



## Subject card

Subject name and code	Visualization of economic data, PG_00053007						
Field of study	Data Engineering						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2026/2027		
Education level	first-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	3	Language of instruction			English		
Semester of study	5	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			assessment		
Conducting unit	Faculty of Management and Economics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Olgun Aydin				
	Teachers		dr Olgun Aydin				
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		2.0		28.0	75
Subject objectives	The aim of the course is to acquire the skills needed to construct effective communication in the visual business communication with the help of IT tools and solutions.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U02] prepares and presents convincingly professional presentations of the results of undertaken activities, with their advanced interpretation		The student prepares and presents convincing professional visual analyses.		[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools		
	[K6_W03] identifies veracious sources of information relevant to the analyzed issues		The student identifies reliable sources of visual information and uses appropriate data visualization methods for effective business communication.		[SW2] Assessment of knowledge contained in presentation		

Subject contents	<p>History of statistical graphic</p> <p>Visualization of information in business and engineering communications. The role of visual information in the decision-making process</p> <p>Ergonomics of visual communication. Perceptual characteristics of the users. Perceptual and cognitive limitations of the user</p> <p>Basic forms of presentation of visual information: diagrams, charts, diagrams</p> <p>Visualization of quantitative data</p> <p>Visualization of qualitative data</p> <p>Exploration of statistical interactions</p> <p>Exploration of time series</p> <p>Cluster analysis (Wards method, k-means method)</p> <p>Fundamentals of GIS</p> <p>Analysis and visualization of geospatial data</p> <p>Visualization of symbolic data</p>											
Prerequisites and co-requisites	No requirements											
Assessment methods and criteria	<table border="1"> <thead> <tr> <th data-bbox="448 1151 794 1184">Subject passing criteria</th> <th data-bbox="794 1151 1141 1184">Passing threshold</th> <th data-bbox="1141 1151 1477 1184">Percentage of the final grade</th> </tr> </thead> <tbody> <tr> <td data-bbox="448 1184 794 1218">written cologium</td> <td data-bbox="794 1184 1141 1218">60.0%</td> <td data-bbox="1141 1184 1477 1218">50.0%</td> </tr> <tr> <td data-bbox="448 1218 794 1256">laboratory exercises</td> <td data-bbox="794 1218 1141 1256">60.0%</td> <td data-bbox="1141 1218 1477 1256">50.0%</td> </tr> </tbody> </table>			Subject passing criteria	Passing threshold	Percentage of the final grade	written cologium	60.0%	50.0%	laboratory exercises	60.0%	50.0%
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laboratory exercises	60.0%	50.0%										
Recommended reading	Basic literature	<p>Biecek P. „Odkrywac! Ujawniać! Objaśniać! Zbiór eseów o sztuce pokazywania danych”, 2014.</p> <p>Tufte E.R., „The visual display of quantitative information”, 2001</p> <p>Wilkinson L., „The Grammar of Graphics”, 2005.</p>										
	Supplementary literature	<p>Clarke K.C., „Getting started with geographic Information Systems”, 2001.</p> <p>Murray S.: Interaktywna wizualizacja danych. Wyd. Helion Warszawa 2013.</p> <p>Tufte E.: Envisioning Information. Graphic Press, Cheshire, CY, USA, 1996.</p>										
	eResources addresses	Adresy na platformie eNauczanie:										
Example issues/ example questions/ tasks being completed	<ul style="list-style-type: none"> <li>- developing the presentation of data related to a selected phenomenon</li> <li>- evaluation of usability and clarity of the visual transmission</li> <li>- principles of the data presentation for business analytics</li> </ul>											

Work placement	Not applicable
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