GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Master thesis, PG_00059965		
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	
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	2	Language of instruction	Polish
Semester of study	3	ECTS credits	18.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department Of Environmental Engineering Technology -> Faculty Of Civil And Environmental Engineering -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Małgorzata Szopińska	
	Teachers		

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	0.0	0.0	0.0	0
	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	0	30.0	420.0	450

Subject objectives
The aim of the course is to prepare the student for the independent completion of a master's thesis, based on the analysis of theoretical and/or practical issues in the field of environmental engineering. During the course, the student develops research and analytical skills, deepens their specialized knowledge, and improves competencies in scientific writing, presenting research results, and defending their own conclusions. The final outcome is the development and submission of a master's thesis, which serves as evidence of the acquired knowledge and the ability to apply it in solving complex engineering and environmental problems.

Learning outcomes

Course outcome	Subject outcome	Method of verification
K7_U09	The student is able to independently plan and carry out the learning process necessary for completing the master's thesis, identify knowledge gaps, and take steps to fill them.	[SU5] Assessment of ability to present the results of task [SU2] Assessment of ability to analyse information
[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	The student independently searches for and selects information from professional literature, databases, and online sources, critically analyzes and interprets the data, and formulates logical conclusions supported by well-founded arguments related to the engineering problem being addressed.	[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information [SU1] Assessment of task fulfilment
[K7_W10] has knowledge of the protection and management of intellectual, industrial and copyright resources	The student knows and applies the principles of intellectual property protection and copyright law when preparing the master's thesis, including proper citation of sources and the use of graphical materials and data.	[SW3] Assessment of knowledge contained in written work and projects
[K7_U05] can rely on scientific sources for modern methods and technologies, and propose trends in the development of methods and rules for acquiring, filtering, processing and analyzing data	The student uses up-to-date scientific sources to analyze modern methods and technologies applied in environmental engineering and is able to indicate trends in their further development based on relevant data and its analysis.	[SU5] Assessment of ability to present the results of task [SU1] Assessment of task fulfilment
[K7_W12] has knowledge of contemporary and useful principles on data acquisition, filtration, processing and analysis	The student is able to select and apply appropriate methods of data acquisition, processing, and analysis necessary for completing a master's thesis in the field of environmental engineering.	[SW3] Assessment of knowledge contained in written work and projects

Subject contents

The course "Master's Thesis" is a key element of the Master's program in Environmental Engineering. The goal of the course is to enable students to independently conduct scientific research, design engineering solutions, and develop a thesis in the field of environmental engineering. The Master's thesis aims to enhance students' research, analytical, and design skills, as well as improve their abilities in scientific writing and presenting research findings.

Prerequisites and co-requisites

Selection of a thesis topic: The student must choose a topic for the masters thesis in consultation with their supervisor, ensuring it aligns with their research interests and skills.

Preliminary literature review: The student should familiarize themselves with the relevant academic literature and selected research studies in the field of environmental engineering.

Knowledge of research methods and analytical tools: The student should possess basic knowledge of data analysis methods and tools used in environmental engineering (e.g., statistical analysis software, environmental modeling tools).

Completion of previous academic stages, including projects and internships: Active participation in prior stages of the program, including research projects, internships, or seminars, is required.

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Master's thesis	60.0%	100.0%

Recommended reading

Basic literature	in line with the thesis topic
Supplementary literature	in line with the thesis topic
eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	**Data Analysis:** • What data analysis techniques are used in a master's thesis that involves laboratory studies related to water or soil quality? • What errors may occur during data analysis, and how can they be identified and minimized? • What data visualization methods (e.g., charts, maps) are most appropriate for a thesis focused on air quality analysis? **Formulating Conclusions:** • What is critical analysis of research results in the context of environmental engineering, and how should recommendations be presented based on the obtained results? **Writing the Master's Thesis:** • What structural elements should a well-written master's thesis in environmental engineering include? • What are the rules for citing sources in a master's thesis according to current academic standards?
Work placement	Not applicable

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