University of Gdańsk

Subject card

Subject name and code	Methods and Tools of Economic System Description, PG_00199183						
Field of study	International Economic Relations						
Date of commencement of studies	October 2026		Academic year of realisation of subject	2027/2028			
Education level	Bachelor'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	full-time studies		Mode of delivery	at the university			
Year of study	2		Language of instruction	Polish			
Semester of study	3		ECTS credits	3.0			
Learning profile	academic		Assessment form	exam			
Conducting unit	Department of Logistics -> Faculty of Economics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Cezary Mańkowski, prof. UG				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	15.0	0.0	15.0	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		0.0	30.0	75	
Subject objectives	Provide students with methods and tools for describing economic systems						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[MSGL3_W10] has an advanced understanding of selected methods and tools, including IT tools and data acquisition techniques, which make it possible to describe and analyse economic entities operating on the international market; knows the processes and phenomena occurring in them and between them, and processes supporting decision-making	The student knows the methods and system description tools economic, including technology enabling data acquisition describe phenomena, processes, business entities operating on the international market	[SW4] test/exam - oral or written [SW1] oral statement/ conversation/discussion
	[MSGL3_U12] can prepare written assignments concerning detailed problems of international economic relations (in connection with the chosen speciality within International Economic Relations), using specialist terminology, theoretical and methodological approaches, principles of collecting data from various sources, their description and interpretation, principles of formulating research theses, drawing conclusions on the basis of scientific literature and factual data, and making international comparisons	The student is able to complete a project task related to a selected economic system and discuss its assumptions and progress with the instructor during consultations and project blocks. Project blocks are included in the class schedule, and consultation dates and locations are published on the University of Gdańsk website.	[SU1] oral statement/conversation/ discussion [SU2] presentation/project/paper/ report [SU4] test/exam - oral or written
	[MSGL3_U13] can prepare presentations and oral speeches on selected specific problems concerning international economic relations (in connection with the chosen speciality within International Economic Relations), using theoretical approaches, specialist terminology, principles of collecting data from various sources, their description and interpretation, and drawing conclusions based on scientific literature	The student has the skill preparing presentations of oral speeches in Polish in the form of verbal and graphic descriptions of economic systems using specialized terminology	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written
	[MSGL3_U10] can take an active part in a debate, presenting his/ her own viewpoint and supporting it with argumentation based on selected theories, opinions of various authors and/or statistical data	The student is able to discuss and present his own position, arguing theoretically and practically	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written
	[MSGL3_U08] uses methods and computer programmes as well as marketing techniques and tools to acquire and analyse data necessary in his/her professional work to diagnose economic processes and make adequate economic decisions	The student uses basic methods and computer tools to describe economic systems for diagnostic and decision-making purposes. If necessary, the student consults them with the lecturer.	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written
	[MSGL3_U02] can assess economic and social phenomena occurring in an open economy, interpret necessary statistical data and economic indicators, as well as forecast economic phenomena and processes, using standard methods and tools applied in economic sciences	The student can use methods and system description tools for assessment of economic and social events taking place in an open economy	[SU1] oral statement/conversation/ discussion [SU4] test/exam - oral or written
	[MSGL3_K05] correctly identifies, diagnoses and solves dilemmas and various options of solutions related to the profession	The student correctly identifies diagnoses and resolves dilemmas and various variants of solutions related to the performance of the profession specialist in international economic relations	[SK1] oral statement/conversation/ discussion [SK4] test/exam - oral or written

Subject contents	**1. The economic system as a subject of description** Ontology (reism, eventualism, processism, relationism, systemism), elements of the economic system (resources, events, processes, relationships), economic system as a holon, features (properties, variables) economic system, measures of the characteristics of the economic system, methods and tools of ontological description economic systems **2. Tabular and graphical presentation of data Statistical inference and descriptive statistics** Presentation of tools used for description statistical, including IT tools (Microsoft Excel, Statistica). Enumeration series unordered, ordered enumerating series, point and interval distribution series, diagram, histogram, frequency polygon, abundance curve, abundance and share pie chart percentages, bar chart **3. Basic measures for describing the economic system** Measures of central tendency, measures of: diversity, skewness, concentration **4. Study of the interdependence of the features of the economic system** Correlation analysis, regression analysis **5. Studying the dynamics of economic phenomena** The essence of a time series, absolute and relative increments, indexes, time series decomposition **Subject no. 1 will be implemented during training classes using the ARIS Express tool.** **Subjects no. 2-5 will be covered during training classes using a Microsoft tool Excel and the Statistica package (beginner level)**
Prerequisites and co-requisites	Knowledge and skills acquired as a result of completing the subjects: Application of mathematics in economics and management, Information technologies, Macroeconomics I, Microeconomics I, Management

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
project	51.0%	50.0%
written test	51.0%	50.0%

Recommended reading

Basic literature	1. W. Makać, D. Urbanek-Krzysztofiak: Metody opisu statystycznego. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk, 2020 2. C. Mańkowski: Modelowanie procesów logistycznych. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2020 (do pobrania tutaj/zakładka TREŚĆ) 3. L. Reszka: Decyzje menedżerskie w logistyce. Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2019 (do pobrania tutaj/ zakładka TREŚĆ) 4. Educational Portal: www.ariscommunity.com
Supplementary literature	1. C. Mańkowski: Ontological Foundations for Business Logistic Process Modeling. "Railway Transport and Logistics" 2007, no. 2, p. 30-38 2. A. Wojna: Wykłady z podstaw statystyki. Cz. 1, Opis statystyczny. Wydawnictwo Uczelniane Politechniki Koszalińskiej, Koszalin 2011 3. B. Pułaska - Turyna: Statystyka dla ekonomistów. Wydawnictwo Difin, Warszawa 2011 4. J. Jóźwiak, J. Podgórski: Statystyka od podstaw. Polskie Wydawnictwo Ekonomiczne, Warszawa 2012 5. A. Maksymowicz-Ajchel: Wstęp do statystyki. Metody opisu statystycznego. Wydawnictwo Uniwersytetu Warszawskiego, Warszawa 2020 6. M. Kowalski: Podstawy statystyki opisowej dla ekonomistów. Wydawnictwo Wyższej Szkoły Bankowej, Poznań - Chorzów 2006
eResources addresses	

Example issues/ example questions/ tasks being completed	Identification of the basic components of the selected economic system The use of text and numerical variables in the description of economic systems Calculation and interpretation of statistical indicators
Work placement	Not applicable

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