

Subject card

Subject name and code	Instruments for Economic Research, PG_00170112						
Field of study	International Economic Relations						
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				
Conducting unit	Department of Macroeconomics -> Faculty of Economics -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Dominik Aziewicz				
	Teachers		dr Dominik Aziewicz				
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	The aim of the course is to provide students with the necessary knowledge and skills in the use of available tools in conducting economic research necessary in the development of diploma theses, as well as to familiarize them with the possibilities of using Statistica and Excel programs in advanced data analyses.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[MSGMU2_K06] is ready to independently identify, diagnose and responsibly resolve dilemmas and alternative solutions related to his/her profession and the development of professional achievements	Student is prepared to recognize, diagnose and resolve economic dilemmas independently and to apply various variants of solutions related to the performance of the profession	[SK4] test/exam - oral or written
	[MSGMU2_U10] can accurately select and use sources of information on international economic relations, evaluate, critically analyse and creatively interpret them, and can present them in an innovative way, using advanced information and communication techniques	Student has in-depth skills in using information sources and analyzing data from economic and social issues for their presentation using specialized theoretical and methodological approaches, collecting various data sources, describing and interpreting them, principles of formulating hypotheses and drawing conclusions based on scientific literature and factual data	[SU4] test/exam - oral or written
	[MSGMU2_W13] knows and understands 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	Student correctly identifies, diagnoses and resolves dilemmas and various variants of solutions related to the performance of the profession, knows and understands the methods and tools for describing economic phenomena, including data acquisition techniques, allowing the description and analysis of economic entities operating on the international market and the processes and phenomena occurring in them and between them, as well as supporting decision-making processes	[SW4] test/exam - oral or written
	[MSGMU2_U09] can innovatively solve problems in the field of international economic relations and the functioning of economic entities on the international market, adapting existing or developing new methods and tools	Student is able to use known methods and tools to solve problems related to the functioning of economic entities, is able to adapt them to individual research situations by modernizing known methods and tools, as well as developing new ones	[SU4] test/exam - oral or written
	[MSGMU2_U11] independently formulates and tests hypotheses related to simple research problems, appropriately selects and applies methods and tools, including statistical tools and data acquisition techniques in order to verify hypotheses and diagnose economic processes, and on this basis to take appropriate economic decisions	Student is able to independently formulate and test research hypotheses, is able to select and appropriately apply statistical tools and data acquisition techniques to solve economic problems	[SU4] test/exam - oral or written
	[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	Student is able to observe, evaluate, and analyze economic phenomena, their causes, course, and consequences using appropriate research tools and methods, using statistical data and economic information	[SU4] test/exam - oral or written
	[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	Student is able to interpret and explain economic and social phenomena and the relationships between these phenomena in a creative way, using their knowledge of economics, finance and management sciences	[SU4] test/exam - oral or written

