GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00070545		
Field of study	Civil Engineering		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2025/2026
Education level	first-cycle studies	Subject group	Optional subject group
Mode of study	Full-time studies	Mode of delivery	at the university
Year of study	4	Language of instruction	Polish
Semester of study	8	ECTS credits	2.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Geotechnical and Hydraulic Engineering -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Witold Sterpejkowicz-Wersocki	
	Teachers	dr inż. Witold Sterpejkowicz-Wersocki	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	0.0	15.0	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	0.0	0.0	30

Subject objectives

The aim of the course is to expand knowledge in the field of inland damming structures.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W03] Demonstrate knowledge and understanding of the processes, established standards and design methods in the civil engineering subject area and of their limitations.	The student knows and applies the requirements regarding technical conditions that should be met by hydrotechnical structures and their location.	[SW1] Assessment of factual knowledge
[K6_K01] Is aware of the key aspects of professional, ethical and social responsibility related to management, business operation, decision making and opinion formulation in civil engineering.	The student is aware of the responsibility for the opinions formulated and decisions made in the field of hydrotechnical structures.	[SK4] Assessment of communication skills, including language correctness
[K6_K04] Engages in independent lifelong learning and individually follows the development of science and technology in the field of civil engineering.	The student acquires knowledge of technologies used in the construction of inland hydrotechnical structures.	[SK4] Assessment of communication skills, including language correctness
[K6_U05] Conducts research (obtaining information, simulations, experimental methods) in the field of construction in order to solve specific tasks and report research results.	The student simulates the impact of the selection of weir parameters on its capacity and occurring loads.	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
[K6_K03] Can effectively, clearly and unambiguously convey information, describe activities and communicate their results/ outcomes to engineers or a wider audience using appropriate communication methods and tools.	The student is able to communicate the results of the stability analysis of a damming structure, describe the influence of the adopted structural solutions on the stability/capacity/acting loads of the structure.	[SK4] Assessment of communication skills, including language correctness [SK5] Assessment of ability to solve problems that arise in practice

<table>
<tr><td>Subject contents</td><td>Course content – lecture
Waterways. Basics of earth dam design. Canals. Introduction to hydropower.
Course content – project
Preliminary design of the weir (selection of the minimum weir width, hydraulic and static calculations of the weir, preparation of drawings)</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>Knowledge of the subject of Hydro and Marine Civil 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>Design</td><td>60.0%</td><td>60.0%</td></tr>
<tr><td>Oral answer</td><td>60.0%</td><td>40.0%</td></tr>
</table>
</td></tr>
<tr><td>Recommended reading</td><td>
<table>
<tr><td>Basic literature</td><td>1. Balcerski i inni Budownictwo Betonowe tom XVII, Budowle Wodne Śródlądowe, Arkady, Warszawa, 1969
2. Fanti i inni Budowle piętrzące, Wydawnictwo Arkady, Warszawa, 1972
3. Żbikowski i inni Zapory ziemne, Wydawnictwo Arkady, Warszawa, 1973
4. Bednarczyk, Bolt, Mackiewicz Stateczność oraz bezpieczeństwo jazów i zapór, Wydawnictwo Politechniki Gdańskiej, Gdańsk 2009
5. Depczyński, Szamowski Budowle i zbiorniki wodne, Oficyna Wydawnicza Politechniki Warszawskiej, Warszawa, 1999
6. Adamski W., Gortat J., Leśniak E., Żbikowski A., Małe budownictwo wodne dla wsi, Wydawnictwo Arkady, Warszawa, 1986</td></tr>
<tr><td>Supplementary literature</td><td>• Bednarczyk Budownictwo Wodno-Melioracyjne. Jazy. Cz. I i II, Akademia Rolnicza im. H. Kołłątaja, Kraków 1985
• Boretti Konstrukcje stalowe w budownictwie wodnym, Wydawnictwo Arkady, Warszawa 1968
• Boretti i inni Przykłady obliczeń konstrukcji stalowych, Wydawnictwo Arkady, Warszawa 1993
• Steller i inni Jak zbudować elektrownię wodną? Poradnik inwestora, Instytut PAN, Bruksela/Gdańsk, 2010
• Mioduszewski Stawy, małe zbiorniki wodne, Powszechne Wydawnictwo Rolnicze i Leśne, Warszawa, 2014</td></tr>
<tr><td>eResources addresses</td><td></td></tr>
</table>
</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>Methods for reducing the buoyancy force acting on the weir body/slab.

Selection of the structure and parameters of an earthen dam.</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
</table>

Document generated electronically. Does not require a seal or signature.