



## Subject card

Subject name and code	, PG_00061720						
Field of study	Environmental Engineering						
Date of commencement of studies	October 2023	Academic year of realisation of subject			2023/2024		
Education level	second-cycle studies	Subject group			Optional subject group		
Mode of study	Part-time studies	Mode of delivery			at the university		
Year of study	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Department of Geotechnical and Hydraulic Engineering -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Angelika Duszyńska					
	Teachers	dr inż. Angelika Duszyńska					
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	0.0	10.0	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		43.0		76
Subject objectives	To familiarize students with technical solutions used in geoengineering.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K7_U06	student is able to use the acquired methods of land reclamation and mathematical models to solve problems in environmental geoengineering			[SU4] Assessment of ability to use methods and tools		
	K7_W05	student has knowledge about the influence of engineering activities on environment			[SW3] Assessment of knowledge contained in written work and projects		
	K7_U03	student is able to design elements of structures protecting slopes			[SU4] Assessment of ability to use methods and tools		
Subject contents	contaminant transport in soils, soil improvement, protection of slopes, geotechnical design, Earth's natural resources, environmental Impact						
Prerequisites and co-requisites	completed courses on geotechnical engineering or similar courses						
Assessment methods and criteria	Subject passing criteria	Passing threshold			Percentage of the final grade		
		0.0%			0.0%		
	evaluation of projects	60.0%			100.0%		

Recommended reading	Basic literature	<p>Zadroga B., Olańczuk-Neyman K., Ochrona i rekultywacja podłoża gruntowego, Wydawnictwo Politechniki Gdańskiej, 2001</p> <p>Malina G., Likwidacja zagrożenia środowiska gruntowo-wodnego na terenach zanieczyszczonych, Wydawnictwo Politechniki Częstochowskiej, 2007</p> <p>PN-EN 1997 Eurokod 7: Projektowanie geotechniczne</p> <p>Pisarczyk S.: Geoinżynieria. Metody modyfikacji podłoża gruntowego, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa 2014.</p> <p>Stryczek S.: Podstawy geoinżynierii. Wydawnictwo AGH. Kraków 2021          Urbański (red.): Podstawy projektowania geotechnicznego. Wprowadzenie do nowych technologii w geotechnice, Wydawnictwo Politechniki Krakowskiej, 2016</p>
	Supplementary literature	nie dotyczy
	eResources addresses	<p>Adresy na platformie eNauczanie:</p> <p>Geoinżynieria Środowiska - IŚ nst mgr sem. 2 - r.akadem. 2023/24 - Moodle ID: 37179  <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37179">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=37179</a></p>
Example issues/ example questions/ tasks being completed	stability of slopes, impact of changes in the groundwater level on the environment, spread of pollutants, soil improvement	
Work placement	Not applicable	