

Subject card

Subject name and code	Data Mining, PG_00199682						
Field of study	International Economic Relations						
Date of commencement of studies	October 2026	Academic year of realisation of subject			2026/2027		
Education level	Master's studies	Subject group			Obligatory subject group in the field of study 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	1	Language of instruction			Polish		
Semester of study	2	ECTS credits			1.0		
Learning profile	academic	Assessment form			credit		
Conducting unit							
Name and surname of lecturer (lecturers)	Subject supervisor		dr Tomasz Czuba				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	0.0	5.0	0.0	20
	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	20	0.0	5.0	25		
Subject objectives	To learn how to analyse data using different statistical methods. To search statistical methods for their verification.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[MSGMU2_K03] is ready to actively participate in groups, organisations and institutions conducting professional projects concerning the functioning of economic entities in the conditions of globalisation and the development of integration processes	Students will learn to prepare speeches and oral presentations in Polish and English on selected topics.			[SK2] presentation/project/paper/report [SK5] implementation of a problem task		
	[MSGMU2_W13] has an in-depth knowledge of methods and tools for describing economic phenomena, including data acquisition techniques, which make it possible to describe and analyse economic entities functioning on the international market as well as processes and phenomena occurring in them and between them, and also those supporting decision-making processes	The student is able to use basic computer programmes in the acquisition and analysis of data necessary for professional work.			[SW2] presentation/project/paper/report [SW5] implementation of a problem task		

Subject contents	<p>1 Data mining as an analytical process Types of data resources, availability of data, methods of dabble aggregation, ways of combining data, programs used in the data mining process.</p> <p>2-3 Data mining process - Exploration Data preparation. Data cleaning and transformation, selection of subsets of records preliminary selection of variables (features). Reducing the number of analyzed variables to a level that allows the analysis to be performed efficiently.</p> <p>4-5 Data mining process - Implementation and application of models. Applying for new data the models obtained and considered best. Obtaining predicted values or classifications .</p> <p>6-7 Group presentations</p> <p>Presentations presented and discussed during classes and consultations with the lecturer.</p>		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. M. Lasek, Metody Data Mining w analizowaniu i prognozowaniu kondycji ekonomicznej przedsiębiorstw, Difin 2007. 2. D. Larose, Metody i modele eksploracji danych, PWN 2008 3. original studies by T. Czuba (distributed during classes) 4. own databases 	
	Supplementary literature	T. Hastie, R. Tibshirani, J. H. Friedman, <i>The elements of statistical learning: Data mining, inference, and prediction</i> . New York: Springer 2001.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	<ol style="list-style-type: none"> 1. Analysis of the structure of databases 2 Types of databases 3 Statistical methods in database analysis 		
Work placement	Not applicable		

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