GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Computer systems, PG_00055366						
Field of study	Mechatronics						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2024/2025		
Education level	first-cycle studies		Subject group		Obligatory subject group in the field of study		
					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		Polish		
Semester of study	1		ECTS credits		4.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department of Mechanics and Mechatronics -> Faculty of Mechanical Engineering and Ship Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Marek Galewski				
	Teachers		dr hab. inż. Marek Galewski				

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	15.0	0.0	45
	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	45	6.0	49.0	100

Subject objectives	Providing students basic knowledge about computer systems architecture, communication, data exchange and operating systems. Teach students basic structural programming with Matlab

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_U09] is able to formulate an algorithm, knows low and high level programming languages and appropriate IT tools for developing computer programmes to control mechatronic system	Student writes simple structural programs in Matlab	[SU1] Assessment of task fulfilment
	[K6_U05] is able to use properly chosen tools to compare design solutions of elements and mechatronics systems according to given application and economic criteria (e.g. power demand, speed, costs)	Student uses Matlab at the basic level	[SU4] Assessment of ability to use methods and tools [SU1] Assessment of task fulfilment
	[K6_W06] has organised knowledge in the field of informatic that includes architecture of computer systems, programming of computers and embedded systems and elements of software engineering	Student describes elements of computer system architecture	[SW1] Assessment of factual knowledge

Subject contents	Basics of computer systems architecture (CPU, memory, other hardware elements, data transfer and communication). Basics of operating systems architecture. Computer networks. Data security. Structural programming in Matlab.
Prerequisites and co-requisites	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written colloquim - laboratory exercises	51.0%	30.0%
	Writen exam	52.0%	70.0%
	Compleeting of laboratory exercies	60.0%	0.0%

Recommended reading	Basic literature	
		Ledin. J. Modern Computer Architecture and Organization: Learn x86, ARM, and RISC-V architectures and the design of smartphones, PCs, and cloud servers
		Valentine D.T, Hahn G., Essential MATLAB for Engineers and Scientists (latest edition)
		Lowe D. Networking All-in-One Desk Reference For Dummies, (latest edition)
	Supplementary literature	Sradomski W., MATLAB. Praktyczny podręcznik modelowania, Helion , 2015
		Webpages of hardware and software companies, e.g. Intel, AMD, nVidia, Microsoft, etc.
		Matlab courses at the Mathworks webpage
	eResources addresses	Adresy na platformie eNauczanie:

Example issues/ example questions/ tasks being completed	A list of 60 examplary questions is provided to student 1 month before the exam

Work placement	Not applicable