

§ GDAŃSK UNIVERSITY § OF TECHNOLOGY

Subject card

Subject name and code	Geology, PG_00059247								
Field of study	Civil Engineering								
Date of commencement of studies	October 2023		Academic year of realisation of subject			2023/2024			
Education level	first-cycle 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	1		Language of instruction			Polish			
Semester of study	2		ECTS credits			3.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Department of Geotechnical and Hydraulic Engineering -> Faculty of Civil and Environmental Engineering								
Name and surname of lecturer (lecturers)	Subject supervisor dr hab. inż. Beata Jaworska-Szulc								
	Teachers	dr hab. Małgorzata Pruszkowska-Caceres							
		dr inż. Maria Przewłócka, doc. PG							
			drinż Anna Gumuła-Kawecka						
			di miz. Anna Gunua-Nawçoka						
			ar Dawia Potrykus						
			dr hab. inż. Beata Jaworska-Szulc						
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	Project	t	Seminar	SUM	
of instruction	Number of study	15.0	0.0	15.0	15.0		0.0	45	
	E-learning hours included: 0.0								
Learning activity and number of study hours	Learning activity	Participation in didactic classes included in study		Participation in consultation hours		Self-study		SUM	
	Number of study hours	45		4.0		26.0		75	
Subject objectives	Student gets acquainted with internal and external geological processes. Learning about the impact of geological processes on subsoil. Understanding the specificity of groundwater occurrence and its impact on constractions. Geining practical skills in recognising and desription of most common minerals and rocks.Become acquainted with diverse geological and hydrogeological data (profiles, maps, cross-sections) and gaining practical knowledge how to interpret it. Learning rules how to draw hydrogeological cross-sections.								
Learning outcomes	Course outcome		Subject outcome				Method of ver	ification	
	[K6_U01] Apply knowledge and understanding of mathematics as well as sciences and engineering disciplines underlying civil engineering to solve engineering problems and issues.		Student describes internal and external geological processes; explains natural geological threats; interprets the influence of geological processes on the Earth's relief and mineral composition. Understanding the specificity of groundwater occurrence and its impact on constractions.			[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information			
	[K6_W01] Demonstrate knowledge and understanding of mathematics as well as sciences and engineering disciplines underlying civil engineering at a level necessary to achieve the other programme outcomes.		Understanding the impact of geological processes on subsoil, and is also able to assess the impact of construction projects on the environment.			[SW1] Assessment of factual knowledge			

Subject contents	Lecture: the Earths layers, basis of stratigraphy; internal processes (volcanism, plutonism, metamorphism); plate tectonic theory; basis of tectonics; isostasy; the rock cycle; external processes (weathering, erosion, mass wasting); glacial, stream, marine, eolian processes. Hydrogeology. Laboratory: minerals (physical properties, origin, identification of basic minerals), igneous, sedimentary, metamorphic rocks (origin, mineral composition, textures, classification, identification).							
	Project: Study of geological and hydrogeological maps; drawing of hydrogeological cross-sections; analysi of groundwater occurrence for a chosen region.							
Prerequisites and co-requisites								
Assessment methods	Subject passing criteria	Passing threshold	Percentage of the final grade					
and criteria	2 laboratory tests and projects							
	2 tooto	60.0%	50.0%					
	2 lesis	00.0%	50.0 %					
Recommended reading	Basic literature Supplementary literature	 Lutgens, Tarbuck, Tasa, Essentials of geology Thompson & Turk, Introduction to Physical Geology Jain, Fundamentals of Physical Geology Hefferan, O Brien, Earth Materials Czubla P, Mizerski W,Świerczewska-Gładysz E: Przewodnik do świczeń z geologii 						
	Adresy na platformie eNauczanie:							
example questions/ example questions/ tasks being completed	Indicate geological events occuring at divergent plate boundaries? What are the main rock forming minerals of gabbro; indicate the stage of magma crystallization for this rock. Describe conditions of granite forming. What is the subduction zone ? What are the main processes responsible for the Earth relief? How to distinguish between granite and gneiss. Indicate also common properties of the rocks. Give examples of the possibilities of using geothermal energy.							
Work placement	Not applicable							