

§ GDAŃSK UNIVERSITY § OF TECHNOLOGY

Subject card

Subject name and code	Microprocessors and Peripheral Systems in Automatics, PG_00044092							
Field of study	Electrical Engineering							
Date of commencement of studies	February 2024		Academic year of realisation of subject			2024/2025		
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 Controlled Electric Drives -> Faculty of Electrical and Control Engineering							
Name and surname	Subject supervisor	dr hab. inż. Arkadiusz Lewicki						
of lecturer (lecturers)	Teachers	_						
Lesson types and methods	Lesson type	Lecture	Tutorial Laboratory Project		t	Seminar	SUM	
of instruction	Number of study hours	15.0	0.0 15.0 0.0		0.0		0.0	30
	E-learning hours included: 0.0							
Learning activity and number of study hours	Learning activity	Participation in classes includ plan	n didactic ed in study	Participation i consultation h	articipation in onsultation hours		udy	SUM
	Number of study 30 hours			5.0		15.0		50
Subject objectives	Learning of programming methods of external and internal peripherals of microprocessor systems							
Learning outcomes	Course outcome Subject outcome Method of verification					ication		
	K7_W01		Is able to use numerical analysis methods to assess the correct operation of a microprocessor system			[SW3] Assessment of knowledge contained in written work and projects		
	K7_U03		The student is able to analyze the data and requirements provided in the technical documentation and, based on it, prepare control structures for peripheral systems			[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment		
	K7_W02		Has knowledge of measurements of electrical and non-electric quantities and their conversion into digital form			[SW3] Assessment of knowledge contained in written work and projects		
	K7_U02		Is able to prepare and present a short oral presentation on a topic related to the developed issue			[SU5] Assessment of ability to present the results of task		
Subject contents	Microprocessor and microcontroller. Embedded and external peripherals. Control methods of peripherals. Design of a peripheral control signals in the PLD. The structure and programming methods of PLD. Design of a logic structure for external peripheral management. The microcontroller structures and programming methods. Communication with external devices. Using of embedded peripherals.							
Prerequisites and co-requisites	Knowledge in the digital electronics area							
Assessment methods	criteria Subject passing criteria The projects designed during laboratory exercises		Passing threshold			Percentage of the final grade		
and criteria			60.0%			100.0%		
Recommended reading	Basic literature	 Ducek:Digital Design with CPLD Application and VHDL Uwe Meyer-Baese: Digital signal processing with Field Programmable Gate Array J.Janiczek, A Stępień: Systemy mikroprocesorowe i mikrokontrolery, Warszawa 2005 Krzyżanowski R.: Układy mikroprocesorowe, Warszawa 2007 						
	Supplementary literature		None					
	eResources addresses		Adresy na platformie eNauczanie:					

Example issues/ example questions/ tasks being completed	Develop the logical structure for A/D or D/A converter control
Work placement	Not applicable