



Subject card

Subject name and code	Applications of Econometric Methods in Management, PG_00067706						
Field of study	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	Mode of delivery				at the university	
Year of study	1	Language of instruction				Polish	
Semester of study	2	ECTS credits				3.0	
Learning profile	general academic profile	Assessment form				assessment	
Conducting unit	Department of Statistics and Econometrics -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology						
Name and surname of lecturer (lecturers)	Subject supervisor						
	Teachers						
Lesson types	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_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			[SU2] Assessment of ability to analyse information [SU4] Assessment of ability to use methods and tools	
	[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	
Subject contents	<p>Course content – lecture</p> <p>Econometric model - concept, elements and interpretation</p> <p>Classification of econometric models</p> <p>Simple and Multiple Regression Model Estimation Problems - Least Squares Method (LSM)</p> <p>Verification of the estimated form of the model - a measure of the quality of fit</p> <p>Stochastic verification of the estimated form of the model - standard error of estimators and testing the significance of parameters</p> <p>Autocorrelation - causes and testing</p> <p>The concept of conditional econometric forecast</p> <p>Multiplicative models - problems of estimation and interpretation</p> <p>Simple methods of time series analysis - development trend models</p> <p>Cause and effect dynamic models - problems of interpretation</p> <p>Cause and effect models of production and work efficiency</p> <p>Cause and effect model of labor demand</p> <p>Cause and effect wage model</p> <p>The cause and effect model of inflation</p>						
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	
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):.....	
Practical activities within the subject	Not applicable	

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