



## 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%
	Written exam	52.0%	70.0%
	Compleeting of laboratory exerices	60.0%	0.0%
Recommended reading	Basic literature	<p>Ledin. J. Modern Computer Architecture and Organization: Learn x86, ARM, and RISC-V architectures and the design of smartphones, PCs, and cloud servers</p> <p>Valentine D.T, Hahn G., Essential MATLAB for Engineers and Scientists (latest edition)</p> <p>Lowe D. Networking All-in-One Desk Reference For Dummies, (latest edition)</p>	
	Supplementary literature	<p>Sradoski W., MATLAB. Praktyczny podręcznik modelowania, Helion , 2015</p> <p>Webpages of hardware and software companies, e.g. Intel, AMD, nVidia, Microsoft, etc.</p> <p>Matlab courses at the Mathworks webpage</p>	
	eResources addresses	<p>Adresy na platformie eNauczanie: Systemy Komputerowe, W/P, MTR, I st., sem. 01, zimowy 22/23 (PG_00055366) - Moodle ID: 23101 <a href="https://enauzanie.pg.edu.pl/moodle/course/view.php?id=23101">https://enauzanie.pg.edu.pl/moodle/course/view.php?id=23101</a></p>	
Example issues/ example questions/ tasks being completed	A list of 60 exemplary questions is provided to student 1 month before the exam		
Work placement	Not applicable		