

Subject card

Subject name and code	Quantitative and Qualitative Research Methods, PG_00178703						
Field of study	Informatics and Econometrics						
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	1		ECTS credits		6.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Econometrics -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Sabina Nowak				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	16.0	16.0	0.0	0.0	0.0	32
	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	32		2.0		116.0	150
Subject objectives	- Gaining knowledge about the essence and purpose of scientific research, the essence of scientific theories and the scientific method. Familiarization with methods of reasoning, inference and generalization. - Getting to know the specificity of quantitative and qualitative methods, acquiring the ability to select a method for the research problem. - Acquiring the ability to search through various economic and financial databases, download data and assess their completeness and reliability. Acquiring the ability to formulate research hypotheses, goals and research questions. - Gaining knowledge about non-exhaustive statistical research. Acquisition of practical skills related to the organization and conduct of sample surveys. Acquiring the ability to critically evaluate the results of surveys, understanding the strengths and weaknesses of the survey. Acquiring the ability to quantitatively summarize research results.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[liEMU2_U03] Is able to obtain and verify data from properly selected sources and to collect, process, and visualize it using modern econometrics, informatics or statistics tools	The student is able to design and conduct survey research, including determining the sampling method, selecting a data collection technique, designing a questionnaire, coding questions, and conducting a basic quantitative analysis of the data obtained. The student is able to gather data for qualitative research using many methods, including analysis of source documents, structured and semi-structured interviews, observation and participatory observation. The student is able to gather data for quantitative research using various financial and economic databases and to assess their reliability and completeness.	[SU2] presentation/project/paper/report
	[liEMU2_U04] Can choose, develop, and analyze traditional or innovative models of complex economic and social phenomena to make informed decisions	The student is able to select a research method adapted to the study's objectives and the feasibility of its implementation. The student is able to select a qualitative research method adequate to the research problem being solved	[SU2] presentation/project/paper/report
	[liEMU2_W05] Possesses advanced knowledge and understanding of informatics, statistics, and econometrics techniques and tools used to acquire, process, or visualise data to aid in decision-making and verify research hypotheses	The student knows and understands sampling methods for non-exhaustive research; identifies possible sources of error in survey research. The student knows and understands qualitative research methods: grounded theory, case study, action research, and ethnographic methods.	[SW4] test/exam - oral or written
	[liEMU2_U09] Can independently plan and implement the process of learning and improving professional skills in econometrics, informatics or statistics throughout life and guide others in this regard	The student can independently search for information on the latest research methods.	[SU2] presentation/project/paper/report
	[liEMU2_U01] Can creatively and profoundly analyze complex social and economic processes using structured knowledge, econometrics, informatics, or statistics tools	The student is able to explain the complexity of the sample survey, its advantages and limitations. The student can interpret the results of qualitative and quantitative research and assess their usefulness in the process of making business decisions.	[SU2] presentation/project/paper/report
	[liEMU2_W02] Comprehends advanced theoretical and practical concepts in econometrics, informatics, or statistics, which are essential for a deeper understanding of economic and social phenomena	The student is able to identify processes in the organization that require the acquisition of knowledge from quantitative and qualitative research.	[SW4] test/exam - oral or written
	[liEMU2_W10] Possesses a deeper understanding of the essential dilemmas of modern civilization, particularly concerning the IT development	The student knows and understands the dilemmas associated with the development of AI, the responsible use of data and the growing role of algorithms in decision-making.	[SW4] test/exam - oral or written
	[liEMU2_W08] Possesses a comprehensive understanding of the methods, conditions, directions, and dilemmas involved in applying advanced econometrics, informatics or statistics tools in response to dynamic environmental changes	The student knows, understands and recognizes the needs of the company in the field of obtaining and analyzing data from quantitative and qualitative research.	[SW4] test/exam - oral or written

Subject contents	1. The essence of scientific research, theory and scientific method. Research paradigms 2. Methods of reasoning: induction and deduction. Possibilities and limitations of generalization in inductive research 3. The essence of quantitative and qualitative research (types of business research, stages of the research process, importance of secondary and primary data, statistical description and statistical inference) 4. Sample selection in non-exhaustive studies (the essence and determinants of random and non-random sampling techniques, probabilistic and non-probabilistic sampling methods) 5. Data collection techniques (types, pros and cons) 6. Characteristics of survey measurement (questionnaire design, measurement levels and scales, question coding) 7. Accuracy of sample surveys (concept and classifications of errors in sample surveys, random error, coverage error, non-response errors, measurement errors) 8. Economic and financial databases 9. Research hypotheses vs. statistical hypotheses 10. Quantitative data analysis 11. Qualitative methods: case study, grounded theory, ethnographic research, project method, action research		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	Written exam	51.0%	50.0%
	Project	51.0%	50.0%
Recommended reading	Basic literature	1. Babbie, E. R. <i>Podstawy badań społecznych</i>. Wydawnictwo Naukowe PWN, Warszawa 2009. 2. Babbie E. <i>Badania społeczne w praktyce</i>. Wydawnictwo Naukowe PWN, Warszawa, 2003. 3. Kaczmarczyk S., <i>Badania marketingowe, metody i techniki</i>, PWE, Warszawa 2002. 4. Kozłowski A., Szreder M., <i>Informacje spoza próby w badaniach statystycznych</i>, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk 2020. 5. Myers, M. D. (1997). <i>Qualitative research in information systems</i>. MIS Quarterly, 21(2), 241242. https://doi.org/10.2307/249422. 6. Saunders M.N.K. Lewis P., Thornhill A. (2015). <i>Research Methods for Business Students</i> (7th Edition), Pearson.	
	Supplementary literature	1. Szreder M. Kozłowski A., <i>Wnioskowanie na podstawie prób losowych i nielosowych</i>, Wydawnictwo UG, Gdańsk 2024. 2. Lim, W. M. (2024). What Is Qualitative Research? An Overview and Guidelines. Australasian Marketing Journal. 3. Yin, R. (2009). Case Study Research. Design and Methods (Fourth Edi). Sage.	
	eResources addresses		
	Example issues/ example questions/ tasks being completed		
Work placement	Not applicable		

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