

表 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	, PG_00039371								
Field of study	Automation, Robotics and Control Systems								
Date of commencement of studies	October 2022		Academic year of realisation of subject			2022/2023			
Education level	second-cycle studies		Subject group			Optional subject group Subject group related to scientific research in the field of study			
Mode of study	Part-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			assessment			
Conducting unit	Department of Controlled Electric Drives -> Faculty of Electrical and Control Engineering								
Name and surname	Subject supervisor		dr inż. Daniel Wachowiak						
of lecturer (lecturers)	Teachers								
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM	
of instruction	Number of study hours	10.0	0.0	0.0	0.0		10.0	20	
	E-learning hours included: 0.0								
Learning activity and number of study hours	Learning activity	Participation in classes includ plan	n didactic ed in study	Participation in consultation hours		Self-study		SUM	
	Number of study 20 hours			20.0		60.0		100	
Subject objectives	The goal of the subject is to familiarize students with algorithms used in data mining.								
Learning outcomes	Course outcome Subject outcome Method of verifica							fication	
	K7_U04		Students can find uses of data mining in fields of automatic control and robotics.			[SU5] Assessment of ability to present the results of task			
	K7_W11		Students can create or use existing tools to process data and implement this in advanced control systems.			[SW1] Assessment of factual knowledge			
	K7_W06		Students can create or use existing tools to process data and implement this in advanced control systems.			[SW3] Assessment of knowledge contained in written work and projects			
	K7_U07		Students can find rules and dependencies in data sets. This information can be used in automatic control systems or robotics.			[SU1] Assessment of task fulfilment [SU2] Assessment of ability to analyse information			
Subject contents	 Introduction to data mining and usage of data mining in the industry. Algorithms for finding binary association rules. 								
	 Algorithms for finding multilevel and multidimensional association rules. Introduction to data classification algorithms. Forming decision trees using Gini Index and Information gain 								
	- Introduction to clustering methods. K-means algorithm.								

Prerequisites and co-requisites					
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade		
		60.0%	50.0%		
		60.0%	50.0%		
Recommended reading	 Morzy T.: Eksploracja danych, Wydawnictwo Naukowe PWN, Warszawa 2013. Osowski S.: Metody i narzędzia eksploracji danych, Wydawnictw BTC, Legionowo 2013. 				
	Supplementary literature	 Witten I. H., Frank E.: Data Min Tools and Techniques, Second Publishers, 2005. Han J., Kamber M., Pei J.: Data Third Edition, Morgan Kaufman 	k E.: Data Mining: Practical Machine Learning iques, Second Edition, Morgan Kaufmann M., Pei J.: Data Mining Concepts and Techniques, organ Kaufmann Publishers, 2012		
	eResources addresses	Adresy na platformie eNauczanie:			
Example issues/ example questions/ tasks being completed	 Find groups of products that commonly appear together in shopping baskets Propose a classifier to determine a risk of car owner causing a damage based on data from insurance company Find text documents that relate to similar subjects 				
Work placement	Not applicable				