GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Computer systems, PG_00055366		
Field of study	Mechatronics		
Date of commencement of studies	October 2022	Academic year of realisation of subject	2022/2023
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 inż. Natalia Stawicka-Morawska dr hab. inż. Marek Galewski dr inż. Yurii Tsybrii	

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 choosen tools to compare design solutions of elements and mechatronics systems according to given application and economic crtierions (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 organized knowledge in terms of informatic and methods of analog and digital signal processing	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: Systemy Komputerowe, W/P, MTR, I st., sem. 01, zimowy 22/23 (PG_00055366)) - Moodle ID: 23101 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=23101	
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		