University of Gdańsk

Subject card

Subject name and code	Quantitative research strategy, PG_00195394						
Field of study	Special Pedagogy						
Date of commencement of studies	October 2026		Academic year of realisation of subject		2028/2029		
Education level	uniform 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	full-time studies		Mode of delivery		at the university		
Year of study	3		Language of instruction		Polish		
Semester of study	5		ECTS credits		2.0		
Learning profile	academic		Assessment form		credit		
Conducting unit	Division of Research on Childhood and School -> Institute of Education -> Faculty of Social Sciences -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Bartosz Atroszko				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	0.0	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		0.0		35.0	50
Subject objectives	1. Developing the ability to analyze and interpret the results of scientific research conducted in accordance with the quantitative strategy. 2. Developing the ability to plan and conduct research in accordance with a quantitative strategy (i.e. formulating a research problem, formulating research hypotheses, determining what is a dependent variable and what are independent variables, developing a simple survey questionnaire and performing statistical analyses, and then formulating on this basis conclusions from the study).						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[G.W.2] has an in-depth knowledge and understanding of the structure of the research process in the context of the adopted research strategy (quantitative, qualitative and mixed strategies), principles of developing a research project, stages of scientific research, criteria for selecting a research strategy, including research objectives, research problems and hypotheses, variables and relationships between variables, conceptualization, operationalization of variables; research sample selection strategies and techniques, defining a research case; types and types of scientific research, including descriptive, diagnostic, explanatory, verification, design, comparative, experimental, quasi-experimental and survey; methods of indexing, measurement and types of measurement scales; issues related to evaluation, panel, sociometric, comparative, field, ethnographic, performative and biographical research; concepts of netography, critical discourse analysis and case study; methods of data collection and analysis; types and ways of using observation; types of research interviews; document, content, textual, conversational, discourse and audiovisual analysis; research tools; issues related to the construction of questionnaires, measurement scales, pedagogical tests, observation sheets and sociometric tools;	1. In terms of knowledge, the graduate knows and understands: 1.2. Methodology of scientific research applied in the fields of humanities and social sciences, in particular the principles of designing and conducting scientific research in the field of special education, and the postulate of multi-paradigm; 1.2. Methodological assumptions and principles and ethical standards of designing and conducting scientific research in the field of special education. 2. In terms of skills, the graduate is able to: 2.1. Recognize and interpret social phenomena, showing their connections with various scopes of special education, fields of social sciences, humanities, medical and health sciences; 2.2. distinguish methodological orientations in scientific research in the field of education, formulate research goals and problems, apply the selection of adequate methods and techniques, construct research tools, develop, present and interpret research results, draw conclusions, indicate directions for further research within the selected scope of special education; 2.3. use basic psychological knowledge and advanced pedagogical knowledge and obtain data to analyse behaviours, processes and phenomena in the area of rehabilitation, education, therapy and resocialisation; 2.4. work in a team, playing various roles, undertake and assign tasks, cooperate with teachers, specialists, parents and guardians of students; 2.5. use the Polish language correctly and use specialist terminology correctly and appropriately to the age of students; 2.6. cooperate with members of research teams at every stage of designing and implementing scientific research; 2.7. independently develop knowledge and pedagogical skills using various sources, including foreign ones, and technologies; 2.8. creatively use theories concerning human development, socialisation, upbringing, teaching and learning and evaluate them critically. 3. In terms of social competences, the graduate is ready to: 3.1. working in a team, playing different roles in it and cooperating with teachers, pedagogues, specialists, parents or guardians of students and other members of the school and local community; 3.2. appreciating the tradition and achievements of scientific	[SW4] test/exam - oral or written

	Course outcome	Subject outcome	Method of verification
		research in the field of special education and continuing and expanding them to include new areas and research procedures.	

