



Subject card

Subject name and code	Communication and Visualisation in Building Management Systems, PG_00047508						
Field of study	Automatic Control, Cybernetics and Robotics						
Date of commencement of studies	February 2023		Academic year of realisation of subject		2023/2024		
Education level	second-cycle studies		Subject group		Optional subject group Subject group related to scientific research in the field of study		
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	1		Language of instruction		English		
Semester of study	2		ECTS credits		1.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Automatic Control -> Faculty of Electronics, Telecommunications and Informatics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Piotr Fiertek				
	Teachers		dr inż. Piotr Fiertek				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	0.0	0.0	0.0	15
	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	15		2.0		8.0	25
Subject objectives	Understanding basic methods of smart building management (BMS): commonly used communication protocols, as well as methods and popular software packages for management and visualization. The following solutions will be discussed in more detail: LonWorks and BACnet.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K7_W03] Knows and understands, to an increased extent, the construction and operating principles of components and systems related to the field of study, including theories, methods and complex relationships between them and selected specific issues - appropriate for the curriculum.		Getting to know the basics of the construction and operation of communication systems in BMS systems. Especially from LonWorks and BACnet.		[SW1] Assessment of factual knowledge		
	[K7_W05] Knows and understands, to an increased extent, methods of process and function support, specific to the field of study.		Getting to know the basics of the construction and operation of communication systems in BMS systems. Especially from LonWorks and BACnet.		[SW1] Assessment of factual knowledge		
	[K7_K02] is ready to provide critical evaluation of received content and to acknowledge the importance of knowledge in solving cognitive and practical problems		Implementation of the project based on the SCADA system: Trace Mode software.		[SK5] Assessment of ability to solve problems that arise in practice		
Subject contents	1. Basic issues of communication protocols 2. Communication media 3. Common communication protocols in control systems 4. Structure and application of the SCADA software						
Prerequisites and co-requisites							

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Test	55.0%	100.0%
Recommended reading	Basic literature	Praca Zbiorowa "Building Automation: System Integration with Open Protocols" wydawnictwo APT, Orland Park USA, 2009	
	Supplementary literature	no requirements	
	eResources addresses	Adresy na platformie eNauczanie: Communication and Visualisation in Building Automation - 2023/24 - Moodle ID: 32660 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=32660	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		