

Subject card

Subject name and code	Quantitative Methods for Accounting, PG_00124918						
Field of study	Finance and Accounting						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2025/2026		
Education level	postgraduate 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 Polish		
Semester of study	4	ECTS credits			2.0		
Learning profile	academic	Assessment form					
Conducting unit	Katedra Ekonometrii -> Faculty of Management						
Name and surname of lecturer (lecturers)	Subject supervisor		prof. dr hab. Paweł Miłobędzki				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	0.0	0.0	0.0	30
	E-learning hours included: 0.0						
	Additional information: Lectures with multimedia presentations and solving tasks during tutorials while working in teams.						
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	30	10.0	10.0	50		
Subject objectives	Showing the usefulness of the econometric model as a measurement and analysis tool in finance, banking, and accounting.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[FiRMU2_K03] Communication: - the student can present his/her view/ issue in a way that others can understand, - courageously (but prudently) expresses his opinion, is not afraid to ask questions, - can participate culturally in the discussion, - can give constructive criticism, - can communicate on specialized topics in finance and accounting with a diverse audience.	Communication: - the student can effectively present his/her knowledge on topics learned during the course in a way that others can understand; he/she confidently (but tactfully) presents his/her opinions and is not afraid to ask questions; - he/she understands and adheres to social and cultural norms; he/she can offer constructive criticism respectfully.	[SK1] oral statement/conversation/discussion [SK4] test/exam - oral or written
	[FiRMU2_W05] The student has an extended knowledge of advanced methods and tools, including data acquisition and analysis techniques, specific to the social sciences to describe economic structures and institutions and the processes within and between them.	The student possesses comprehensive knowledge of advanced methods and tools for facilitating business decisions. This includes specific data acquisition and analysis techniques tailored to the social sciences, enabling the description of economic structures and institutions in finance and accounting and the processes occurring within and between them.	[SW4] test/exam - oral or written [SW3] text preparation/written work
	[FiRMU2_W07] The student knows in detail the principles of project evaluation of finance and accounting (profitability of investment projects, assessment of the financial situation of the organization, risk assessment, threat of bankruptcy). The student can identify risks associated with the activities of the organization and correctly determine their consequences and methods of mitigation with the skilful use of theoretical knowledge using a specific research method.	The student knows in detail the principles of assessing projects in finance and accounting (company's financial standing, risk, bankruptcy). He/she can identify types of risks related to a company's operations and correctly determine their consequences and mitigation methods with the skilful use of theoretical knowledge and research methods learned during the course.	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW3] text preparation/written work
	[FiRMU2_U03] The student can analyse in depth the causes, course and effects of processes and phenomena in finance and accounting using advanced theories and appropriate social sciences methods. Can verify simple research hypotheses. Can collect data using information technology.	The student can thoroughly analyze the causes, progression, and impact of processes and phenomena in finance and accounting using advanced theories and methods taught in the course. He/she is able to collect data using information technologies for this purpose.	[SU1] oral statement/conversation/discussion [SU3] text preparation/written work [SU4] test/exam - oral or written
	[FiRMU2_K01] Self-improvement: - understands the need for development and lifelong learning, - inspires others to learn, - is able to supplement and improve the acquired knowledge and skills, expanded by the interdisciplinary dimension, - knows his strengths and weaknesses, sets ambitious goals to the best of his ability, - knows how to reconcile with failure, admit to a mistake.	Self-improvement: The student understands the need for development and learning during studies, inspires other students to learn, can complement and improve the acquired knowledge and skills, extended to include an interdisciplinary dimension, and sets ambitious goals to the best of his/her abilities.	[SK1] oral statement/conversation/discussion [SK3] text preparation/written work [SK8] observation of student's independent or team work
	[FiRMU2_U04] The student can forecast and model complex economic processes and phenomena in finance and accounting using advanced methods and tools appropriate to the science of finance.	The student can use advanced finance methods and tools to model complex economic processes and phenomena in the fields of finance and accounting learned during the course.	[SU3] text preparation/written work [SU8] observation of student's independent or team work
Subject contents	1. Which financial indicators are essential for understanding the company's performance? Methods for reducing the dimension of multivariate data: principal components and factor analysis. 2. Assessment of the enterprise's financial standing. Forecasting financial decisions. Models for binary and multiple-choice, and ordered data. 3. Forecasting the bankruptcy of publicly listed companies. Discriminant analysis. 4. Assessing the credit risk associated with individual transactions. Parametric credit scoring models.		
Prerequisites and co-requisites	The knowledge of basics in mathematics, statistics, and econometrics.		

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Course final assessment: oral examination - defence of mid-term papers in discussion with the lecturer.	51.0%	50.0%
	Tutorial - 1/2 mid-term papers assessing the ability to apply methods learned during the course.	51.0%	50.0%
Recommended reading	Basic literature	1. Balicki A. (2009), Statystyczna analiza wielowymiarowa i jej zastosowania społeczno-ekonomiczne. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk. 2. Gruszczyński M. (2002), Modele i prognozy zmiennych jakościowych w finansach i bankowości. SGH, Warszawa. 3. Gruszczyński M. (2012), Empiryczne finanse przedsiębiorstw. Mikroekonometria finansowa. Difin, Warszawa.	
	Supplementary literature	-	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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