



Subject card

Subject name and code	APPLICATION OF ECONOMETRIC METHODS IN MANAGEMENT, PG_00060948						
Field of study	Management, Management						
Date of commencement of studies	February 2024	Academic year of realisation of subject			2023/2024		
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	Katedra Statystyki i Ekonometrii -> Faculty of Management and Economics						
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Agnieszka Wałachowska					
	Teachers	dr inż. Agnieszka Wałachowska					
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		25.0		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 problems and selects appropriate research methods for their effective solution, using advanced IT tools, and evaluates the obtained results critically		formulates hypotheses and verifies them using advanced econometric models, using IT tools		[SU4] Assessment of ability to use methods and tools		
	[K7_W03] demonstrates in-depth preparation in the application of management methods and techniques for formulating and solving management problems		uses econometric models to solve complex management and economic problems, based on reliable sources of information		[SW1] Assessment of factual knowledge		
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		
	Lecture test		60.0%		50.0%		
	Test I and II		60.0%		50.0%		

Recommended reading	Basic literature	<ol style="list-style-type: none"> 1. Maddala G.S.: Ekonometria, Wydawnictwo Naukowe PWN, Warszawa 2024 2. Borkowski B., Dudek H., Szczesny W., Ekonometria Wybrane zagadnienia, PWN, Warszawa 2021 3. Kufel T., Ekonometria. Rozwiązywanie problemów z wykorzystaniem programu GRETL, PWN, Warszawa 2022 4. Kukuła K., Wprowadzenie do ekonometrii, PWN, Warszawa 2023
	Supplementary literature	<ol style="list-style-type: none"> 1. Welfe A., Ekonometria. Metody i ich zastosowanie, PWE Warszawa 2016 2. Witkowska D., Podstawy ekonometrii i teorii prognozowania, Kraków 2012 3. Gruszczyński M., Podgórska M., Ekonometria, Warszawa 2004 4. Bernardelli M., Decewicz A., Tomczyk E., Ekonometria i badania operacyjne. Zbiór zadań, PWN Warszawa 2021 5. Hill R., Griffiths W., Lim G., Principles of Econometrics, Wiley 2018
	eResources addresses	<p>Adresy na platformie eNauczanie: ZASTOSOWANIA METOD EKONOMETRYCZNYCH W ZARZĄDZANIU - Moodle ID: 36628 https://enauczanie.pg.edu.pl/moodle/course/view.php?id=36628</p>
Example issues/ example questions/ tasks being completed	<p>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 %)</p> <ol style="list-style-type: none"> 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	