



Subject card

Subject name and code	Applications of Econometric Methods in Management, PG_00067671						
Field of study	Management, Management						
Date of commencement of studies	February 2026		Academic year of realisation of subject		2025/2026		
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	Full-time studies		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	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		7.0		23.0	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		
	Passing the laboratory		60.0%		50.0%		
	Final test		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: $\ln W_t = 1,8 + 0,7 \ln APL_t - 0,15 \ln UR_t - 1$ gdzie: W_t - realna płaca w okresie t , APL_t przeciętna produktywność pracy, UR_t 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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