GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Group Project - Hydraulical and Hydrochemical Practice, PG_00059149						
Field of study	Environmental Engineering						
Date of commencement of studies	October 2024		Academic year of realisation of subject	2025/2026			
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	2		Language of instruction	Polish			
Semester of study	4		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		dr hab. Katarzyna Jankowska				
	Teachers						

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	4.0	0.0	0.0	26.0	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	20.0	53

Subject objectives	
	The main goal of the course is to systematize the knowledge that students have acquired during their previous study and combine theoretical and practical knowledge of hydrology, meteorology, geodesy, chemistry and biology to analyze environmental engineering problems. During the course the students will face a complex project task, which they will perform in groups. The students' task will be to conduct detailed hydrometric and geodetic measurements, as well as chemical and microbiological analysis of water samples taken from streams in selected locations in Gdansk.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U08] can use properly selected methods and devices of hydraulics and hydrology, enabling determination of basic quantities characterizing the flow of water in open channels and rivers, pipelines and flow objects of environmental engineering	The student has a structured and developed knowledge of hydraulics and uses technical methods of calculation and solves hydraulic problems.	[SU1] Assessment of task fulfilment
[K6_W05] knows the theoretical basis of hydromechanics and its practical models, necessary to solve technical problems in the field of environmental engineering (sanitary engineering, water melioration, water management and flood protection, pollution spread)	The student has a structured and developed knowledge of hydraulics and uses technical methods of calculation and solves hydraulic problems.	[SW1] Assessment of factual knowledge
[K6_U09] is able to use well-chosen methods and measuring devices that enable determination of basic parameters of the water treatment process and wastewater treatment; can perform simple laboratory tests leading to the assessment of water quality, pollutant load in sewage	the methods and equipment for measuring the parameters of the water treatment process and the wastewater treatment. The student understands and is able to perform simple laboratory tests aimed at assessing the quality of of water and the load of of contaminants.	[SU1] Assessment of task fulfilment
[K6_W14] knows and understands the methods of measuring basic quantities characteristic for fluid mechanics and hydraulics, hydrology; knows the calculation methods and IT tools necessary to analyze the results of laboratory and field work	The student acquires basic skills in reading and observing meteorological elements.	[SW1] Assessment of factual knowledge
[K6_W04] possesses elementary knowledge in the field of land mechanics, ground science, land reclamation and geotechnics; has basic knowledge about the composition of air, water and soil, environmental pollution and processes responsible for their formation and ways to reduce them, knows the principles and organization of sustainable water management	The student has a structured and developed knowledge of soil mechanics, soil science, land remediation and geotechnics, and understands sustainable water resources management issues.	[SW3] Assessment of knowledge contained in written work and projects

Subject contents

Course content – lecture

Thanks to the implementation of the project based learning method, it will be possible to simulate real problems that students of Environmental Engineering will encounter in their future professional work. Thanks to group work, students will have a chance to solve more difficult and extensive tasks that could pose problems in individual projects. An important part of the project is the systematic work from the beginning of the semester, where, with the support of teachers, students will be able to choose the area of research and measurement on their own, prepare for the field and laboratory, and complete the required tasks. The final stage of the subject is to prepare a comprehensive study and present it at the seminar.Translated with www.DeepL.com/Translator (free version)

Prerequisites and co-requisites

Knowledge of the following subjects: hydraulics, hydrology, meteorology, geodesy, chemistry and the basics of eco-engineering.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
presentation	60.0%	20.0%
project	60.0%	80.0%

Recommended reading

Basic literature	Lecture teaching materials
Supplementary literature	The student independently prepares a study on certain water pollutants and methods of their elimination.
eResources addresses	

Example issues/ example questions/ tasks being completed

Practical activites within the subject	Not applicable

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