GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Geology, PG_00059247		
Field of study	Civil Engineering		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2022/2023
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 dr hab. inż. Beata Jaworska-Szulc dr Dawid Potrykus	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	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 plan	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 verification
[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.	Student identifies and describes common rock forming minerals and common rocks – igneous, sedimentary and metamorphic. Student analyzes and interprets geological maps, cross-sections. Understanding the specificity of groundwater occurrence and its impact on constractions.	[SW3] Assessment of knowledge contained in written work and projects [SW1] Assessment of factual knowledge
[K6_U01] Apply knowledge and understanding of mathematics as well as sciences and engineering disciplines underlying civil engineering to solve engineering problems and issues.	Understanding the impact of geological processes on subsoil, and is also able to assess the impact of construction projects on the environment.	[SU2] Assessment of ability to analyse information [SU3] Assessment of ability to use knowledge gained from the subject [SU4] Assessment of ability to use methods and tools

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; analysis of groundwater occurrence for a chosen region.
Prerequisites and co-requisites	

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
2 laboratory tests and projects	60.0%	50.0%
2 tests	60.0%	50.0%

Recommended reading

Basic literature	1.Mizerski W: Geologia dynamiczna 2. Lutgens, Tarbuck, Tasa, Essentials of geology 3. Thompson & Turk, Introduction to Physical Geology 4. Jain, Fundamentals of Physical Geology 5. Czubla P, Mizerski W,Świerczewska-Gładysz E: Przewodnik do ćwiczeń z geologii
Supplementary literature	Hefferan, O Brien, Earth Materials
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ 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