GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	BUSINESS INTELLIGENCE, PG_00070838		
Field of study	Economic Analytics		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2027/2028
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	2	Language of instruction	Polish
Semester of study	4	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Informatics In Management -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Anna Trzaskowska	
	Teachers		

Lesson types

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	3.0	52.0	100

Subject objectives

preparing students to use Business Intelligence technologies in solving decision-making problems, based on knowledge of analytical methods, data mining and IT tools, and shaping attitudes related to the responsible and critical use of data in the context of decision-making in organizations.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W05] possesses advanced knowledge in integrating data from various sources and in methods that enable a comprehensive analysis of economic problems.	knows and understands Business Intelligence methods and tools that enable the integration of data from various sources and their use in analyzing economic problems.	[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects
[K6_U07] uses advanced information technologies to enhance data analysis and decision-making processes.	is able to independently and collaboratively apply information technologies, such as Power BI and Power Query, to analyze data and enhance decision-making processes in organizations.	[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools [SU5] Assessment of ability to present the results of task

<table>
<tr><td>Subject contents</td><td>Course content – lecture
1. BI History and Evolution
2. BI Processes and Architecture
3. BI Resources
4. BI Data Sources
5. BI Master Data
6. BI Frames of Reference and Decision Models
7. BI Tools - Market Overview
8. Reporting and Dashboards
9. BI Data Visualization
10. BI Storytelling and Narrative
11. Data Governance and Compliance
12. BI Trends and Future
13. DAMA DMBOK
14. Business Intelligence - cases
Course content – laboratory
1. Introduction to Power BI
2. Importing Data
3. Working with Data in Power Query
4. Creating Relationships
5. Creating New Columns and Measures
6. Creating and Formatting Visualizations
7. Aggregates
8. Interactions
9. DAX Functions
10. Creating a Calendar
11. Working with Geographic Data
12. Optimization and Prediction
13. Creating Dashboards
14. Using the Tool to Make Business Decisions
15. Storytelling</td></tr>
<tr><td>Prerequisites and co-requisites</td><td>The basis of the computer science - knowledge of Excel at an intermediate level</td></tr>
<tr><td>Assessment methods and criteria</td><td><table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td>test of knowledge and understanding in the form of a quiz</td><td>60.0%</td><td>25.0%</td></tr><tr><td>problem tasks</td><td>60.0%</td><td>75.0%</td></tr></table></td></tr>
<tr><td>Recommended reading</td><td><table><tr><td>Basic literature</td><td>1. Gartner, Inc. (2024). Magic quadrant for analytics and business intelligence platforms. https://www.gartner.com/en/documents/5519595
2. Data Science for Business. What You Need to Know about Data Mining and Data-Analytic Thinking
3. Radziszewski, P. (2016). Business Intelligence. Warszawa: Poltex.
4. Surma, J. (2018). Business Intelligence. Warszawa: PWN.
5. Surma, J. (2017). Cyfryzacja życia w erze Big Data. Warszawa: PWN.
6. Wexler, S., Shaffer, J., & Cotgreave, A. (2017). The big book of dashboards: Visualizing your data using real-world business scenarios. Wiley.</td></tr><tr><td>Supplementary literature</td><td>1. Own labolatory materials
2. Ferrari, A., & Russo, M. (2021). The definitive guide to DAX: Business intelligence with Microsoft Power BI, SQL Server Analysis Services, and Excel (2nd ed.). Microsoft Press.
3. Knaflic, C. N. (2015). Storytelling with data: A data visualization guide for business professionals. Wiley.</td></tr><tr><td>eResources addresses</td><td></td></tr></table></td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td>1. Which visualization will you choose to compare sales between regions and why?
2. How will you present sales trends over time in a way that's easy for management to understand?
3. What visualization will you use to detect outliers?
4. How will you design your dashboard to avoid information overload?
5. How will you change the visualization to better support decision-making?</td></tr>
<tr><td>Practical activites within the subject</td><td>Not applicable</td></tr>
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