

Subject card

Subject name and code	Business Analytics, PG_00178238						
Field of study	Management						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2027/2028		
Education level	Bachelor's 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		Polish		
Semester of study	6		ECTS credits		7.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Strategic Development and Quality Science -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Jędrzej Siciński				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	15.0	0.0	0.0	75
	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	75		4.0		96.0	175
Subject objectives	Familiarizing students with a range of managerial analytical tools that contribute to stimulating enterprise efficiency, improving the quality of planning, and increasing the chances of survival in a dynamic business environment.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[ZARZL3_U10] The student can convey information clearly and effectively, presenting their opinions using management and quality sciences terminology across various media.		The student clearly communicates the obtained results, presents solution scenarios, and skillfully justifies the adopted assumptions.		[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report		
	[ZARZL3_U04] The student can correctly select and properly apply methods and tools from management and quality sciences, as well as economics and finance, to decision-making processes.		The student analyzes business data, generates and verifies the obtained results, and selects optimal solutions for the given problem.		[SU2] presentation/project/paper/report		
	[ZARZL3_W05] The student has advanced knowledge and understanding of methods and techniques for acquiring, developing and using data in decision-making and management processes.		The student identifies different types of business data, cites business analytics methods, and appropriately matches them to various management problems.		[SW4] test/exam - oral or written		

Subject contents	1. The essence of business analytics and its application scope in management 2. Financial analysis supported by analytics information sources and data selection 3. Diagnosing the financial condition of an enterprise supported by analytics 4. Time series analysis for management purposes 5. Fundamentals of managerial financial modeling 6. Budget and capital structure management 7. Selected optimization problems and risk-performance management 8. Early warning systems for insolvency 9. Basics of business data visualization 10. Analytics-supported decisions trust in data and the results of their processing		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	written exam	51.0%	60.0%
	team project	51.0%	40.0%
Recommended reading	Basic literature	1. Antonowicz P. (red.), Zarządzanie rozwojem przedsiębiorstwa. Interaktywny podręcznik z zakresu zarządzania. Repozytorium case study dla studentów, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2020. 2. Antonowicz P., Siciński J., Rozwój organizacji ukierunkowanej na reaktywne zarządzanie odchyleniami typologia i rola systemów wczesnego ostrzegania przed upadłością przedsiębiorstw, w: Zarządzanie rozwojem przedsiębiorstwa: perspektywa nauki i praktyki gospodarczej / Antonowicz Paweł, Próchniak Joanna, Sadkowska Joanna (red.), vol. 2, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2020. 3. Chmielewski M., Płoska R., Wielowymiarowa ocena zarządzania majątkiem i kapitałem obrotowym w przedsiębiorstwie. w: Zarządzanie rozwojem przedsiębiorstwa: perspektywa nauki i praktyki gospodarczej / Antonowicz Paweł, Próchniak Joanna, Sadkowska Joanna (red.), vol. 2, Gdańsk, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2020. 4. Siciński J. System wczesnego ostrzegania przedsiębiorstw przed ryzykiem upadłości na przykładzie branży transportowej, Centrum Myśli Strategicznych, Sopot 2021.	
	Supplementary literature	1. Antonowicz A., Antonowicz P., Matematyka finansowa w praktyce. Wybrane zagadnienia z zakresu finansów przedsiębiorstw, ODDK, Gdańsk 2009. 2. Sływotzky A.J., Morrison D.J., Andelman B., Strefa zysku. Strategiczne modele działalności, PWE, Warszawa 2000	
	eResources addresses	Basic https://fundacjacms.pl/system-wczesnego-ostregania-przedsiębiorstw-przed-ryzykiem-upadłości-na-przykładzie-branży-transportowej/ - Open-access monograph http://hansolo.bg.ug.edu.pl/han/statista - Statista in the e-resources of the University of Gdańsk http://hansolo.bg.ug.edu.pl/han/emis/ - Emis Next in the e-resources of the University of Gdańsk	
Example issues/ example questions/ tasks being completed	The role of analytics in managerial decision-making. Sources of financial data internal vs. external. Ratio analysis. Analytics in budget planning KPIs and controlling. Decision and optimization models. Predictive models (e.g., Z-score) in bankruptcy risk analysis. Data errors, analytics ethics, interpretation of results.		

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