GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	FINANCIAL ECONOMETRICS, PG_00060706		
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	Full-time studies	Mode of delivery	at the university
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 of lecturer (lecturers)	Subject supervisor	dr Błażej Kochański	
	Teachers	dr Błażej Kochański	

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	4.0	36.0	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_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
[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

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 VAR and SVAR processes in financial markets
Study of cointegration 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

Prerequisites and co-requisites

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Exam	60.0%	50.0%
	Tests / assignments	60.0%	50.0%
Recommended reading	Basic literature	• Oliver Linton, Financial Econometrics: models and methods, Cambridge University Press, 2019 • 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., Introduction to Econometrics	
	eResources addresses	Adresy na platformie eNauczanie: Ekonometria finansowa 2024/2025 - Moodle ID: 39452 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=39452	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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