GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	BUSINESS DATA ANALYTICS, PG_00061351		
Field of study	Management		
Date of commencement of studies	October 2023	Academic year of realisation of subject	2025/2026
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	English
Semester of study	5	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department Of Statistics And Econometrics -> Faculty Of Management And Economics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Marta Kuc-Czarnecka	
	Teachers	dr Marta Kuc-Czarnecka	

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	8.0	47.0	100

Subject objectives

Formulates research problems correctly and solves them using appropriate analytical methods and properly selected data

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W03] identifies reliable sources of information relevant to the analyzed issues	defines correctly the components of the studied phenomenon, obtaining reliable data needed for its advanced analysis and evaluation	[SW1] Assessment of factual knowledge
[K6_U07] uses information technology to improve data analysis and decision-making processes	analyzes the obtained data using appropriately selected methods, supporting the research process with information technologies	[SU3] Assessment of ability to use knowledge gained from the subject

Subject contents

The role of data analytics in modern organisations
Trends and challenges in business data analytics
Data collection methods and techniques. Data quality and integrity
Bias in data analysis
Data preprocessing and cleaning
Data summarisation and aggregation
Hypothesis testing
Classification and regression algorithms
Basics of time series analysis
Introduction to forecasting techniques
Basics of simulation and scenario analysis
Best practices in data visualisation
Storytelling with data
Industry-specific applications of business data analytics (healthcare, finance, retail, etc.)
Emerging trends and challenges in business data analytics

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Final project presentation and report	60.0%	20.0%
Data analytics project	60.0%	40.0%
Theoretical quiz	60.0%	40.0%

Recommended reading	Basic literature	Regi, M. (2020). Business Analytics for Decision Making Maheshwari, A. (2014). Data Analytics Made Accessible: 2023 edition Knaflic, C. N. (2019). Storytelling with Data: Let's Practice!
	Supplementary literature	Provost F., & Fawcett, T. (2013). Data Science for Business: What You Need to Know about Data Mining and Data-Analytic Thinking Zumel, N. (2014). Practical Data Science with R
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	For a given dataset from a business, identify and handle missing values, correct errors, remove duplicates, and transform data into a suitable format Build and interpret regression models for business applications (for example: predict sales based on advertising spend; identify the factors that contribute to customer satisfaction) Use clustering techniques to identify patterns or segments in customer data Create visualizations and reports to communicate findings to business stakeholders	
Work placement	Not applicable	

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