



## Subject card

Subject name and code	Basics of Earth Science, PG_00042798						
Field of study	Environmental Engineering						
Date of commencement of studies	October 2020		Academic year of realisation of subject		2020/2021		
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		5.0		
Learning profile	general academic profile		Assessment form		exam		
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 inż. Maria Przewłócka, doc. PG  dr hab. inż. Beata Jaworska-Szulc  dr hab. Małgorzata Pruszkowska-Caceres				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	15.0	15.0	0.0	0.0	60
	E-learning hours included: 0.0						
	Adresy na platformie eNauczanie: Podstawy nauk o ziemi - Moodle ID: 7402 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=7402">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=7402</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	60		8.0		60.0	128
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_W13] understands processes shaping the surface of the Earth and processes leading to the formation of deposits of mineral, rock and fossil fuels; understands the water cycle in nature, the mechanisms of formation of groundwater resources; has a structured and theoretically founded knowledge in the field of geology, hydrogeology, and hydrology		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		
	[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	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.		
	Laboratory: minerals (definition, physical properties, origin, identification of basic minerals), igneous, sedimentary, metamorphic rocks (origin, mineral composition, textures, classification, identification);		
	Tutorials: geological intersection, geological maps analysis, geological cross-section drawing		
Prerequisites and co-requisites	geography, chemistry – level of secondary school		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	colloquiums	60.0%	30.0%
	written exam	60.0%	50.0%
	practical exercises	100.0%	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	
	eResources addresses	Podstawy nauk o ziemi - Moodle ID: 7402 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=7402">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=7402</a>	
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		