

。 GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	FINANCIAL ECONOMETRICS, PG_00060906								
Field of study	Economic Analytics								
Date of commencement of studies	October 2023		Academic year of realisation of subject			2024/2025			
Education level	second-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 (on-line)		Mode of delivery			blended-learning			
Year of study	2		Language of instruction			Polish			
Semester of study	3		ECTS credits			4.0			
Learning profile	general academic profile		Assessment form			exam			
Conducting unit	Katedra Statystyki i Ekonometrii -> Faculty of Management and Economics								
Name and surname	Subject supervisor		dr hab. Michał Pietrzak						
of lecturer (lecturers)	Teachers		Andrzej Geise						
Lesson types and methods	Lesson type	Lecture	Tutorial	Laboratory	Projec	t	Seminar	SUM	
of instruction	Number of study hours	16.0	0.0	16.0	0.0		0.0	32	
	E-learning hours included: 24.0								
Learning activity and number of study hours	Learning activity	Participation in classes includ plan	n didactic led in study	Participation in consultation hours		Self-study		SUM	
	Number of study hours	32		4.0		64.0		100	
Subject objectives	Formulates complex models of the capital market stochastic processes using in-depth knowledge and problem solving techniques, in accordance with contemporary trends in the development of this research area								
Learning outcomes	Course outcome		Subject outcome			Method of verification			
	[K7_W02] explains the meaning and interdependence of key components describing economic processes, using in-depth knowledge consistent with the main trends in the development of scientific disciplines related to the field of study		analyzes stochastic processes in the financial market, interpreting their key components and their relationships, using modern scientific achievements			[SW1] Assessment of factual knowledge			
	[K7_U03] formulates research problems and selects appropriate analytical methods for their effective solution, using advanced IT tools, and evaluates the results critically		models stochastic processes in the capital market, selecting analytical methods and financial data appropriate to the formulated research problem			[SU4] Assessment of ability to use methods and tools			
Subject contents	Stochastic processes in the financial market, basic characteristics, empirical examples The process of obtaining financial data by institutions, sources of data acquisition, institutional limitations The problem of sharing and distributing financial data by institutions, availability of financial data Deterministic trend or stochastic trend - stationarity and unit root tests Modeling stationary stochastic processes of the financial market Modeling of non-stationary stochastic processes of the financial market One-equation error correction model, cointegration modeling of stochastic processes One-dimensional volatility models, models from the GARCH family, stochastic volatility (SV) models Multi-equation models of stochastic processes VECM error correction vector model The problem of Granger causality Multi-equation volatility models from the GARCH family The problem of contagion in financial markets								
and co-requisites									

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade		
	Test	60.0%	40.0%		
	Exam	60.0%	60.0%		
Recommended reading	Basic literature	Osińska M. (2006) Ekonometria finansowa, Warszawa, PWE Doman M., Doman R. (2009) Modelowanie zmienności I ryzyka. Metody ekonometrii finansowej. Oficyna Wolters Kluwer, Kraków			
	Supplementary literature	Enders W. (1995) Applied Econometric Time Series. Wiley Maddala G.S.(2006) Ekonometria, PWN, Warszawa			
	eResources addresses	Adresy na platformie eNauczanie:			
		Ekonometria Finansowa - Moodle ID: 40030 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=40030			
Example issues/ example questions/ tasks being completed					
Work placement	Not applicable				

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