GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Econometrics, PG_00067784		
Field of study	Economic Analytics		
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	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	35.0	100

Subject objectives

Creates econometric models to analyze economic processes.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_U05] leverages the knowledge acquired in the field of economic analytics to solve challenging problems, achieving results that are economically and socially valuable.	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
[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

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

matematics, microeconomics, macroeconomics, statistics, mathematical statistics

<table>
<tr><td>Assessment methods and criteria</td><td colspan="2"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>colloquium (lab)</td><td>60.0%</td><td>50.0%</td></tr>
<tr><td>exam</td><td>60.0%</td><td>50.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td>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</td></tr>
<tr><td>Supplementary literature</td><td>Nowak, E. (2022) Zarys metod ekonometrii. Zbiór zadań, Warszawa: Wydawnictwo Naukowe PWN</td></tr>
<tr><td>eResources addresses</td><td>Adresy na platformie eNauczanie:</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="2">Consider the following inflation model: $inf_t = 8,0 +0,6inf_{t-1} -0,7 r_t +_t$,
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.</td></tr>
<tr><td>Work placement</td><td colspan="2">Not applicable</td></tr>
</table>

Document generated electronically. Does not require a seal or signature.