



Subject card

Subject name and code	Digital Information Exchange Protocols, PG_00016958						
Field of study	Automation, Robotics and Control Systems						
Date of commencement of studies	February 2022	Academic year of realisation of subject				2022/2023	
Education level	second-cycle studies	Subject group					
Mode of study	Full-time studies	Mode of delivery				at the university	
Year of study	1	Language of instruction				Polish	
Semester of study	2	ECTS credits				2.0	
Learning profile	general academic profile	Assessment form				assessment	
Conducting unit	Department of Metrology and Information Systems -> Faculty of Electrical and Control Engineering						
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Michał Ziółko				
	Teachers		dr inż. Michał Ziółko				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	15.0	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		33.0	50
Subject objectives	Introduce students with some of the protocols of sending information.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	K7_U11						
	K7_U05						
	K7_W03						
	K7_K02		The student directs the work of the laboratory group or makes measurements or documents them.		[SK1] Assessment of group work skills		
Subject contents	Laboratory exercises for the transmission of information using different protocols and interfaces. The study of the performance of protocols used in the industry using various transmission media (eg. serial interfaces, ethernet). Transferring information with using the GPIB standard.						
Prerequisites and co-requisites	Basic knowledge of measurement systems.						
	Basic knowledge of programming in LabVIEW environment.						
Assessment methods and criteria	Subject passing criteria		Passing threshold		Percentage of the final grade		
	Work at laboratory excersises		60.0%		50.0%		
	Test at the beginning of exercise		60.0%		50.0%		
Recommended reading	Basic literature		1. Information materials prepared by teacher.				
	Supplementary literature		1. Mielczarek W.: <i>Szeregowe interfejsy cyfrowe</i> . HELION, 1993. 2. Świsulski D.: <i>Systemy Pomiarowe. Laboratorium</i> . Wydawnictwo Politechniki Gdańskiej. Gdańsk 2004.				
	eResources addresses						

Example issues/ example questions/ tasks being completed	The structure of Modbus protocol. Calculating checksum compatible with Modbus protocol. Communication with industrial equipment using ADAM ASCII protocol. Communication with laboratory equipment using SCPI language and GPIB interface.
Work placement	Not applicable