GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	INFORMATION AND KNOWLEDGE MANAGEMENT, PG_00061110					
Field of study	Management					
Date of commencement of studies	October 2024		Academic year of realisation of subject		2025/2026	
Education level	second-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	2		Language of instruction		Polish	
Semester of study	3		ECTS credits		3.0	
Learning profile	general academic profile		Assessment form		exam	
Conducting unit	Department Of Management -> Faculty Of Management And Economics -> Wydziały Politechniki Gdańskiej					
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. inż. Edward Szczerbicki			
	Teachers		prof. dr hab. inż. Edward Szczerbicki			

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	0.0	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	Uses modern trends in the field of information and knowledge management and engineering in the era of knowledge-based intelligent systems and the semantic society

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K7_U03] formulates research problems and selects appropriate analytical methods for their effective solution, using advanced IT tools, and evaluates the results critically	formulates research problems in the area of knowledge management choosing appropriate methods of solving them	[SU4] Assessment of ability to use methods and tools
	[K7_W02] explains the meaning and interdependence of the key components describing economic processes, using in-depth knowledge consistent with the main trends in the development of scientific disciplines related to the field of study	explains the importance and interdependencies between the key factors of the modern concept of management based on knowledge and information	[SW1] Assessment of factual knowledge

Subject contents	Contemporary intelligent systems based on knowledge The importance of experience in the formalization and representation of information and knowledge Methods and techniques of artificial intelligence (AI) in modern intelligent decision support systems Knowledge as a resource and its role in the semantic socjety Knowledge representation Management and knowledge engineering The concept of experience collection (SOE) and decision DNA (DDNA) Representation of knowledge through a set of experiences Ontologies and semantic web Trust and security and its role and importance in intelligent systems e-Decision community concept Challenges of the upcoming fourth industrial revolution (Industry 4.0) and the Internet of Things (IoT) in the area of intelligent management and information and knowledge engineering

Prerequisites and co-requisites	

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Oral exam	50.0%	100.0%

Recommended reading	Basic literature	E.Szczerbicki, C Sanin (Eds): *Knowledge Management and Engineering with Decisional DNA*, Springer-Verlag Intelligent Systems Reference Library, 2020, pp 260 https://doi.org/10.1007/978-3-030-39601-5
		Huk, M., M. Maleszka, E.Szczerbicki: Intelligent Information and Database Systems: Recent Developments, Springer-Verlag Studies in Computational Intelligence, 2019
		Cesar Sanin, Edward Szczerbicki, Experience Based Knowledge Representation for Internet of Things and Cyber Physical Systems with Case Studies, Future Generation Computer Systems, 2018, DOI: 10.1016/j.future.2018.01.062
	Supplementary literature	Zhang H., Sanin C., and E Szczerbicki, When Neural Networks meet Decisional DNA: A Promising New Perspective for Knowledge Representation and Sharing, Cybernetics and Systems: An International Journal 2016 Vol 47, DOI: 10.1080/01969722.2016.1128776, pp. 140-148 M. Bilal Ahmed, Cesar Sanin, Edward Szczerbicki,, Experience-based Decisional DNA (DDNA) to support product development, Cybernetics and Systems: An International Journal 2018 Vol 49, DOI: 10.1080/01969722.2017.1418743
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	What are the three main advantages of using simulation methods to support decision-making processes	
Work placement	Not applicable	

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