

Subject card

Subject name and code	Hydrogeology - lecture, PG_00091152						
Field of study	Geology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's 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		
Semester of study	3		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit							
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	30.0	0.0	0.0	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		12.0		10.0	52
Subject objectives	Gain knowledge of the conditions for the formation of groundwater communities and the underground water cycle.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[GEOLL3_W07] knows the anthropogenic transformation of the natural environment, including the effects of the exploitation of mineral resources		is familiar with anthropogenic transformation of the natural environment, including the effects of groundwater exploitation		[SW4] test/exam - oral or written		
	[GEOLL3_U06] is able to identify geological objects and combine them with geological processes and anthropogenic environmental transformations		is able to identify hydrogeological objects and link them to geological processes and anthropogenic transformations of the environment		[SU4] test/exam - oral or written		
	[GEOLL3_U01] is able to apply basic measurement and analytical techniques in the field and in the laboratory, plans to conduct research and measurements		is able to apply basic measuring and analytical techniques in the field and laboratory, and to plan tests and measurements in hydrogeology		[SU4] test/exam - oral or written		
	[GEOLL3_W02] knows and understands the terminology appropriate in science and natural sciences		knows and understands terminology specific to hydrogeology		[SW3] text preparation/written work		
	[GEOLL3_W05] knows the structure and geological development of selected regions in Poland and in the world		knows the structure and geological development of selected regions in Poland and in the world		[SW3] text preparation/written work		

Subject contents	Hydrogeological concepts. Genesis and classification of groundwater. Basic hydrogeological properties of rocks. Waters of the aeration zone. Waters of the saturation zone. Basic laws of groundwater movement. Chemism of groundwater. Mineral and medicinal waters. Natural outflows of groundwater. Types and methods of groundwater protection. Major groundwater reservoirs. Groundwater in coastal areas.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	colloquium	51.0%	100.0%
Recommended reading	Basic literature	Chelmicki W., 2002. Woda. Zasoby, degradacja, ochrona, Wyd. Naukowe PWN, Warszawa Macioszczyk A., Dobrzyński, 2003. Hydrogeochemia wód podziemnych strefy aktywnej wymiany, Wyd. Naukowe PWN, Warszawa Paczyński B, Sadurski A. (red.), 2007. Hydrogeologia regionalna Polski, PiG, Warszawa Pazdro Z., Kozerski B., 1989. Hydrogeologia ogólna, Wyd. Geologiczne, Warszawa Piekarę-Jankowska H., 1994. Zatoka Pucka jako obszar drenażu wód podziemnych, Wyd. Uniwersytetu Gdańskiego Turek S. (red), 1971. Poradnik hydrogeologa, Wyd. Geologiczne, Warszawa Wieczysty A., 1982. Hydrogeologia inżynierska, Wyd. Naukowe PWN, Warszawa	
	Supplementary literature	Kleczkowski, A. S., (red.), 1984. Ochrona wód podziemnych, Wyd. Geologiczne, Warszawa Kozerski B.(red), 2007. Gdański system wodonośny, Wyd. Politechniki Gdańskiej, Gdańsk Maciożyk A., 1987. Hydrogeochemia, Wyd. Geologiczne, Warszawa Pleczyński J., 1981. Odnowialność zasobów wód podziemnych, Wyd. Geologiczne, Warszawa Kleczkowski A., Różkowski A., 1997. Słownik hydrogeologiczny, Wydawnictwo TRIO Ustawa, Prawo wodne. z dnia 18 lipca 2001 r. (Dz. U. 2001.115.1229)	
	eResources addresses		
Example issues/ example questions/ tasks being completed	Hydrogeological concepts. Genesis and classification of groundwater		
Work placement	Not applicable		

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