GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Green-Blue Infrastructure of Cities, PG_00059981		
Field of study	Environmental Engineering		
Date of commencement of studies	February 2026	Academic year of realisation of subject	2026/2027
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 -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	prof. dr hab. inż. Magdalena Gajewska	
	Teachers		

Lesson types

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_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
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 comprehesively 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

<table>
<tr><td>Subject contents</td><td>Course content – lecture
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.

Definitions, Classification, and Types of Hydrophytic Systems, Pollutant Removal Processes, Design Principles of Hydrophytic Systems in Urbanized Areas."</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>1. Hydraulics
2. Water and Wastewater Technology
3. Urban Watershed Hydrology
4. Climate-Resilient City Engineering</td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>project</td><td>55.0%</td><td>100.0%</td></tr></table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>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</td></tr>
<tr><td>Supplementary literature</td><td>Blue Green Solutions guide....https://www.climate-kic.org/projects/blue-green-dream/

https://bgd.org.uk/tools-models/</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Rainwater management project using BGI for a selected regionWastewater treatment project for a tourist town - variable PE</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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