



Subject card

Subject name and code	APPLICATION OF ECONOMETRIC METHODS IN MANAGEMENT, PG_00063751						
Field of study	Management, Management						
Date of commencement of studies	February 2025	Academic year of realisation of subject				2024/2025	
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						
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		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 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		
	[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		
Subject contents	<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	<p>1. Maddala G.S.: Ekonometria, Wydawnictwo Naukowe PWN, Warszawa 2024</p> <p>2. Borkowski B., Dudek H., Szczesny W., Ekonometria Wybrane zagadnienia, PWN, Warszawa 2021</p> <p>3. Kufel T., Ekonometria. Rozwiązywanie problemów z wykorzystaniem programu GRETL, PWN, Warszawa 2022</p> <p>4. Kukuła K., Wprowadzenie do ekonometrii, PWN, Warszawa 2023</p>
	Supplementary literature	<p>1. Welfe A., Ekonometria. Metody i ich zastosowanie, PWE Warszawa 2016</p> <p>2. Bernardelli M., Decewicz A., Tomczyk E., Ekonometria i badania operacyjne. Zbiór zadań, PWN Warszawa 2021</p> <p>3. Hill R., Griffiths W., Lim G., Principles of Econometrics, Wiley 2018</p>
	eResources addresses	<p>Adresy na platformie eNauczenie: ZASTOSOWANIA METOD EKONOMETRYCZNYCH W ZARZĄDZANIU 2024/2025 - Moodle ID: 44238 https://enauczenie.pg.edu.pl/moodle/course/view.php?id=44238</p>
Example issues/ example questions/ tasks being completed	<p>1. Stages in the process of building an econometric model</p> <p>a) specification of variables, b) selection of the analytical form of the model, c) estimation of parameters, d) model verification, e) practical application of the estimated model.</p> <p>2. Assumptions of the classical linear regression model their description and consequences of violation</p> <p>3. Basic elements of a statistical test on the example of the significance test for model parameters</p>	
Work placement	Not applicable	

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