GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Fundamentals of informatics in medicine, PG_00055732		
Field of study	Mechanical and Medical Engineering		
Date of commencement of studies	October 2021	Academic year of realisation of subject	2021/2022
Education level	first-cycle studies	Subject group	Obligatory subject group 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 None
Semester of study	1	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Institute of Mechanics and Machine Design -> Faculty of Mechanical Engineering and Ship Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. inż. Wiktoria Wojnicz	
	Teachers	mgr inż. Grzegorz Banaszek dr hab. inż. Wiktoria Wojnicz	

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	0.0	30.0	0.0	60

E-learning hours included: 0.0

Adresy na platformie eNauczanie:

Podstawy informatyki w medycynie, P, IMM, sem. 01, zimowy 21/22, (PG_00055732) - Moodle ID: 18365
https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18365

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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	60	4.0	36.0	100

Subject objectives

The aim of the study is to acquire knowledge in the fundamentals of programming in medicine

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_K01] he/she knows his/her proficiencies and his/her limitations in performing professional tasks, he/she is aware of needing to improve his/her skills through the whole life, he/she has entrepreneurship and innovation skills, he/she is aware of engineering skills from the society point of view	Student can formulate strategy to find a solution on the base of the base of the knowledge acquired in the scope of this subject	[SK3] Assessment of ability to organize work [SK2] Assessment of progress of work
[K6_U03] he/she is able to use information-communication skills to solve typical engineering tasks related to design, production and utilization	Student can applying MATLAB software to solve basic engineering problems	[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information [SU5] Assessment of ability to present the results of task

Subject contents	Lecture: MATLAB engineering tools to process data in medical measurements: files processing types of data and reading of data data visualization reading files obtained from medical measurement (txt, CSV, DICOM etc.) implementation of basic functions, loops and conditional expressions data matrix processing Project: Task1: processing of data obtained from biomechanical sensors Task 2: processing of data obtained from biomedical measurements
Prerequisites and co-requisites	Maths
Assessment methods and criteria	

Subject passing criteria	Passing threshold	Percentage of the final grade
lecture passing	50.0%	50.0%
project passing	50.0%	50.0%

Recommended reading	Basic literature	https://www.mathworks.com/support/learn-with-matlab-tutorials.html
	Supplementary literature	https://www.mathworks.com/support/learn-with-matlab-tutorials.html
	eResources addresses	Podstawy informatyki w medycynie, P, IMM, sem. 01, zimowy 21/22, (PG_00055732) - Moodle ID: 18365 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18365 Podstawy informatyki w medycynie, IMM, Wykład, PG_00055732, 2021-2022 - Moodle ID: 18567 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=18567
Example issues/ example questions/ tasks being completed	Create a code to read data from the electromyography measurements Create a code to process data obtained from the force sensor	
Work placement	Not applicable	

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