University of Gdańsk

Subject card

Subject name and code	Hydrogeology - lecture, PG_00091152		
Field of study	Geology		
Date of commencement of studies	October 2024	Academic year of realisation of subject	2025/2026
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	dr hab. Leszek Łęczyński	

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_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
[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_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_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_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

<table>
<tr><td>Subject contents</td><td>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.</td></tr>
<tr><td>Prerequisites and co-requisites</td><td></td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>colloquium</td><td>51.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>Chełmicki 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
Piekarek-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</td></tr><tr><td>Supplementary literature</td><td>Kleczkowski, A. S., (red.), 1984. Ochrona wód podziemnych, Wyd. Geologiczne, Warszawa
Kozerski B.(red), 2007. Gdański system wodonośny, Wyd. Politechniki Gdańskiej, Gdańsk
Macioszyk A., 1987. Hydrogeochemia, Wyd. Geologiczne, Warszawa
Pleczyński J., 1981. Odnawialność 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)</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Hydrogeological concepts.

Genesis and classification of groundwater</td></tr>
<tr><td>Work placement</td><td>Not applicable</td></tr>
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