GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Computer systems, PG_00055366		
Field of study	Mechatronics		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2023/2024
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. Piotr Fiertek 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_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
[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	[SU1] Assessment of task fulfilment [SU4] Assessment of ability to use methods and tools
[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

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

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>Compleeting of laboratory exercies</td><td>60.0%</td><td>0.0%</td></tr>
<tr><td>Writen exam</td><td>52.0%</td><td>70.0%</td></tr>
<tr><td>Written colloquim - laboratory exercises</td><td>51.0%</td><td>30.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>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)</td></tr>
<tr><td>Supplementary literature</td><td>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</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:
Systemy Komputerowe, W/P, MTR, I st., sem. 01, zimowy 23/24 (PG_00055366) - Moodle ID: 30301
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=30301</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">A list of 60 examplary questions is provided to student 1 month before the exam</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
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