



## Subject card

Subject name and code	Building Pipe and Wire Systems, PG_00044010						
Field of study	Civil Engineering						
Date of commencement of studies	October 2021		Academic year of realisation of subject		2022/2023		
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		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Sanitary Engineering -> Faculty of Civil and Environmental Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Przemysław Kowal				
	Teachers		dr inż. Przemysław Kowal				
			dr inż. Joanna Majtacz				
			dr inż. Izabela Prażuch				
			mgr inż. Magdalena Kaszubowska				
			dr inż. Maria Orłowska-Szostak				
			dr hab. inż. Jacek Skibicki				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	0.0	0.0	0.0	60
	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	60		5.0		10.0	75
Subject objectives	The purpose of the subject is familiarization students with some individual kind of sanitary networks and installation, construction of these systems, employment , project principles, advantages and disadvantages of individual solutions and technologies and taking advantage of this knowledge in professional practice of civil engineer.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_W11] Knows selected software supporting the calculation and design of construction as well as construction management		Student owns some basic knowledge from a range of utilization of computer technique in project design of sanitary installation in civil engineering.				
	[K6_W01] has knowledge of selected branches of mathematics, physics and chemistry, which is a base of construction subjects, such as construction theory and material technology and id needed to formulate and solve typical problems of civil engineering		During structural design of a building student of building engineering analyzes and describes the most proper solutions and technologies in the area of necessary installations. In this way he undertakes based on partnership dialogue with some specialists who are designing these installations.				
Subject contents	LECTURES Outdoor networks of municipal infrastructure. Indoor installations: types, adequate designs. Basic types of installations inside buildings conveying water for human consumption (manners of supplying water, installation materials). Fire protection systems. Heating systems (types, applied installation materials and technical solutions, firstly taking into account central heating systems and room of heat distribution centre). AUDITORIAL CLASSES Details of cold water and hot water supply installations. Sewage system installation, sanitary fittings, materials, design rules. Systems of rain-water installation; traditional, vacuum installations, materials used, design rules. Gas installation; types, details, design rules.						

Prerequisites and co-requisites	Passed the basic program in the area of building engineering.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Participation in lectures (webinarium)	50.0%	20.0%
	Final colloquium and project	65.0%	80.0%
Recommended reading	Basic literature	1. Sosnowski S., Tabernacki J., Chudzicki J.: Instalacje wodociągowe i kanalizacyjne. Wyd. Instalator Polski, Warszawa, 2000.  2. Poradnik: Instalacje wodociągowe, kanalizacyjne i gazowe. Praca zbiorowa pod red. M. Chudzickiego, Arkady, Warszawa, 1976.	
	Supplementary literature	1. Catalogues edited by the producers: „Geberit”, „PipeLife”, „Wavin”, „LPM Danfoss”, „COMAP”, „PURMO”, „KanTherm”, „PoWoGaz S.A.”, „Metron”, „AQUATHERM”, „Cuprum”, „COPRAX”, „ROCKWOOL”, „Thermaflex” i in.;  2. Legal regulations, and specially: Warunki Techniczne Wykonania i Odbioru Robót Budowlano – Montażowych, Tom II: Instalacje Sanitarne i Przemysłowe, ARKADY, Warszawa 1988 oraz Wymagania Techniczne COBRTI „INSTAL” – zeszyt 1-10, Warszawa, 1999 do 2005.	
	eResources addresses	Adresy na platformie eNauczanie: Instalacje budowlane - Budown, stacjon semIV 2022/23 - Moodle ID: 24995 <a href="https://enauczanie.pg.edu.pl/moodle/course/view.php?id=24995">https://enauczanie.pg.edu.pl/moodle/course/view.php?id=24995</a>	
Example issues/ example questions/ tasks being completed	Materials applicable in water-supply installations.  Fire-protection installations in buildings.  Gas Installations – material, gas meters.  Installations of warm waters – classification, regulation.  Heating installations – classification, regulation.		
Work placement	Not applicable		