	Course outcome	Subject outcome	Method of verification
	[MSGMU2_U14] has a thorough ability to prepare specialist oral presentations on economic and social issues, using specialist theoretical approaches, the principles of collecting data from various sources, their description and interpretation, and drawing conclusions on the basis of scientific literature; can prepare and lead a debate	Student is able to properly select, use and evaluate sources of information on international economic relations, is able to critically analyze and interpret them, is able to present them in an innovative way, using advanced information and communication techniques	[SU4] test/exam - oral or written
	[MSGMU2_K02] is ready to critically assess the level of acquired knowledge, skills and professional competence in the area of international economic relations	Student is able to critically verify the knowledge he/she possesses and creatively fill in the gaps through in-depth data searching and verification skills	[SK4] test/exam - oral or written
	[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	Student is able to use knowledge of economics to analyze and interpret economic phenomena using tools and methods of statistical data analysis	[SK4] test/exam - oral or written
	[MSGMU2_U06] can identify types of risks related to international operations of enterprises and correctly determine their consequences and methods of mitigation, with a skilful application of theory, using appropriate research method	Student is able to properly identify risks in the operations of enterprises on a local and global scale, is able to analyze their consequences, knows how to limit them using appropriate research methods	[SU4] test/exam - oral or written
	[MSGMU2_U13] has a thorough ability to prepare specialist written work on economic and social issues, using specialist theoretical and methodological approaches, collecting data from various sources, their description and interpretation, the principles of hypothesis formulation and drawing conclusions on the basis of scientific literature and factual data, and can perform advanced international comparisons	Student is able to identify and diagnose dilemmas and different variants of solutions to economic and social problems, is able to prepare written works using specialist methodological approaches and tools, is able to formulate hypotheses and draw conclusions based on literature and statistical data	[SU4] test/exam - oral or written
Subject contents	Research plan. Purpose and research hypotheses. Designing an economic study. Data and their sources. Qualitative and quantitative research. Qualitative research in practice. Observation. Individual interview. Group interviews (focus groups). Experiment. (lecture 2 hours) Quantitative research in business practice. The concept and properties of the normal distribution. Other variable distributions. Statistical hypotheses and their verification. Statistical significance. Statistical tests. Generalizing the results. (lecture 2 h + computer laboratory 2 h) Tools supporting data analysis - STATISTICA (data analysis software system). StatSoft, Inc.: presentation of the Statistica program as a tool supporting the analysis of macroeconomic and microeconomic data. Performing tasks using statistical methods, performing analyzes using Excel. (computer laboratory 2 h) Analysis of the interdependence of economic phenomena. Using knowledge about correlation and regression in the economy and enterprise. Scatterplot. Pearson and Spearman correlation coefficients. Explained and explanatory variable. Regression function. (lecture 2 h + computer laboratory 2 h) Assessment of the effectiveness of changes in economic parameters. Comparisons relative to groups. Tests for independent and dependent samples. (lecture 2 h + computer laboratory 2 h) Searching for similar economic arrangements and market segmentation. Cluster analysis - multi-aspect grouping of objects. Spatial diversity of economic variables. Optimal separation methods. K-means method. (lecture 2 h + computer laboratory 2 h) Creating valuable research questionnaires. Reliability and item analysis. Cronbach's alpha. Elements of factor analysis. Bartlett and KMO tests. The shape of the questions in the questionnaire. (lecture 4 h + computer laboratory 4 h) Doubts regarding the use of Statistica software for the analysis of economic phenomena and solving tasks will be resolved during consultations.		
Prerequisites and co-requisites	Basic knowledge of descriptive statistics and mathematical analysis.		
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	test	51.0%	100.0%

Recommended reading	Basic literature	Balicki A., Makać W., <i>Metody wnioskowania statystycznego</i> , Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2007. Sobczyk M., <i>Statystyka matematyczna</i> , Wydawnictwo C.H. Beck, Warszawa 2010. Rószkiewicz M., <i>Metody ilościowe w badaniach marketingowych</i> , Wydawnictwo Naukowe PWN, Warszawa 2002 lub 2014.
	Supplementary literature	Stanisz A., <i>Przystępny kurs statystyki z zastosowaniem STATISTICA PL na przykładach z medycyny</i> , StatSoft Polska, Kraków 2006. Internetowy Podręcznik Statystyki, http://www.statsoft.pl/textbook Bizon W., <i>Dobrobyt społeczno-ekonomiczny oraz gospodarka oparta na wiedzy w kontekście historycznych podziałów na Polskę A i Polskę B</i> , "E-mentor" nr 4/2011. Bizon W., <i>Pomiar efektywności nauczania opartego na symulacjach biznesowych i studiach przypadków</i> , [w:] A. Poszewiecki, W. Bizon, P. Kulawczuk [red.], <i>Symulacje menedżerskie i studia przypadków. Szkolenia biznesowe w oparciu o symulacje menedżerskie i studia przypadków najlepsze praktyki</i> , Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2012.
	eResources addresses	
Example issues/ example questions/ tasks being completed	- analysis of the mean and deviations from the mean - relationships between economic variables - comparisons of the mean to groups - grouping of objects	
Work placement	Not applicable	

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