



## Subject card

Subject name and code	Geology and hydrogeology, PG_00042265						
Field of study	Civil Engineering						
Date of commencement of studies	February 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group			Optional subject group		
Mode of study	Full-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			English		
Semester of study	3	ECTS credits			2.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Geotechnics, Geology and Marine Civil Engineering -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Maria Przewiócka, doc. PG					
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	15.0	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		15.0		50
Subject objectives	<p>Work with geological and hydrogeological maps; description of chosen region regarding: superficial deposits and hydrogeological conditions. Recognition and description of minerals, recognition and description of rocks, technical properties of rocks, identification of applied rocks; description of indicated rocks used for building purposes</p> <p>Water cycle, recognition of types of aquifers, its characteristics, analysis of geological and hydrogeological data, determination of the conductivity. Principles of groundwater flow, flow to wells. Dewatering of excavation and human impact on the environment</p>						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K7_U14] is able to plan and to interpret the geotechnical investigations, to analyse the foundation stability; can design direct and deep foundations in complex soil conditions for complicated static and dynamical loads	Student can plan and make interpretation of hydrogeological measurement			[SU1] Assessment of task fulfilment		
	[K7_W14] knows and applies building codes and obeys the Construction Law; has knowledge on environmental impact of investment realisation	Student has knowledge about influence of civil engineering on the environment			[SW3] Assessment of knowledge contained in written work and projects		
Subject contents	<p>Work with geological and hydrogeological maps; description of chosen region regarding: superficial deposits and hydrogeological conditions. Recognition and description of minerals, recognition and description of rocks, technical properties of rocks, identification of applied rocks; description of indicated rocks used for building purposes</p> <p>Water cycle, recognition of types of aquifers, its characteristics, analysis of geological and hydrogeological data, determination of the conductivity. Principles of groundwater flow, flow to wells. Dewatering of excavation and human impact on the environment.</p>						
Prerequisites and co-requisites	knowledge of soil mechanic						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	reports from geology	60.0%	34.0%
	test from hydrogeology	60.0%	33.0%
	reports from hydrogeology	60.0%	33.0%
Recommended reading	Basic literature	1. Domenico, Schwartz: Physical nad Chemical Hydrogeology 2. Schwartz, Zhang: Fundamentals od Ground Water 3. Fetter C.W.: Applied Hydrogeology 4. Żyłka R.: Geological Dictionary	
	Supplementary literature	1. Finkl C.W: The Encyclopedia of Applied Geology 2. Bell F.G.: Environmental Geology Principles and Practise .	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	types of aquifer, how to determine conductivity, ground water flow conection with surface water		
Work placement	Not applicable		