GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Econometrics, PG_00067945						
Field of study	Economics						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2026/2027		
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		4.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department Of Statistics And Econometrics -> Faculty Of Management And Economics -> Wydziały Politechniki Gdańskiej						
Name and surname of lecturer (lecturers)	Subject supervisor						
	Teachers						

Lesson types and methods of instruction	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	30.0	0.0	0.0	45
	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	45	5.0	50.0	100

Subject objectives	Creates econometric models to analyze economic processes.

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[K6_W05] possesses advanced knowledge in integrating data from various sources and in methods that enable a comprehensive analysis of economic problems.	analyzes cause and effect relationships occurring in economic processes	[SW3] Assessment of knowledge contained in written work and projects
	[K6_U07] uses advanced information technologies to enhance data analysis and decision-making processes.	Student can construct the model and estimate it using econometric software.	[SU4] Assessment of ability to use methods and tools

Subject contents	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.
Prerequisites and co-requisites	mathematics, macroeconomics, microeconomics, statistics, mathematical statistics

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	colloquium (lab)	60.0%	50.0%
	exam	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: $\text{inf}_t = 8{,}0 + 0{,}6\text{inf}_{t-1} - 0{,}7\, r_t + {}_t$, where: inf_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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