



## Subject card

Subject name and code	Geology - Basics of Earth Science, PG_00044361						
Field of study	Civil Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2021/2022		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study		
Mode of study	Part-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		Polish		
Semester of study	1		ECTS credits		4.0		
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 hab. Małgorzata Pruszkowska-Caceres				
	Teachers		dr hab. inż. Beata Jaworska-Szulc dr inż. Maria Przewłócka, doc. PG dr hab. Małgorzata Pruszkowska-Caceres				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	15.0	0.0	30
	E-learning hours included: 0.0						
	Adresy na platformie eNauczanie: Geologia - Podstawy nauk o ziemi B+IŚ 2021/2022 - Moodle ID: 17438 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17438">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17438</a>						
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		65.0	100
Subject objectives	Student gets acquainted with internal and external geological processes, their influence on abiotic environment of men; ability to interpret geological maps and cross-sections.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W15] Has knowledge of construction law and environmental impact of investment realisation		Student attains basic knowledge on geotechnical and geological engineering documentations principles; student knows how to use current methods of subsoil study.		[SW1] Assessment of factual knowledge		
	[K6_U14] can read geological maps and profiles, recognizes most popular rocks and minerals, recognizes the soil-water conditions of construction site		Student identifies and describes common rock forming minerals and common rocks – igneous, sedimentary and metamorphic. Student analyzes and interprets geological maps, cross-sections.		[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information		
	[K6_W07] has basic knowlede on natural processes (hydrological, hydraurical or geological) and its influence on building subsoil; understands specific aspects of surface and underground water, which constraints the design and exploitation of buildings and engineering objects		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.		[SW1] Assessment of factual knowledge		

Subject contents	Lecture: geological time, the Earths origin, 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.  Tutorials: minerals (definition, physical properties, origin, identification of basic minerals), igneous, sedimentary, metamorphic rocks (origin, mineral composition, textures, classification, identification), geological maps analysis, geological cross-section drawing		
Prerequisites and co-requisites	Understanding of issues included in Soil Mechanics learning program. General understanding of issues specified in the Geology learning program (Bases of the Earth Science), Quaternary Geology and Geomorphology in particular		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	lecture - written test	60.0%	50.0%
	projekt - colloquium	60.0%	30.0%
	projekt - practical exercises	60.0%	20.0%
Recommended reading	Basic literature	1.Mizerski W: Geologia dynamiczna. Wyd. Naukowe PWN,Warszawa 2006 (2004)  2. Książkiewicz M: Geologia dynamiczna. Wyd. Geologiczne, Warszawa 1979  3. Jaroszewski W: Przewodnik do ćwiczeń z geologii dynamicznej. Wyd. Geologiczne, Warszawa 1986  4. Czubla P, Mizerski W,Świerczewska-Gładysz E: Przewodnik do ćwiczeń z geologii. Wyd. Naukowe PWN, W-wa 2004	
	Supplementary literature	1. Jaroszewski W,Marks L, Radomski A: Słownik geologii dynamicznej. Wyd. Geologiczne, Warszawa 1985  2. Roniewicz P: Przewodnik do ćwiczeń z geologii dynamicznej. Polska Agencja Ekolog., Warszawa 1999  3. Thompson &Turk: Modern Physical Geology Saunders College Publishing, 1996  4. Bażyński J., Dragowski A., Frankowski Z., Kaczyński R., Rybicki ,S., Wysokiński L. Zasady Sporządzania Dokumentacji Geologiczno-Inżynierskich. Wydawnictwa PIG; Warszawa 1999.	
	eResources addresses	Geologia - Podstawy nauk o ziemi B+IŚ 2021/2022 - Moodle ID: 17438 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17438">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=17438</a>	
Example issues/ example questions/ tasks being completed	What are the main rock forming minerals of gabbro; indicate the stage of magma crystallization for this rock.  Describe conditions of granite forming  What are the main processes responsible for the Earth relief?  What is soil liquefaction?		
Work placement	Not applicable		