



Subject card

Subject name and code	FINANCIAL ECONOMETRICS, PG_00066557						
Field of study	Economic Analytics						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2025/2026		
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	Full-time studies	Mode of delivery			at the university		
Year of study	2	Language of instruction			Polish		
Semester of study	3	ECTS credits			3.0		
Learning profile	general academic profile	Assessment form			exam		
Conducting unit	Department of Statistics and Econometrics -> Faculty of Management and Economics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Michał Pietrzak				
	Teachers		dr hab. Michał Pietrzak				
Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	0.0	30.0	0.0	0.0	60
	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	60		5.0		25.0	90
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_U03] Formulates research hypotheses and selects appropriate analytical methods for their verification, utilizing advanced IT tools, and critically evaluates the obtained results.		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		
[K7_W02] Understands the significance and interrelationships of key components describing economic processes, drawing on in-depth knowledge aligned with major developmental trends in scientific disciplines related to the field of economic analytics.		analyzes stochastic processes in the financial market, interpreting their key components and their relationships, using modern scientific achievements		[SW1] Assessment of factual knowledge			
Subject contents	<p>Stochastic processes in the financial market, basic characteristics, empirical examples</p> <p>The process of obtaining financial data by institutions, sources of data acquisition, institutional limitations</p> <p>The problem of sharing and distributing financial data by institutions, availability of financial data</p> <p>Deterministic trend or stochastic trend - stationarity and unit root tests</p> <p>Modeling stationary stochastic processes of the financial market</p> <p>Modeling of non-stationary stochastic processes of the financial market</p> <p>One-equation error correction model, cointegration modeling of stochastic processes</p> <p>One-dimensional volatility models, models from the GARCH family, stochastic volatility (SV) models</p> <p>Multi-equation models of stochastic VAR and SVAR processes in financial markets</p> <p>Study of cointegration of stochastic processes</p> <p>VECM error correction vector model</p> <p>The problem of Granger causality</p> <p>Multi-equation volatility models from the GARCH family</p> <p>The problem of contagion in financial markets</p>						
Prerequisites 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 eNauczenie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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