



Subject card

Subject name and code	INFORMATION TECHNOLOGY IN MANAGEMENT, PG_00070988						
Field of study	Engineering Management						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2026/2027		
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	2		ECTS credits		3.0		
Learning profile	general academic profile		Assessment form		assessment		
Conducting unit	Department of Informatics In Management -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Anna Baj-Rogowska				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	0.0	45.0	0.0	0.0	45
	E-learning hours included: 0.0						
	eNauczanie source address: https://enauczanie.pg.edu.pl/moodle/course/view.php?id=47432						
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		3.0		27.0	75
Subject objectives	Preparation of students to apply information technologies to improve data analysis and optimize management processes, based on knowledge of principles for assessing the reliability and quality of data in management, optimization methods, and spreadsheet functionalities, while fostering responsible use of data and analytical independence in the context of supporting managerial decision-making in a business environment.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_K02] is prepared to make competent and ethical decisions to create and maintain economic, social, and environmental values, demonstrating entrepreneurial actions.		is ready to make informed and ethical decisions regarding the implementation and use of information technologies in management, taking responsibility for their organizational and social consequences.		[SK5] Assessment of ability to solve problems that arise in practice		
	[K6_U03] collaborates with others in solving interdisciplinary problems.		is able to collaborate effectively with representatives of various departments and specializations, applying information technology tools to the design and implementation of IT solutions supporting management processes.		[SU1] Assessment of task fulfilment [SU5] Assessment of ability to present the results of task		

Subject contents	Course content – laboratory 1. Data reliability and quality in management. 2. Streamlining business tasks with the use of the Excel application. 3. Basic data operations (importing external data, sorting and filtering operations). 4. Functions (mainly math, text, statistics, search, etc.). Nesting functions. 5. Advanced data processing using functions. 6. Macros. 7. Building applications in MS Excel. 8. Introduction to Solver. The Simplex Method. 9. Decision problems using the nonlinear GRG method. 10. Decision problems using the evolutionary method.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Assessment of the correctness and completeness of the analytical tasks' solution implemented in a spreadsheet (e.g., MS Excel).	60.0%	60.0%
	Evaluation of the applicability and proper usage of the optimization method within MS Solver in the context of solving a managerial problem.	60.0%	40.0%
Recommended reading	Basic literature	1. M. Alexander, R. Kusleika, J. Walkenbach, Excel 2019 PL. Biblia, Wydawnictwo Helion, 2021. 2. J. Walkenbach, M. Alexander, Analiza i prezentacja danych w Microsoft Excel. Vademecum Walkenbacha, Wydawnictwo Helion, 2021. 3. B. Jelen, Excel 2021 i Microsoft 365. Przetwarzanie danych za pomocą tabel przestawnych, Wydawnictwo Promise, 2022. 4. H. Tyszka, Excel Solver w praktyce. Zadania ekonometryczne z rozwiązaniami, Wyd. Helion, 2021. 5. A. Baj-Rogowska, Decyzje optymalne z Solverem, Wydawnictwo Politechniki Gdańskiej, Gdańsk, 2020.	
	Supplementary literature	1. Walkenbach J., Excel 2013 PL. Biblia, Helion 2. Cox J., Microsoft Office 2010 dla użytkowników domowych i uczniów. Krok po kroku, RM 2010 3. Wrotek W., Excel 2010 PL. Rozwiązywanie problemów dla każdego, Helion 2010	
	eResources addresses		
Example issues/ example questions/ tasks being completed	• Applications of VLOOKUP to automate tasks. • Using a pivot table as an interactive tool to quickly analyze, summarize, and compare large data sets without writing complex formulas. • Automating frequently repeated tasks using macros. • Building applications in MS Excel. • Determining the optimal location, e.g., for a company's warehouse.		
Practical activities within the subject	Not applicable		

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