



Subject card

Subject name and code	Basics of Earth Science, PG_00058986						
Field of study	Environmental Engineering						
Date of commencement of studies	October 2026	Academic year of realisation of subject				2026/2027	
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				exam	
Conducting unit	Department of Geotechnical and Hydraulic Engineering -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Małgorzata Pruszkowska-Caceres					
	Teachers						
Lesson types	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						
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		3.0		68.0	101
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_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).			[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools		
	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.			[SW1] Assessment of factual knowledge [SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects		
Subject contents	<p>Course content – lecture Lecture: geological time, the Earth's origin, the Earth's 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>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</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		
	written exam	60.0%			50.0%		
	colloquiums	60.0%			30.0%		
	practical exercises	100.0%			20.0%		

Recommended reading	Basic literature	<p>1. Mizerski W: Geologia dynamiczna. Wyd. Naukowe PWN, Warszawa 2006 (2004)</p> <p>2. Książkiewicz M: Geologia dynamiczna. Wyd. Geologiczne, Warszawa 1979</p> <p>3. Jaroszewski W: Przewodnik do ćwiczeń z geologii dynamicznej. Wyd. Geologiczne, Warszawa 1986</p> <p>4. Czubla P, Mizerski W, Świerczewska-Gładysz E: Przewodnik do ćwiczeń z geologii. Wyd. Naukowe PWN, W-wa 2004</p>
	Supplementary literature	<p>1. Jaroszewski W, Marks L, Radomski A: Słownik geologii dynamicznej. Wyd. Geologiczne, Warszawa 1985</p> <p>2. Roniewicz P: Przewodnik do ćwiczeń z geologii dynamicznej. Polska Agencja Ekolog., Warszawa 1999</p> <p>3. Thompson & Turk: Modern Physical Geology Saunders College Publishing, 1996</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed	<p>Indicate geological events occurring at divergent plate boundaries</p> <p>What are the main rock forming minerals of gabbro; indicate the stage of magma crystallization for this rock.</p> <p>Describe conditions of granite forming</p> <p>What is the subduction zone ?</p> <p>What are the main processes responsible for the Earth relief?</p>	
Practical activities within the subject	Not applicable	

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