

Subject card

Subject name and code	Instruments for Economic Research, PG_00171330						
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	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							
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Wojciech Bizon				
	Teachers		mgr Paulina Szulc-Fischer				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	0.0	10.0	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		6.0		9.0	25
Subject objectives	The aim of the course is to provide students with the necessary knowledge and skills in using 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
	[EKONMU2_U06] can practically apply various forms and range of acquired knowledge in economics, finance and management, supplementing it with an independent critical analysis of its efficiency and usefulness	the student knows statistical and econometric methods of describing and modeling macro- and microeconomic structures of economic and public institutions and the processes occurring in them	[SU4] test/exam - oral or written [SU5] implementation of a problem task
	[EKONMU2_U07] can independently propose solutions to complex economic or social problems, select methods of analysis and conduct conclusive procedures in this respect	the student is able to independently propose solutions to a complex economic or social problem, select methods of analysis and conduct decisive procedures in this area	[SU1] oral statement/conversation/discussion [SU4] test/exam - oral or written
	[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	the student is able to use his/her knowledge to describe and analyze the causes and course of economic and social processes and phenomena and is able to formulate his/her own opinions and critically select data and methods of analysis based on the achievements of economic and social sciences	[SU1] oral statement/conversation/discussion [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	the student is able to creatively interpret and explain economic and social phenomena and the relationships between these phenomena, using their knowledge of economics, finance and management sciences	[SU1] oral statement/conversation/discussion [SU4] test/exam - oral or written [SU8] observation of student's independent or team work
	[EKONMU2_U09] has an advanced ability to prepare specialist written assignments concerning economic and social issues, using specialist theoretical and methodological approaches, collecting various sources of data, their description and interpretation, the principles of hypothesis formulation and drawing conclusions on the basis of scientific literature and factual data, and can make extensive international comparisons	the student has an in-depth ability to prepare specialist written works in Polish and a foreign language on economic and social issues, using specialist 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, and is able to make advanced international comparisons	[SU4] test/exam - oral or written [SU8] observation of student's independent or team work
	[EKONMU2_K05] correctly identifies, diagnoses and solves dilemmas and alternative solutions related to the profession	the student identifies, diagnoses and resolves dilemmas and various variants of solutions related to the performance of the profession	[SK4] test/exam - oral or written [SK5] implementation of a problem task [SK8] observation of student's independent or team work
	[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	the student is able to analyze the causes and course of economic and social processes and phenomena, formulate their own opinions on the subject, formulate research hypotheses and select and apply methods of their verification	[SU1] oral statement/conversation/discussion [SU4] test/exam - oral or written [SU8] observation of student's independent or team work
	[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)	the student is able to forecast and model complex economic and social processes using quantitative and qualitative methods and tools developed by economic sciences (including statistics and econometrics)	[SU4] test/exam - oral or written [SU8] observation of student's independent or team work
	[EKONMU2_U10] has an advanced ability to prepare specialist oral presentations on economic and social issues, using specialist theoretical approaches, the principles of collecting various sources of data, their description and interpretation, and drawing conclusions based on scientific literature; can prepare and conduct a debate	the student has an in-depth ability to prepare specialist oral presentations, in Polish and in a foreign language, on economic and social issues, using specialist theoretical approaches, principles of collecting various data sources, their description and interpretation, and drawing conclusions based on scientific literature, is able to prepare and lead a debate	[SU1] oral statement/conversation/discussion [SU8] observation of student's independent or team work

	<table><tr><th>Course outcome</th><th>Subject outcome</th><th>Method of verification</th></tr><tr><td>[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</td><td>the student knows statistical and econometric methods of describing and modeling macro- and microeconomic structures of economic and public institutions and the processes occurring in them</td><td>[SW4] test/exam - oral or written [SW5] implementation of a problem task</td></tr></table>	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	the student knows statistical and econometric methods of describing and modeling macro- and microeconomic structures of economic and public institutions and the processes occurring in them	[SW4] test/exam - oral or written [SW5] implementation of a problem task		
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Subject contents	Research plan. Research objective and 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 h) Quantitative research in economic practice. The concept and properties of the normal distribution. Other distributions of variables. Statistical hypotheses and their verification. Statistical significance. Statistical tests. Generalization of results. (lecture 2 h + computer lab 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 analyses using Excel. (computer lab 2h) Analysis of the interdependence of economic phenomena. Using knowledge about correlation and regression in the economy and enterprise. Scatter plot. Pearson and Spearman correlation coefficients. Determined and explanatory variable. Regression function. (lecture 2 h + computer lab 2 h) Evaluation of the effectiveness of changes in economic parameters. Comparisons with groups. Tests for independent and dependent samples. (lecture 2 h + computer lab 2 h) Searching for similar economic systems and market segmentation. Cluster analysis - multi-aspect grouping of objects. Spatial differentiation of economic variables. Methods of optimal distribution. K-means method. (lecture 2 h + computer lab 2 h) Creating valuable research questionnaires. Analysis of reliability and position. Cronbach's alpha. Elements of factor analysis. Bartlett's and KMO tests. The shape of questions in the questionnaire. (lecture 4 h + computer lab 4h) In order to develop the concepts discussed during the lectures, students can take advantage of consultations.								
Prerequisites and co-requisites	Basic knowledge of descriptive statistics and mathematical analysis.								
Assessment methods and criteria	<table><tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr><tr><td></td><td>51.0%</td><td>100.0%</td></tr></table>	Subject passing criteria	Passing threshold	Percentage of the final grade		51.0%	100.0%		
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Recommended reading	Basic literature	Balicki A., Makać W., Metody wnioskowania statystycznego, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2007. Sobczyk M., Statystyka matematyczna, Wydawnictwo C.H. Beck, Warszawa 2010. Rószkiewicz M., Metody ilościowe w badaniach marketingowych, Wydawnictwo Naukowe PWN, Warszawa 2002 lub 2014.							
	Supplementary literature	Stanisz A., Przystępny kurs statystyki z zastosowaniem STATISTICA PL na przykładach z medycyny, StatSoft Polska, Kraków 2006. Internetowy Podręcznik Statystyki, http://www.statsoft.pl/textbook Bizon W., Dobrobyt społeczno-ekonomiczny oraz gospodarka oparta na wiedzy w kontekście historycznych podziałów na Polskę A i Polskę B, "E-mentor" nr 4/2011. Bizon W., Pomiar efektywności nauczania opartego na symulacjach biznesowych i studiach przypadków, [w:] A. Poszewiecki, W. Bizon, P. Kulawczuk [red.], Symulacje menedżerskie i studia przypadków. Szkolenia biznesowe w oparciu o symulacje menedżerskie i studia przypadków najlepsze praktyki, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2012.							
	eResources addresses								
Example issues/ example questions/ tasks being completed									
Work placement	Not applicable								

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