GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	BUSINESS INTELLIGENCE, PG_00058585		
Field of study	Economic Analytics		
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	Part-time studies	Mode of delivery	at the university
Year of study	3	Language of instruction	Polish
Semester of study	5	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
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	dr inż. Anna Trzaskowska	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	8.0	0.0	8.0	0.0	0.0	16

E-learning hours included: 0.0

eNauczanie source addresses:

Moodle ID: 6709 Business Intelligence NSTAC 2026/2027
https://enauczanie.pg.edu.pl/2025/course/view.php?id=6709

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	16	5.0	54.0	75

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_W02] Demonstrates advanced knowledge of methods and techniques related to the field of study in economic analytics to explain complex problems.	knows and understands advanced analytical methods and techniques used in Business Intelligence, in the context of data analysis and supporting management decisions in the organization	[SW2] Assessment of knowledge contained in presentation [SW3] Assessment of knowledge contained in written work and projects
[K6_U07] Applies advanced information technologies to enhance data analysis and decision-making processes.	is able to independently and in teamwork use IT technologies such as Power BI and Power Query to analyze data and improve 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

Subject contents	Course content – lecture 1. Introduction to Business Intelligence - concept, objectives, and components of Business Intelligence, - the role of BI in the organization and decision-making processes, - organizational information resources and data sources. 2. Data in Business Intelligence - basic business datasets, - structure of data used in analysis, - dimensions and measures, - frames of reference, metrics, and Key Performance Indicators (KPIs). 3. Data Analysis and Mining - analytical methods used in Business Intelligence, - data mining, - interpretation of analysis results, - selecting analytical methods for decision-making problems. 4. Reporting and Data Visualization - principles of management reporting, - data visualization and report design, - use of reports and dashboards to support decision-making. 5. Business Intelligence in Management Support - supporting management decisions using IT technologies, - using business analytics to improve decision-making processes, - gaining a competitive advantage through the use of data and analytical methods, - responsible and critical use of data in decision-making. 6. Business Intelligence Tools - Excel Power Query as a tool for data acquisition and transformation, - Microsoft Power BI as an environment for data analysis, visualization, and reporting.
	Course content – laboratory 1. Data acquisition and preparation - importing data from various sources, - cleaning, transforming, and integrating data in Power Query, - preparing data for analysis. 2. Data modeling in Power BI - creating a data model, - defining relationships between tables, - creating measures and analytical indicators. 3. Business data analysis - using measures, dimensions, and KPIs, - analyzing data across various dimensions, - interpreting analysis results in the context of business problems. 4. Visualization and reporting - selecting appropriate visualization forms, - creating interactive reports and dashboards in Power BI, - designing clear management information. 5. Decision support - analyzing decision-making problems using data, - formulating conclusions and recommendations based on analysis results, - identifying opportunities to improve decision-making processes. 6. Problem-based tasks - solving analytical problems individually and in teams, - preparing a complete analysis: from data acquisition and transformation, through analysis and visualization, to formulating management recommendations.
Prerequisites and co-requisites	The basis of the computer science - knowledge of Excel at an intermediate level

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Quiz assessing knowledge of analytical methods and techniques used in Business Intelligence (closed questions)	60.0%	30.0%
Problem tasks in the field of data analysis to be performed during classes (individually or in a team)	60.0%	70.0%

Recommended reading	Basic literature	Surma, J. (2018). *Business Intelligence*. Warszawa: PWN. Radziszewski, P. (2016). *Business Intelligence*. Warszawa: Poltex. Maslyuk, D., Raviv, G. (2024). *Collect, Combine, and Transform Data Using Power Query in Power BI and Excel*, 2nd ed. Microsoft Press.
	Supplementary literature	Own labolatory materials Ferrari, A., Russo, M. (2025). *The Definitive Guide to DAX: Mastering the Semantic Model Expression Language for Microsoft Power BI, Fabric, and Excel*, 3rd ed. Microsoft Press. microsoftpressstore.com Surma, J. (2017). *Cyfryzacja życia w erze Big Data*. Warszawa: PWN. Microsoft. *Power BI Documentation*, Microsoft Learn — jako **aktualizowane źródło elektroniczne** dotyczące Power BI, modelowania danych, raportów i dashboardów. Microsoft Learn Microsoft. *Power Query Documentation*, Microsoft Learn — aktualizowane źródło dotyczące pozyskiwania, transformacji i przygotowania danych.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Introduction to Power BI. Data import. Work with data in Power Query. Creating relations. Reports. DAX functions.	
Practical activites within the subject	Not applicable	

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