

Subject card

Subject name and code	, PG_00161065						
Field of study	Informatics						
Date of commencement of studies	October 2023		Academic year of realisation of subject			2024/2025	
Education level	Master's studies		Subject group			Obligatory subject group in the field of study Optional subject group	
Mode of study	part-time studies		Mode of delivery			at the university	
Year of study	2		Language of instruction			Polish	
Semester of study	3		ECTS credits			6.0	
Learning profile	academic		Assessment form				
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Magda Dettlaff				
	Teachers		dr inż. Magda Dettlaff				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	20.0	0.0	20.0	0.0	0.0	40
	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	40		0.0		95.0	135
Subject objectives	The aim of the course is to familiarize students with graph databases, graph algorithms for analyzing such a database, the Cypher language and the working environment in Neo4j.						
Learning outcomes	Course outcome		Subject outcome			Method of verification	
	[INFMU2_K02] is ready to work in a team and to lead a team, understands the necessity of systematic work on projects of long-term character, among other things is able to plan work in a group, is able to determine the priorities of work		In a group, the student prepares a graph database project and together presents the results of the work on the forum			[SK2] presentation/project/paper/report [SK4] test/exam - oral or written	
	[INFMU2_U05] can apply known algorithms in specific situations, can effectively select the type of algorithm depending on the problem at hand		the student creates a project of his or her own graph database and presents the acquired knowledge in it			[SU2] presentation/project/paper/report [SU4] test/exam - oral or written	
	[INFMU2_W05] knows standard methods, algorithms and techniques of artificial intelligence, their properties and importance in practical computer applications		the student knows graph algorithms necessary to analyze a graph database			[SW4] test/exam - oral or written [SW2] presentation/project/paper/report	
Subject contents	cypher queries, aggregate functions, subqueryrecommendation system using a graph databasegraph algorithms: vertex importance, community detection, shortest pathsusing the graph approach in database securitygraph refactoring						
Prerequisites and co-requisites							

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	tasks on laboratory	50.0%	0.0%
	project	50.0%	30.0%
	exam	50.0%	40.0%
	tests	50.0%	30.0%
Recommended reading	Basic literature	Estelle Scifo, Hands-On Graph Analytics with Neo4j. Perform graph processing and visualization techniques using connected data across your enterprise, Packt Publishing, 2020. ISBN: 1839212616	
	Supplementary literature	Mark Needham, Amy E. Hodler, Graph Algorithms. O'Reilly Media, Inc., 2019. ISBN: 9781492047681	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	import data to Neo4j and apply algorithms for importance of veritces		
Work placement	Not applicable		

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