Course outcome	Subject outcome	Method of verification
[G.W.5] Knows and understands the various criteria of quality of scientific research, as well as issues of: representativeness, validity, reliability, credibility, transparency, authenticity, triangulation of theoretical perspectives, research methods and data sources, generalizability and transferability of research results	1. In terms of knowledge, the graduate knows and understands: 1.2. Methodology of scientific research applied in the fields of humanities and social sciences, in particular the principles of designing and conducting scientific research in the field of special education, and the postulate of multi-paradigm; 1.2. Methodological assumptions and principles and ethical standards of designing and conducting scientific research in the field of special education. 2. In terms of skills, the graduate is able to: 2.1. Recognize and interpret social phenomena, showing their connections with various scopes of special education, fields of social sciences, humanities, medical and health sciences; 2.2. distinguish methodological orientations in scientific research in the field of education, formulate research goals and problems, apply the selection of adequate methods and techniques, construct research tools, develop, present and interpret research results, draw conclusions, indicate directions for further research within the selected scope of special education; 2.3. use basic psychological knowledge and advanced pedagogical knowledge and obtain data to analyse behaviours, processes and phenomena in the area of rehabilitation, education, therapy and resocialisation; 2.4. work in a team, playing various roles, undertake and assign tasks, cooperate with teachers, specialists, parents and guardians of students; 2.5. use the Polish language correctly and use specialist terminology correctly and appropriately to the age of students; 2.6. cooperate with members of research teams at every stage of designing and implementing scientific research; 2.7. independently develop knowledge and pedagogical skills using various sources, including foreign ones, and technologies; 2.8. creatively use theories concerning human development, socialisation, upbringing, teaching and learning and evaluate them critically. 3. In terms of social competences, the graduate is ready to: 3.1. working in a team, playing different roles in it and cooperating with teachers, pedagogues, specialists, parents or guardians of students and other members of the school and local community; 3.2. appreciating the tradition and achievements of scientific	[SW4] test/exam - oral or written

	Course outcome	Subject outcome	Method of verification
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Course outcome	Subject outcome	Method of verification
[G.W.3] Knows and understands the specificity of scientific research on children, adolescents and adults with disabilities	1. In terms of knowledge, the graduate knows and understands: 1.2. Methodology of scientific research applied in the fields of humanities and social sciences, in particular the principles of designing and conducting scientific research in the field of special education, and the postulate of multi-paradigm; 1.2. Methodological assumptions and principles and ethical standards of designing and conducting scientific research in the field of special education. 2. In terms of skills, the graduate is able to: 2.1. Recognize and interpret social phenomena, showing their connections with various scopes of special education, fields of social sciences, humanities, medical and health sciences; 2.2. distinguish methodological orientations in scientific research in the field of education, formulate research goals and problems, apply the selection of adequate methods and techniques, construct research tools, develop, present and interpret research results, draw conclusions, indicate directions for further research within the selected scope of special education; 2.3. use basic psychological knowledge and advanced pedagogical knowledge and obtain data to analyse behaviours, processes and phenomena in the area of rehabilitation, education, therapy and resocialisation; 2.4. work in a team, playing various roles, undertake and assign tasks, cooperate with teachers, specialists, parents and guardians of students; 2.5. use the Polish language correctly and use specialist terminology correctly and appropriately to the age of students; 2.6. cooperate with members of research teams at every stage of designing and implementing scientific research; 2.7. independently develop knowledge and pedagogical skills using various sources, including foreign ones, and technologies; 2.8. creatively use theories concerning human development, socialisation, upbringing, teaching and learning and evaluate them critically. 3. In terms of social competences, the graduate is ready to: 3.1. working in a team, playing different roles in it and cooperating with teachers, pedagogues, specialists, parents or guardians of students and other members of the school and local community; 3.2. appreciating the tradition and achievements of scientific	[SW4] test/exam - oral or written

