

Subject card

Subject name and code	Applications of Econometrics, PG_00171397						
Field of study	Economics						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Master's studies		Subject group		Obligatory subject group 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	2		ECTS credits		1.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Department of International Economics and Economic Development -> Faculty of Economics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Dorota Ciolek				
	Teachers		dr hab. Dorota Ciolek				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	15.0	0.0	0.0	0.0	15
	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	15		10.0		0.0	25
Subject objectives	Understanding the relationship between the mapped economic system and its model and simple tools for measuring the relationship between the economic variables present in the model.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[EKONMU2_W06] knows statistical and econometric methods and tools for description and macro- and microeconomic modelling of economic structures and public institutions and processes occurring in them	knows the basic types of single-equation econometric models, methods of their estimation, tools for their verification and ways of interpreting them in relation to specific relationships in economics and other social sciences	[SW5] implementation of a problem task
	[EKONMU2_U15] can independently expand and improve acquired knowledge and skills in economics; is open to new ideas and techniques; tends to learn using any accessible method and to interact with other participants of the learning process	is able to study scientific literature in which econometric modeling was used and, on this basis, propose tools appropriate to specific research problems, Doubts arising during the problem-solving stage are addressed during consultations	[SU1] oral statement/conversation/discussion
	[EKONMU2_U04] can forecast and model complex economic and social processes using quantitative and qualitative methods and tools developed by economic sciences (including statistics and econometrics)	is able to build and estimate a single-equation econometric model and verify its forecasting properties and use the model to build forecasts along with assessing their ex ante accuracy	[SU5] implementation of a problem task
	[EKONMU2_U02] can use acquired knowledge to describe and analyse the causes and course of economic and social processes and phenomena, and can formulate his/her own opinions and critically select data and analysis methods based on the achievements of economic and social sciences	is able to obtain appropriate statistical data and use them to estimate, verify and interpret an econometric model	[SU5] implementation of a problem task
	[EKONMU2_U01] can creatively interpret and explain economic and social phenomena and relations between them, using acquired knowledge of economics, finance and management sciences	can propose an econometric model suitable for verifying specific hypotheses or research goals	[SU6] demonstration of practical skills
	[EKONMU2_K02] is aware of the level of his/her knowledge in the field of economics; understands the need to extend and update this knowledge throughout his/her life	knows the possibilities of using econometric modeling to analyze economic processes	[SK1] oral statement/conversation/discussion
	[EKONMU2_W03] has an in-depth knowledge of relations between economic phenomena, entities and organisations as well as public institutions functioning in the national, international and intercultural spheres	knows econometric tools that can be used to analyze economic processes in both macro and microeconomic terms	[SW1] oral statement/conversation/discussion [SW5] implementation of a problem task
	[EKONMU2_U03] can analyse causes and course of economic and social processes and phenomena, formulate his/her own opinions on the subject, construct research hypotheses, and select and apply methods of their verification	is able to build and estimate an econometric model and verify and interpret it	[SU5] implementation of a problem task
	[EKONMU2_U08] can independently analyse economic and social phenomena and processes, and can perform a theoretically deepened assessment of such phenomena, using appropriately selected research method	is able to build and estimate an econometric model and verify and interpret it	[SU5] implementation of a problem task
	[EKONMU2_K01] recognises the importance of knowledge in the field of economics in the process of identifying and solving economic problems and of consulting experts when having difficulties in solving them independently	is able to search for research and analysis results using econometric methods appropriate to the analyzed research or decision-making problems	[SK1] oral statement/conversation/discussion

Subject contents	1) Introduction - reminder of the most important concepts and principles from the basics of econometrics. 2) Macroeconomic function of consumption (cross-sectional and time-wise) on the example of the Polish economy and all European Union countries. Elements of the theory of dynamic econometric models. 3) Hedonic price model on the example of the Tricity real estate market. 4) Convergence hypothesis in the neoclassical growth model - cross-sectional and panel. absolute and conditional convergence models for the European Union countries and for the global economy. Elements of the panel modeling theory. 5) Modeling company bankruptcy and scoring models - examples of logit and probit modeling. 6) Forecasting based on time series for annual and seasonal data using dummy variables 		
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