



## Subject card

Subject name and code	ECONOMETRICS, PG_00066481						
Field of study	Economic Analytics						
Date of commencement of studies	October 2024	Academic year of realisation of subject			2025/2026		
Education level	first-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	4	ECTS credits			5.0		
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						
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	6.0		59.0	125	
Subject objectives	Creates econometric models to analyze economic processes.						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W05] Possesses advanced knowledge of data integration from multiple sources and advanced analytical methods, enabling the analysis of complex economic problems.	analyzes cause and effect relationships occurring in economic processes			[SW3] Assessment of knowledge contained in written work and projects		
	[K6_U05] Designs innovative solutions to challenging problems by applying knowledge from the field of economic analytics, achieving economically and socially valuable outcomes.	recognizes methods used for estimation and verification of econometric models, choosing the method to fit the defined problem			[SU4] Assessment of ability to use methods and tools		
Subject contents	<p>An econometric model and its components. Simple and multiple regression. Steps in building an econometric model. Specification of econometric model. Parameter estimation of linear econometric model. Method of least squares (LSM) estimation of linear econometric model. Stochastic assumptions in an econometric model. Economic verification of an econometric model. Statistical verification, assessment of the degree of model fit and testing of stochastic properties of the model. Estimation of a linear regression model using the method of moments and maximum likelihood. Multiplicative models - properties and methods of estimating parameters. Autocorrelation property of the random component - causes, effects, measurement, testing and methods of removing causes. Heterocedasticity of a random component. Generalized least squares method (GLS). Parameter estimation under autocorrelation and heteroskedasticity of the random component. Cause and effect compatible model. Econometric forecasting based on an econometric model.</p>						
Prerequisites and co-requisites	matematics, microeconomics, macroeconomics, statistics, mathematical statistics						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	exam	60.0%	50.0%
	colloquium (lab)	60.0%	50.0%
Recommended reading	Basic literature	Kufel, T. (2022). Ekonometria. Rozwiązania problemów z wykorzystaniem programu Gretl. Warszawa; Wydawnictwo Naukowe PWN Maddala, G.S. (2022). Ekonometria, Warszawa: Wydawnictwo Naukowe PWN Borkowski, B., Dudek, H., Szczęsny, W. (2020). Ekonometria. Wybrane zagadnienia, Warszawa: Wydawnictwo Naukowe PWN	
	Supplementary literature	Nowak, E. (2022) Zarys metod ekonometrii. Zbiór zadań, Warszawa: Wydawnictwo Naukowe PWN	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed	Consider the following inflation model: $\pi_t = 8,0 + 0,6\pi_{t-1} - 0,7 r_t + \epsilon_t$ , where: $\pi_t$ annual inflation in period t (in%), $r_t$ real interest rate at the beginning of period t (in%). Identify the short-term effect of the impact of the interest rate on the level of inflation and the time-lagged inflation level.		
Work placement	Not applicable		

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