on the value and quality of groundwater resources	[SU3] text preparation/written work
	[GWOZWL3-K05] take responsibility for the safety of their own work and that of others, dealing with emergencies, exercising caution in the laboratory and in the field, responsibility for entrusted equipment and apparatus	can take independent action and organise his/her own work and that of a team	[SK3] text preparation/written work
	[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	systematically further develop, update and expand his/her knowledge and skills in hydrogeology	[SK3] text preparation/written work
	[GWOZWL3-K01] act independently and effectively organize own and team work, Is ready to critically assess the degree of its advancement and completion of the set tasks	is aware of the limitations of his/her own knowledge and skills and understands the need for continuous improvement of his/her professional qualifications in the field of value and protection of groundwater resources and the continuous need for personal development	[SK3] text preparation/written work

	Course outcome	Subject outcome	Method of verification
	[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 processes and phenomena of the hydrosphere as a system of interconnected and interacting components	[SW3] text preparation/written work
Subject contents	Introduction to the analysis of geological maps and cross-sections.Hydrogeological cross-section.Map of hydroisohips and hydroisobaths.Determination of filtration coefficient.Analysis of the chemical composition of groundwater.Basic intake water inflow calculations.		
Prerequisites and co-requisites	no		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	credit work	51.0%	100.0%
Recommended reading	Basic literature	-	
	Supplementary literature	-	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	-		
Work placement	Not applicable		

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