



Subject card

Subject name and code	Business Data Semantics and Representation, PG_00053100						
Field of study	Data Engineering						
Date of commencement of studies	October 2022	Academic year of realisation of subject			2024/2025		
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	3	Language of instruction			Polish		
Semester of study	6	ECTS credits			5.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Informatics in Management -> Faculty of Management and Economics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr lic. Adegboyega Ojo				
	Teachers		dr lic. Adegboyega Ojo				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	0.0	60
	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	60		8.0		57.0	125
Subject objectives	The aim of the course is to present the possibilities of applying web intelligence methods in business.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_K03] Knows how to cooperate or work in a project team and take managerial or executive functions.	Student, as an engineer with economic and financial skills is aware of the need for consultation based on the principles of their work on the background of the organization of the business enterprise and its technical infrastructure.			[SK1] Assessment of group work skills		
	[K6_W03] Knows the applications of geoinformation systems, spatial data formats, methods of creating and analysing digital maps, architecture and services of satellite navigation systems.						
[K6_U11] is able to use mathematical and IT tools in economics.	Student is able to apply mathematical and computer tools in economics.			[SU1] Assessment of task fulfilment			

Subject contents	<p>Idea of the Semantic Web</p> <p>Monitoring of the Internet, brand protection</p> <p>NLP as a knowledge discovery method of the Semantic Web, sentiment analysis</p> <p>Social networks analysis</p> <p>Introduction to ontologies</p> <p>Resource Description Framework (RDF)</p> <p>Web Ontology Language (OWL)</p> <p>Semantic Web Rule Language (SWRL) as an extension of OWL</p> <p>Description Logic (DL) and inference algorithms</p> <p>Knowledge bases vs. databases</p> <p>Elements of ontology engineering</p> <p>Application of semantic technologies in business</p>											
Prerequisites and co-requisites	No requirements											
Assessment methods and criteria	<table border="1" data-bbox="448 1093 1477 1205"> <thead> <tr> <th data-bbox="448 1093 794 1137">Subject passing criteria</th> <th data-bbox="794 1093 1141 1137">Passing threshold</th> <th data-bbox="1141 1093 1477 1137">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 1137 794 1171">Reports</td> <td data-bbox="794 1137 1141 1171">60.0%</td> <td data-bbox="1141 1137 1477 1171">50.0%</td> </tr> <tr> <td data-bbox="448 1171 794 1205">Exam</td> <td data-bbox="794 1171 1141 1205">60.0%</td> <td data-bbox="1141 1171 1477 1205">50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	Reports	60.0%	50.0%	Exam	60.0%	50.0%
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Exam	60.0%	50.0%										
Recommended reading	Basic literature	<p>Goczyła, K. (2011) Ontologie W Systemach Informatycznych, Exit</p> <p>Mykowiecka, A (2007) Inżynieria Lingwistyczna, PJWSTK</p>										
	Supplementary literature	<p>Antoniou, G. (2004) A Semantic Web Primer</p> <p>Baader, F. (2003) The description logic handbook: theory, implementation, and applications, Cambridge University Press</p>										
	eResources addresses											
Example issues/ example questions/ tasks being completed	<p>Application of sentiment monitoring tools fondness in brand protection</p> <p>Detection of trends in social networks</p> <p>Semantic data integration</p>											
Work placement	Not applicable											