

表 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Selected methods of decision support in industrial processes, PG_00053426								
Field of study	Automation, Robotics and Control Systems								
Date of commencement of studies	October 2021		Academic year of realisation of subject			2024/2025			
Education level	first-cycle studies		Subject group						
Mode of study	Full-time studies		Mode of delivery			at the university			
Year of study	4		Language of instruction			Polish			
Semester of study	7		ECTS credits			3.0			
Learning profile	general academic profile		Assessment form			assessment			
Conducting unit	Faculty of Electrical and Control Engineering								
Name and surname	Subject supervisor		dr hab. inż. Robert Piotrowski						
of lecturer (lecturers)	Teachers								
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	y Project		Seminar	SUM	
	Number of study hours	15.0	0.0	15.0	5.0 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 5.0			40.0		75		
Subject objectives	The aim of the course will be to familiarize students with selected issues of decision support in industrial processes.								
Learning outcomes	Course out	Subject outcome			Method of verification				
Subject contents	Organization of the course. Basic information.								
Discreet industrial processes - examples and modelling.									
	Decision support methods - discrete processes (integer and binary) - branch and bound algorithm.								
	Decision support methods - binary processes.								
	Basics of graph theory. Characteristics of network processes.								
	Methods of decision support - network issues - cont.								
	Transportation issues and the problem of a salesman.								
	Translated with www.DeepL.com/Translator (free version)								
Prerequisites and co-requisites	No requirements								
Assessment methods and criteria	Subject passing criteria		Passing threshold			Percentage of the final grade			
	Laboratory		50.0%			30.0%			
	Written exam		50.0%			70.0%			

Recommended reading	Basic literature	 Praca zbiorowa (red. Sikora W.). Badania operacyjne. PWE, Warszawa 2008. Trzaskalik T. Wprowadzenie do badań operacyjnych z komputerem. Wydanie 2. PWE, Warszawa 2008. Deo N. Teoria grafów i jej zastosowania w technice i informatyce. PWN Warszawa 1980 (tłumaczenie) 				
	Supplementary literature	 PWN, warszawa 1980 (trumaczenie). Gawlik J., Plichta J., Świć A. Procesy produkcyjne. PWE, Warszawa 2013. Cormen T.H., Leiserson Ch., E. Rivest R., Stein C. Wprowadzenie do 				
	eResources addresses	Adresy na nlatformie eNauczanie:				
Example issues/ example questions/ tasks being completed	 Find a solution for the decision-making model using the Balassa algorithm with filter. The binary variable y and the non-negative continuous variable x are given. Bring a non-linear x*y expression to linear form. 					
Work placement	Not applicable					