



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