

Subject card

Subject name and code	Applied geology - lecture, PG_00091121						
Field of study	Geology						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's 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	2		Language of instruction		Polish		
Semester of study	4		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of Geophysics -> Faculty of Oceanography and Geography -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Leszek Łęczyński				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	0.0	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		12.0		10.0	52
Subject objectives	Introduction to soil classification, physical properties, methods of field geological and engineering surveys, documentation of survey results.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[GEOLL3_U04] is able to use specialized computer software and mathematical and statistical methods in the analysis of geological data		is able to use specialised computer software and mathematical and statistical methods in the analysis of geological and engineering data		[SU4] test/exam - oral or written		
	[GEOLL3_W08] knows the basic principles of occupational health and safety, legal regulations conditioning geological and engineering activities		is familiar with the basic principles of occupational health and safety, legal regulations governing geological and engineering activities		[SW4] test/exam - oral or written		
	[GEOLL3_K05] is willing to comply with the principles of occupational safety and health, takes care of specialized equipment entrusted to them, is aware of the risk connected with the performed work		Understands health and safety rules, knows how to properly and safely use the equipment available in the laboratory		[SK4] test/exam - oral or written		
	[GEOLL3_W02] knows and understands the terminology appropriate in science and natural sciences		knows and understands the terminology specific to applied geology		[SW4] test/exam - oral or written		

Subject contents	Geological determinants of human engineering activities. Classification of building grounds. Division of soils, names, symbols and terms used. Macroscopic testing of soils. Mechanical properties of building soils. Anthropogenic soils. Design of geological-engineering works. Execution of geological-engineering works. Mass movements: processes, prediction, prevention and effects. Gas storage in geological structures. Protection and reclamation of degraded and devastated areas. Geological-engineering foundation conditions of offshore structures and coastal protection.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	colloquium	51.0%	100.0%
Recommended reading	Basic literature	Bażyński J., Drągowski A., Frankowski Z., Kaczyński R., Rybicki S., Wysokiński L., 1999. Zasady sporządzania dokumentacji geologiczno inżynierskich, Wyd. Ministerstwo Środowiska, Warszawa Kostrzewski W., 2001, Parametry geotechniczne gruntów budowlanych oraz metody ich oznaczania. Wyd. Politechniki Poznańskiej Kostrzewski W., 1980. Mechanika gruntów. Parametry geotechniczne gruntów budowlanych oraz metody ich wyznaczania, Wyd. Naukowe PWN, Warszawa Kowalski W.C., 1988. Geologia inżynierska, Wyd. Geologiczne, Warszawa Myślińska E., 1989. Przewodnik do ćwiczeń z gruntoznawstwa, Wyd. Uniwersytetu Warszawskiego Myślińska E., 1998. Laboratoryjne badania gruntów, Wyd. Naukowe PWN, Warszawa Pisarczyk S., Rymsza B., 1993. Badania laboratoryjne i polowe gruntów, Oficyna Wydawnicza Politechniki Warszawskiej Wiłun Z., 1987. Zarys geotechniki, Wyd. Komunikacji i Łączności, Warszawa	
	Supplementary literature	Frankowski Z., Graniczny M., Bednarczyk B., Kramarska R., Pruszek Z., Przedziecki P., Szmytkiewicz M., Werno M., Zachowicz J., 2009. Zasady dokumentowania geologiczno - inżynierskiego warunków posadowienia obiektów budownictwa morskiego i zabezpieczenia brzegu morskiego, Wyd. PIG, Warszawa Ingut R, 1973. Terenowe badania geologiczno inżynierskie, Wyd. Geologiczne, Warszawa PN-86/B-02480 Grunty budowlane. Określenia, symbole, podział i opis gruntów PN-75/B-04481 Grunty budowlane. Badania laboratoryjne PN-88/B-04481 Grunty budowlane. Badania próbek gruntu	
	eResources addresses		
	Example issues/ example questions/ tasks being completed	Classification of building grounds. Division of soils, names, symbols and terms used.	
Work placement	Not applicable		

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