



Subject card

Subject name and code	Econometrics, PG_00050164						
Field of study	Economics						
Date of commencement of studies	October 2020	Academic year of realisation of subject				2021/2022	
Education level	first-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	2	Language of instruction				Polish	
Semester of study	4	ECTS credits				4.0	
Learning profile	general academic profile	Assessment form				exam	
Conducting unit	Department of Economic Sciences -> Faculty of Management and Economics						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Jerzy Ossowski				
	Teachers		dr hab. Jerzy Ossowski				
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		8.0		47.0	100
Subject objectives	Construction, estimation, statistical analysis and interpretation of the econometric model						
Learning outcomes	Course outcome	Subject outcome			Method of verification		
	[K6_W07] has the knowledge of basic quantitative and qualitative methods used in economic sciences	The student recognizes the methods used to estimate and verify econometric models			[SW1] Assessment of factual knowledge		
	[K6_U11] has the ability to understand, analyse and evaluate economic processes and phenomena using quantitative and qualitative methods	The student estimates and verifies cause-effect econometric models and interprets them			[SU4] Assessment of ability to use methods and tools		
	[K6_K02] can assess the validity of criteria and tasks in the projects implemented	The student assesses the validity of the assumptions for the implemented economic projects			[SK2] Assessment of progress of work		
[K6_U04] can properly analyse the causes and course of specific socio-economic processes and phenomena	The student analyzes causal relationships in economic processes			[SU2] Assessment of ability to analyse information			
Subject contents	Econometric model and its components. Stochastic assumptions in the econometric model. The least squares method (LSM) of linear econometric model estimation - simple and multiple regression cases. Numerical and stochastic properties of the LSM estimator. Verification of the estimated model - measures of the degree of model fit and testing the significance of structural parameters. Estimation of a linear regression model under classical conditions - the method of moments and maximum likelihood. Multiplicative models - properties, linearization, estimation and interpretation. Autocorrelation - causes, effects, measurement, testing and methods of removing causes. Heteroscedasticity - causes, effects, measurement, testing and methods of removing causes. Models of development tendency with seasonality. Econometric forecasting. Generalized least squares method (GLS) - model estimation under the conditions of autocorrelation and heteroscedasticity of random components. Cause-effect dynamic models - assumptions, interpretation, estimation and verification. The cause-effect model of wages. The cause-effect model of inflation. The cause-effect model of production and work productivity. The cause-effect model of the demand for work. Econometric analysis of the business cycle in the Polish economy.						
Prerequisites and co-requisites	mathematics, macroeconomics, microeconomics, statistics						

Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		55.0%	50.0%
		55.0%	50.0%
Recommended reading	Basic literature	Maddala G.,S.: <i>Introduction to Econometrics</i> , John Wiley & Sons LTD, New York 2001,	
	Supplementary literature	Seddighi H.R., Lawler K.A. and Katos A.V. : <i>Econometrics; A Practical Approach</i> , Routledge, London and New York 2000.	
	eResources addresses	Podstawowe https://enauczenie.pg.edu.pl/moodle/course/view.php?id=21033 - Ossowski J. Cz.: Elements of applied econometrics, pr-ts: 1, 2, 3, 4, 5, 6, 7.	
Example issues/ example questions/ tasks being completed	<p>Problem 3.</p> <p>Consider the model of inflation: $\pi_t = 0,8 + 0,6\pi_{t-1} - 0,7 r_t$</p> <p>where: π_t annual inflation in period t (w %), r_t real interest rate in beginning of period t (w %).</p> <p>3.1 Define short run effect of influence interest rate on inflation:.....</p> <p>3.2 Define long run effect of influence interest rate on inflation:.....</p>		
Work placement	Not applicable		