



Subject card

Subject name and code	, PG_00058828											
Field of study	Environmental Engineering											
Date of commencement of studies	October 2023	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	3	Language of instruction		Polish								
Semester of study	6	ECTS credits		2.0								
Learning profile	general academic profile	Assessment form		exam								
Conducting unit	Department of Sanitary Engineering -> Faculty of Civil and Environmental Engineering -> Faculties of Gdańsk University of Technology											
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Karolina Matej-Łukowicz									
	Teachers											
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM					
	Number of study hours	0.0	0.0	0.0	30.0	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		18.0	53					
Subject objectives	The objective of this course is to deepen students' understanding of equipment and fittings used in underground water supply and sewage systems. The lectures explore formal design principles, odor issues in sewage networks, the functioning of water supply and sewage systems, as well as the design and operation of sewage pumping stations. In the design workshops, students gain hands-on experience in creating and coordinating project documentation.											

Learning outcomes	Course outcome	Subject outcome	Method of verification									
	[K6_U13] knows the rules of application and can choose the materials of the sanitary industry	The student has knowledge of the principles of selecting water supply and wastewater infrastructure.	[SU4] Assessment of ability to use methods and tools									
	[K6_W07] has a structured and theoretically founded knowledge in the field of materials used in the sanitary industry, their physico-chemical properties; knows and understands the basic processes of their production	The student knows contemporary and previously used materials for water supply and sewage systems	[SW3] Assessment of knowledge contained in written work and projects									
	[K6_W09] has ordered, theoretically founded knowledge in the field of water supply, sewage, heating, ventilation and air conditioning, and the principles of shaping the microclimate of rooms; knows legal regulations, standardization issues and recommendations for the design of water supply, sewage, heating and gas networks and installations	The student has theoretically based knowledge of the types and functions of individual elements of sewage networks and methods of wastewater disposal.	[SW3] Assessment of knowledge contained in written work and projects									
	[K6_U03] can prepare documentation regarding the implementation of an engineering task/project and prepare a text or presentation including a discussion of the results of the implementation	The student can present the finished project, prepare all the required paperwork, and is understands the office where it will be submitted for acceptance.	[SU1] Assessment of task fulfilment									
	[K6_U12] can design installations, networks and facilities: water supply, sewage, heating and gas	The student knows how to design water supply and sewage networks and installations, as well as intersections with other elements of the area infrastructure.	[SU4] Assessment of ability to use methods and tools									
Subject contents	<p>Course content – project</p> <p>1. Odor neutralization in sewage networks 2. Water and sewage network failures 3. Sewage pumping stations 4. Programs supporting the design of water and sewage networks 5. Procedures for preparing design documentation</p>											
Prerequisites and co-requisites												
Assessment methods and criteria	<table border="1"> <thead> <tr> <th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr> </thead> <tbody> <tr> <td>Test</td><td>60.0%</td><td>50.0%</td></tr> <tr> <td>Design</td><td>60.0%</td><td>50.0%</td></tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Test	60.0%	50.0%	Design	60.0%	50.0%
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Recommended reading	Basic literature	<p>Bolt A., Burszta-Adamiak E., Gudelis-Taraszkiewicz K., Suligowski Z., Tuszyńska A.: Sewage system, 2012. Suligowski Z., Fudala-Książek S.: Execution and acceptance of sewage networks, Warsaw 2016 Heindrich Z.: Water supply and sewage system part 1, 1999 Heindrich Z.: Water supply and sewage system part 2, 1999</p>										

	Supplementary literature	<p>M. Skotnicki, M. Sowiński: Assessment of the retention capacity of a sewage collector / Journal of Civil Engineering, Environment and Architecture - 2014, Vol. 31, no. 61, pp. 265-283M. Skotnicki, M. Sowiński: Use of synthetic precipitation in modeling runoff from urban catchments / Scientific Papers of the Rzeszów University of Technology. Construction and Environmental Engineering / Publishing House of the Rzeszów University of Technology. - 2012, no. 283, no. 59 (2/12/I), pp. 201-218Weismann D.: Municipal sewage pumping stations. 2000</p>
	eResources addresses	
Example issues/ example questions/ tasks being completed		<ol style="list-style-type: none"> <li>1. Specify the order in which the connection project will be implemented in formal terms.</li> <li>2. Specify the distances between the water supply, gas, heating, electricity and telecommunications infrastructure.</li> <li>3. Provide the distances between the sewage infrastructure, gas, heating, electricity and telecommunications infrastructure.</li> <li>4. State the main causes of failure of water supply and sewage infrastructure.</li> </ol>
Practical activites within the subject	Not applicable	

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