



Subject card

Subject name and code	Applications of AI methods in enterprise, PG_00045376						
Field of study	Data Engineering						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2025/2026		
Education level	first-cycle studies	Subject group			Optional subject group 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	4	Language of instruction			Polish		
Semester of study	7	ECTS credits			4.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr inż. Tomasz Deręgowski				
	Teachers		dr inż. Tomasz Deręgowski				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	30.0	0.0	0.0	45
	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	45		4.0		51.0	100
Subject objectives	The aim of the course is to acquaint students with the possible applications of artificial intelligence in the enterprise						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U01] programs in procedural, object, functional and logic programming languages, codes programs at the processor instruction level, runs and tests programs.						
	[K6_W06] Knows the criteria and concepts of artificial intelligence, understands the operation of algorithms for intelligent computing, the concept of descriptive logic, combinatorial optimization algorithms, methods of construction, analysis and evaluation of algorithms, including discrete ones and problems of resolving conflicts in non-algorithmic decision making.						
[K6_K03] Knows how to cooperate or work in a project team and take managerial or executive functions.		Student is able to collaborate or work in the project team and takes managerial or executive.		[SK1] Assessment of group work skills			

Subject contents	<p>Machine learning methods and their application in business.</p> <p>Support decision-making methods of artificial intelligence</p> <p>Inductive, deductive and abductive reasoning</p> <p>Decision trees</p> <p>Machine learning: classification and clustering</p> <p>Bayesian networks</p> <p>Genetic algorithms</p> <p>Evolutionary programs</p> <p>Fuzzy logic,</p> <p>Neural networks, deep learning</p> <p>Knowledge representation in logic</p> <p>Creating models based on artificial intelligence methods: recommendation systems, expert systems,</p> <p>"Bag-of-words" based text-mining techniques</p>											
Prerequisites and co-requisites	No requirements											
Assessment methods and criteria	<table border="1" data-bbox="451 1184 1487 1285"> <thead> <tr> <th data-bbox="451 1184 794 1218">Subject passing criteria</th> <th data-bbox="794 1184 1137 1218">Passing threshold</th> <th data-bbox="1137 1184 1487 1218">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="451 1218 794 1252">Exam</td> <td data-bbox="794 1218 1137 1252">60.0%</td> <td data-bbox="1137 1218 1487 1252">50.0%</td> </tr> <tr> <td data-bbox="451 1252 794 1285">Reports</td> <td data-bbox="794 1252 1137 1285">60.0%</td> <td data-bbox="1137 1252 1487 1285">50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Exam	60.0%	50.0%	Reports	60.0%	50.0%
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Recommended reading	Basic literature	<p>Flasiński, M. (2011) Wstęp do sztucznej inteligencji, PWN</p> <p>Goczyła, K. (2011) Ontologie w systemach informatycznych, Exit</p> <p>Mykowiecka, A (2007) Inżynieria lingwistyczna, PJWSTK</p>										
	Supplementary literature	Gurney, K (1997) An introduction to neural networks										
	eResources addresses											
Example issues/ example questions/ tasks being completed	<p>Generating a decision tree for decision support</p> <p>Back propagation learning algorithm for non-linear neural network</p> <p>Genetic algorithm in prediction of time series</p>											
Work placement	Not applicable											