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 2023	Academic year of realisation of subject	2023/2024
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 of lecturer (lecturers)	Subject supervisor	dr hab. inż. Arkadiusz Lewicki	
	Teachers	dr hab. inż. Arkadiusz Lewicki	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	15.0	0.0	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	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
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
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_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	[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools
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

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 and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
The projects designed during laboratory exercises	60.0%	100.0%

Recommended reading

Basic literature	1. Ducek:Digital Design with CPLD Application and VHDL 2. Uwe Meyer-Baese: Digital signal processing with Field Programmable Gate Array 3. J.Janiczek, A Stępień: Systemy mikroprocesorowe i mikrokontrolery , Warszawa 2005 4. 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