



Subject card

Subject name and code	, PG_00059981						
Field of study	Environmental Engineering						
Date of commencement of studies	February 2024		Academic year of realisation of subject		2024/2025		
Education level	second-cycle studies		Subject group		Obligatory subject group in the field of study Subject group related to scientific research 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	2		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Environmental Engineering Technology -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Magdalena Gajewska				
	Teachers						
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	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	5.0		20.0		55
Subject objectives	Understanding the Principles and Significance of Designing Elements of Blue-Green Infrastructure in the City."						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	K7_U02	Is able to work both independently and as part of a team			[SU1] Assessment of task fulfilment		
	[K7_U01] can obtain information from literature, databases and other sources; can integrate the obtained information, interpret and critically evaluate them, draw conclusions, and formulate and comprehensively justify the opinions	Can acquire information from literature, databases, and other sources; capable of integrating obtained information, interpreting and critically assessing it, drawing conclusions, and formulating and thoroughly justifying opinions			[SU1] Assessment of task fulfilment		
	[K7_W08] has knowledge necessary to understand the social, economic, legal and other non-technical determinants of engineering activities and their incorporation in engineering practice	Possesses the knowledge necessary to understand the social, economic, legal, and other non-technical aspects influencing engineering activities and to consider them in engineering practice.			[SW3] Assessment of knowledge contained in written work and projects		
	K7_U04	Is capable of preparing and delivering a presentation on a project task and leading a discussion regarding the presented presentation			[SU5] Assessment of ability to present the results of task		
[K7_W11] has knowledge to analyze, evaluate and optimize processes, objects and systems of environmental engineering and knows the principles of rational energy management and resources	Has the knowledge to analyze, assess, and optimize processes, objects, and systems in environmental engineering, as well as understands the principles of efficient energy management and resource conservation."			[SW3] Assessment of knowledge contained in written work and projects			

Subject contents	<p>Basic Definitions and Concepts - BGI, NBS - Nature-Based Solutions, the Need for NBS Application, Solutions Before and After the Pipe Ends, Their Characteristics, Design Principles, and Benefits.</p> <p>Definitions, Classification, and Types of Hydrophytic Systems, Pollutant Removal Processes, Design Principles of Hydrophytic Systems in Urbanized Areas."</p>								
Prerequisites and co-requisites	<ol style="list-style-type: none"> 1. Hydraulics 2. Water and Wastewater Technology 3. Urban Watershed Hydrology 4. Climate-Resilient City Engineering 								
Assessment methods and criteria	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 33%;">Subject passing criteria</th> <th style="width: 33%;">Passing threshold</th> <th style="width: 34%;">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td>project</td> <td>55.0%</td> <td>100.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	project	55.0%	100.0%
Subject passing criteria	Passing threshold	Percentage of the final grade							
project	55.0%	100.0%							
Recommended reading	Basic literature	Wetland Technology, Practical Information on the Design and Application of Treatment Wetlands. (2019) Ed Günter Langergraber, Gabriela Dotro, Jaime Nivala, Anacleto Rizzo and Otto R. Stein. ISBN: 9781789060171 (eBook) 2020:190							
	Supplementary literature	<i>Blue Green Solutions guide</i> ... https://www.climate-kic.org/projects/blue-green-dream/ https://bgd.org.uk/tools-models/							
	eResources addresses	Adresy na platformie eNauczanie:							
Example issues/ example questions/ tasks being completed	Rainwater management project using BGI for a selected regionWastewater treatment project for a tourist town - variable PE								
Work placement	Not applicable								