



Subject card

Subject name and code	Basics of Earth Science, PG_00058730						
Field of study	Environmental 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	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						
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Małgorzata Pruszkowska-Caceres					
	Teachers	dr inż. Anna Gumuła-Kawęcka dr hab. Małgorzata Pruszkowska-Caceres dr inż. Maria Przewłócka, doc. PG					
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_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 [SU2] Assessment of ability to analyse information		
	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		
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
	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	<p>Adresy na platformie eNauczenie:</p> <p>Podstawy nauk o ziemi 2022/2023 IS - Moodle ID: 24571 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=24571</p>	
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>		
Work placement	Not applicable		