



## Subject card

Subject name and code	Basics of Earth Science, PG_00058730						
Field of study	Environmental Engineering						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
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	1		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department Of Geotechnical And Hydraulic Engineering -> Faculty Of Civil And Environmental Engineering - > Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Małgorzata Pruszkowska-Caceres				
	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	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		5.0		31.0	81
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_W12		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.		[SW2] Assessment of knowledge contained in presentation [SW1] Assessment of factual knowledge		
	[K6_U04] can recognize basic rocks and minerals, can create and read maps and geological and hydrogeological sections; can read and interpret geological documentation		Student identifies and describes common rock forming minerals and common rocks – igneous, sedimentary and metamorphic. Student analyzes and interprets geological maps, cross-sections, measurements of layer orientation (the dip and the strike).		[SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment		
Subject contents	<p>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.</p> <p>Laboratory: minerals (definition, physical properties, origin, identification of basic minerals), igneous, sedimentary, metamorphic rocks (origin, mineral composition, textures, classification, identification);</p> <p>Tutorials: geological intersection, geological maps analysis, geological cross-section drawing</p>						
Prerequisites and co-requisites	geography, chemistry level of secondary school						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	practical exercises	100.0%	20.0%
	colloquiums	60.0%	30.0%
	written exam	60.0%	50.0%
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		
eResources addresses	Adresy na platformie eNauczanie:		
Example issues/ example questions/ tasks being completed	Indicate geological events occurring 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?		
Work placement	Not applicable		

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