GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Applications of Econometric Methods in Management, PG_00067741		
Field of study	Management, Management		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
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	Part-time studies (on-line)	Mode of delivery	at the university
Year of study	1	Language of instruction	Polish
Semester of study	1	ECTS credits	3.0
Learning profile	general academic profile	Assessment form	assessment
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	8.0	0.0	16.0	0.0	0.0	24

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	24	3.0	48.0	75

Subject objectives

Models phenomena in the field of management and economics using in-depth econometric methods

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_W03] demonstrates in-depth knowledge of the applications of analytical methods and techniques for formulating and solving problems.	demonstrates in-depth knowledge of applying econometric methods to analyze management problems and selecting analytical techniques to solve them.	[SW3] Assessment of knowledge contained in written work and projects
[K7_U03] formulates research hypotheses and select appropriate methods for their verification using advanced it tools.	can formulate research hypotheses related to management phenomena, select appropriate econometric methods for their verification, and use advanced IT tools in data analysis	[SU4] Assessment of ability to use methods and tools [SU2] Assessment of ability to analyse information

Subject contents

Econometric model - concept, elements and interpretation
Classification of econometric models
Simple and Multiple Regression Model Estimation Problems - Least Squares Method (LSM)
Verification of the estimated form of the model - a measure of the quality of fit
Stochastic verification of the estimated form of the model - standard error of estimators and testing the significance of parameters
Autocorrelation - causes and testing
The concept of conditional econometric forecast
Multiplicative models - problems of estimation and interpretation
Simple methods of time series analysis - development trend models
Cause and effect dynamic models - problems of interpretation
Cause and effect models of production and work efficiency
Cause and effect model of labor demand
Cause and effect wage model
The cause and effect model of inflation

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Final test	60.0%	50.0%
Passing the laboratory	60.0%	50.0%

Recommended reading	Basic literature	Maddala G.S.: Ekonometria, Wydawnictwo Naukowe PWN, Warszawa 2006 Strzała, K:. Ekonometria inaczej, Wyd. UG, Gdańsk 1994 Theil, H. (1979), Zasady ekonometrii, PWN, Warszawa Goldberger A.S. : Teoria ekonometrii, PWE, Warszawa 1979 Welfe W. (redakcja), Ekonometryczne modele rynku, Tom 1, PWE, Warszawa 1977
	Supplementary literature	http://www.zie.pg.gda.pl/web/katedra-nauk-ekonomicznych/17
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed	Rozważ przyczynowo-skutkowy model płac: **lnWt = 1,8 +0,7 lnAPLt - 0,15 ln URt-1** gdzie: **Wt** - realna płaca w okresie **t**, **APLt** przeciętna produktywność pracy, **URt** stopa bezrobocia na koniec okresu **t** (w %) 1 Dokonując antylogarytmowania sprowadź model do postaci pierwotnej:..... 2. Zdefiniuj i zinterpretuj elastyczność płacy (**W**) ze względu na wydajność pracy (**APL**)..... 3. Zdefiniuj i zinterpretuj elastyczność płacy (**W**) ze względu na stopę bezrobocia (**UR**):.....	
Work placement	Not applicable	

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