

Subject card

Subject name and code	Econometrics & Forecasting, PG_00178640						
Field of study	Finance and Accounting						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
Education level	Bachelor's studies		Subject group		Obligatory subject group in the field of study 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	2		Language of instruction		English		
Semester of study	4		ECTS credits		7.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Econometrics -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Sabina Nowak				
	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	This course is divided into two parts. First, it introduces students to econometric methods that are essential for those pursuing a career in finance. Second, it covers selected forecasting techniques applicable to economic decision-making scenarios.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[FiRL3_U03] The student can obtain data and verify its accuracy from appropriately selected sources and use these data to analyse and evaluate economic processes and phenomena in management and quality sciences, economics and finance.	The student extracts financial data from databases, both cross-sectional and time-series—with different frequencies, recognize their correctness and use the data to build econometric models in the financial market and corporate finance.	[SU2] presentation/project/paper/report [SU5] implementation of a problem task
	[FiRL3_W02] The student has advanced knowledge and understanding of the functioning of the domestic and international financial market and financial instruments and institutions.	The student identifies the principles of the financial market and its institutions and recognizes and classifies financial instruments.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/report [SW5] implementation of a problem task
	[FiRL3_U04] The student is able—from the perspective of finance and accounting—to correctly select and properly apply methods and tools from the fields of management and quality sciences, economics, and finance to analyse and forecast economic processes and evaluate economic phenomena.	The student specifies, estimates, and verifies econometric models describing phenomena related to the financial market and corporate finance, makes forecasts on their basis, and evaluates the correctness of the obtained forecasts.	[SU2] presentation/project/paper/report [SU5] implementation of a problem task
	[FiRL3_W05] To an advanced degree, the student knows and understands the tools and techniques for obtaining, compiling, and analyzing the data necessary to assess the financial situation of various entities in management, quality sciences, economics, and finance.	The student recognizes different types of financial data, classifies econometric models, and selects methods for estimation and verification.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/report [SW5] implementation of a problem task
Subject contents	1. Introduction: Types and examples of financial data, returns and their properties. Econometric packages Gretl and EViews. 2. Simple linear regression: examples of econometric models, regression versus correlation. Ordinary Least Squares method of estimation (OLS). OLS estimator and its properties. Application of the OLS estimator. 3. Goodness of fit. Testing the individual and joint significance of structural parameters. Confidence intervals. 4. Basics of hypothesis testing. Testing the classical linear regression model assumptions: homoscedasticity of the error term, lack of autocorrelation, and normality of distribution. Assessing the correctness of model specification. 5. Examples in finance: Can UK unit trust managers beat the market? The overreaction hypothesis in the UK stock market. CAPM. APT. Hedonic pricing models. 6. Univariate time series modelling: moving average process, autoregressive process, correlogram, autocorrelation function, partial autocorrelation function. ARMA process. Box-Jenkins approach. Stationarity. 7. Limited dependent variable models: linear probability, logit, and probit models. Example in finance: Are unsolicited credit ratings biased downwards? 8. Basic forecasting methods: Measures of accuracy. Exponential smoothing methods single exponential smoothing, Holt's linear exponential smoothing, Holt-Winters' method. 9. Forecasting using regression. 10. Forecasting ARMA/ARIMA processes.		
Prerequisites and co-requisites	Students should possess elementary knowledge of mathematics for economics, descriptive and inferential statistics as well as practical data mining skills.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written test	51.0%	50.0%
	Team project with presentation	51.0%	25.0%
	Exam	51.0%	25.0%
Recommended reading	Basic literature	1. Brooks C., 2008, Introductory Econometrics for Finance, Cambridge University Press 2. Dougherty C., 2008, Introduction to Econometric, Oxford University Press 3. Makridakis S., S. C. Wheelright, R. J. Hyndman, 1998, Forecasting: Methods and Applications, 3rd edition, John Wiley & Sons	
	Supplementary literature	Mills T.C., Markellos R.N., 2008, The Econometric Modelling of Financial Time Series, Cambridge University Press	
	eResources addresses	Basic https://www.youtube.com/@chrisbrooks8555/videos?app=desktop - Chris Brooks YT channel (video lectures)	

Example issues/ example questions/ tasks being completed	
Work placement	Not applicable

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