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Course outcome	Subject outcome	Method of verification
[G.U.3] Is able to apply methodological knowledge and skills in a research project; select a research strategy, formulate the aim and subject of the research, develop research methods and techniques, formulate the research problems, prepare research tools, select a research sample, area and determine the course of research;	1. In terms of knowledge, the graduate knows and understands: 1.2. Methodology of scientific research applied in the fields of humanities and social sciences, in particular the principles of designing and conducting scientific research in the field of special education, and the postulate of multi-paradigm; 1.2. Methodological assumptions and principles and ethical standards of designing and conducting scientific research in the field of special education. 2. In terms of skills, the graduate is able to: 2.1. Recognize and interpret social phenomena, showing their connections with various scopes of special education, fields of social sciences, humanities, medical and health sciences; 2.2. distinguish methodological orientations in scientific research in the field of education, formulate research goals and problems, apply the selection of adequate methods and techniques, construct research tools, develop, present and interpret research results, draw conclusions, indicate directions for further research within the selected scope of special education; 2.3. use basic psychological knowledge and advanced pedagogical knowledge and obtain data to analyse behaviours, processes and phenomena in the area of rehabilitation, education, therapy and resocialisation; 2.4. work in a team, playing various roles, undertake and assign tasks, cooperate with teachers, specialists, parents and guardians of students; 2.5. use the Polish language correctly and use specialist terminology correctly and appropriately to the age of students; 2.6. cooperate with members of research teams at every stage of designing and implementing scientific research; 2.7. independently develop knowledge and pedagogical skills using various sources, including foreign ones, and technologies; 2.8. creatively use theories concerning human development, socialisation, upbringing, teaching and learning and evaluate them critically. 3. In terms of social competences, the graduate is ready to: 3.1. working in a team, playing different roles in it and cooperating with teachers, pedagogues, specialists, parents or guardians of students and other members of the school and local community; 3.2. appreciating the tradition and achievements of scientific	[SU4] test/exam - oral or written

	Course outcome	Subject outcome	Method of verification
		research in the field of special education and continuing and expanding them to include new areas and research procedures.	

Course outcome	Subject outcome	Method of verification
[G.U.1] Is able to prepare a research project using various research strategies, including quantitative, qualitative or mixed; develop research scenarios and instructions for qualitative research and tools for quantitative research; select methods, techniques and tools for the purpose of quantitative research	1. In terms of knowledge, the graduate knows and understands: 1.2. Methodology of scientific research applied in the fields of humanities and social sciences, in particular the principles of designing and conducting scientific research in the field of special education, and the postulate of multi-paradigm; 1.2. Methodological assumptions and principles and ethical standards of designing and conducting scientific research in the field of special education. 2. In terms of skills, the graduate is able to: 2.1. Recognize and interpret social phenomena, showing their connections with various scopes of special education, fields of social sciences, humanities, medical and health sciences; 2.2. distinguish methodological orientations in scientific research in the field of education, formulate research goals and problems, apply the selection of adequate methods and techniques, construct research tools, develop, present and interpret research results, draw conclusions, indicate directions for further research within the selected scope of special education; 2.3. use basic psychological knowledge and advanced pedagogical knowledge and obtain data to analyse behaviours, processes and phenomena in the area of rehabilitation, education, therapy and resocialisation; 2.4. work in a team, playing various roles, undertake and assign tasks, cooperate with teachers, specialists, parents and guardians of students; 2.5. use the Polish language correctly and use specialist terminology correctly and appropriately to the age of students; 2.6. cooperate with members of research teams at every stage of designing and implementing scientific research; 2.7. independently develop knowledge and pedagogical skills using various sources, including foreign ones, and technologies; 2.8. creatively use theories concerning human development, socialisation, upbringing, teaching and learning and evaluate them critically. 3. In terms of social competences, the graduate is ready to: 3.1. working in a team, playing different roles in it and cooperating with teachers, pedagogues, specialists, parents or guardians of students and other members of the school and local community; 3.2. appreciating the tradition and achievements of scientific	[SU4] test/exam - oral or written

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Subject contents	1. Characteristics of quantitative research in social sciences. 2. Defining the issues, subject and purpose of research; formulating research problems/hypotheses; defining variables and indicators. 3. Quantitative research methods with particular emphasis on the possibilities of their use in pedagogical research and limitations in their use. 4. Constructing research tools and possibilities of their use. 5. Selection of the area and samples for research (sample and population, representativeness of the sample and its selection patterns). 6. Development and analysis of research materials (measurement and measurement scales, grouping of data, their graphical representation). 7. Preparation of the concept of a research microproject. 8. Determining the ethical aspects of planned research. Research on disabled people. 9. Discussion on the project and its improvement. 10. Designing tools in connection with the assumptions of the research project. Improving tools by taking into account discussions on them during classes. 11. