



Subject card

Subject name and code	, PG_00072208						
Field of study	Mechanical and Medical Engineering						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2026/2027		
Education level	first-cycle studies		Subject group				
Mode of study	Full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		2.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. inż. Marek Galewski				
	Teachers						
Lesson types	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		1.0		19.0	50
Subject objectives	Teaching students basics of programming in Matlab environment						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U06] can identify and formulate specifications for simple practical engineering tasks, and critically analyze existing technical solutions, evaluating their functionality, particularly in the context of designing mechanical and medical-mechanical devices		Selects tools and functions adequate to the given task		[SU4] Assessment of ability to use methods and tools		
	[K6_W05] has knowledge in the areas of design, manufacturing, and operation of materials, machine parts, or technical devices, with a solid understanding of design principles and technical documentation preparation		Knows the basic principles of creating the source code of programs		[SW3] Assessment of knowledge contained in written work and projects		
	[K6_U04] is able to utilize empirical, analytical, simulation, and computer-based methods to formulate and solve engineering tasks in the field of medical and mechanical engineering		Develops simple functions/ programs for the Matlab environment		[SU1] Assessment of task fulfilment		
	[K6_U03] is able to use information and communication skills or research techniques to solve typical engineering tasks related to design, production and manufacturing of materials or machine components		Processes data files typical for medical applications		[SU3] Assessment of ability to use knowledge gained from the subject		

Subject contents	Course content – lecture Matlab - revision and reminder of the basics Basic programming elements: functions, loops, conditional expressions Rules for writing source code		
	Course content – laboratory Exercises concerning: operations on matrices creating graphs creating scripts operations on data files basic elements of programming: functions, loops, conditional expressions elements of algorithms solving differential equations determining the signal spectrum		
Prerequisites and co-requisites	Konwledge on the subjects of "basics of IT in medicine"		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Finishing exercises given during classes	60.0%	35.0%
		0.0%	0.0%
	Written test	55.0%	65.0%
Recommended reading	Basic literature	mathworks.com website B. Hahn, D. Valentinr, Essential MATLAB for Engineers and Scientists, 2019	
	Supplementary literature	Matlab tutorials	
	eResources addresses		
Example issues/ example questions/ tasks being completed	A list of examplary tasks / questions will be presented at least 1 mont before the final test		
Practical activites within the subject	Not applicable		

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