University of Gdańsk

Subject card

Subject name and code	Applications of Econometrics, PG_00200076		
Field of study	International Economic Relations		
Date of commencement of studies	October 2026	Academic year of realisation of subject	2026/2027
Education level	Master's 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	1.0
Learning profile	academic	Assessment form	credit
Conducting unit	Department of Econometrics -> Faculty of Management -> Rector		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Dorota Ciołek, prof. UG	
	Teachers	dr hab. Dorota Ciołek, prof. UG	

Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	10.0	0.0	0.0	0.0	0.0	10
	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	10	2.0	13.0	25

Subject objectives	Learning about the relationship between the mapped economic system and its model, as well as simple tools for measuring the relationship between the economic variables present in the model.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[MSGMU2_U02] can observe, evaluate and critically analyse the causes and course of processes and phenomena taking place in the open economy; can formulate his/her own opinions on the subject, interpret statistical data and economic indicators necessary in this respect, and also forecast economic processes and phenomena using advanced methods and tools applied in economic sciences	is able to propose an econometric model suitable for veryfing specific hypotheses and research goals	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written [SU6] demonstration of practical skills [SU8] observation of student's independent or team work
[MSGMU2_U01] can creatively interpret and explain complex and atypical economic phenomena and the relations occurring between them, using the acquired knowledge in economics, finance and international economic relations	is able to interpret the results of estimating an econometric model	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written [SU6] demonstration of practical skills
[MSGMU2_U16] independently plans and implements lifelong learning; complements and improves the acquired knowledge and skills; is open to new ideas and techniques; can inspire and organise the learning process for others	is able to obtain appropriate statistical data and use them to estimate an econometric model	[SU4] test/exam - oral or written [SU6] demonstration of practical skills
[MSGMU2_K02] is ready to critically assess the level of acquired knowledge, skills and professional competence in the area of international economic relations	can independly propose an econometric model suitable for veryfing problem	[SK6] demonstration of practical skills [SK8] observation of student's independent or team work
[MSGMU2_K01] is ready to recognise the importance of knowledge of economics in the process of identifying and solving problems in the area of international economic relations and to consult experts in case of difficulties in solving them independently	is able to propose an econometric model suitable for veryfing specific hypotheses and research goals	[SK1] oral statement/conversation/ discussion [SK8] observation of student's independent or team work
[MSGMU2_W04] has in-depth knowledge of of different types and elements of economic structures and institutions, including institutions, organisations and economic entities; understands the causes, course, scale and consequences of changes occurring in them, as well as relations between them on a national, international and intercultural scale; knows the theories explaining relations among them	is able to identify applications of econometrics in solving complex economic problems	[SW1] oral statement/ conversation/discussion
[MSGMU2_W13] has an in-depth knowledge of methods and tools for describing economic phenomena, including data acquisition techniques, which make it possible to describe and analyse economic entities functioning on the international market as well as processes and phenomena occurring in them and between them, and also those supporting decision-making processes	is able to build and estimate a single-equation econometric model and verify and interpret it	[SW1] oral statement/ conversation/discussion [SW2] presentation/project/paper/ report

Subject contents	1) Introduction - a reminder of the most important concepts and principles from the basics of econometrics. 2) Macroeconomic function of consumption (in cross-sectional and time-series terms) 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 - in cross-sectional and panel terms. Models of absolute and conditional convergence for the European Union countries and for the global economy Elements of panel modeling theory. 5) Modeling of corporate bankruptcy and scoring models - examples of logit and probit modeling. 6) Time series forecasting for annual and seasonal data using zero-one variables Any doubts related to the lecture topics and questions regarding the course material are addressed during consultation hours. Participation in consultations enables the clarification of substantive issues and deepens the understanding of subject-related concepts.
Prerequisites and co-requisites	The student should previously acquire knowledge of: basics of econometrics, basics of statistics, basics of macroeconomics, and microeconomics.
Assessment methods and criteria	

Subject passing criteria	Passing threshold	Percentage of the final grade
written exam with open questions	51.0%	100.0%

Recommended reading	Basic literature	M. Gruszczyński, M. Podgórska (red.), (2004), Ekonometria, Szkoła Główna Handlowa w Warszawie M. Gruszczyński (red.), (2012), Mikroekonometria. Modele i metody analizy danych indywidualnych, Wydawnictwo: Wolters Kluwer SA K.Jajuga (red.) (1998) Ekonometria, Metody i analiza problemów ekonomicznych, Wydawnictwo Akademii Ekonomicznej im. Oskara Langego we Wrocławiu, Wrocław K.Strzała, T.Przechlewski (2002) Ekonometria inaczej, wyd. III, Wydawnictwo Uniwersytetu Gdańskiego, Sopot A.Zeliaś, B.Pawełek, S.Wanat (2003) Prognozowanie ekonomiczne Teoria, Przykłady, Zadania, PWN, Warszawa
	Supplementary literature	Wooldridge J. M. (2013), Introductory Econometrics: A Modern Approach, South-Western Cengage Learning Greene W.H. (2002), Econometric Analysis, New York University. Upper Saddle.
	eResources addresses	
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	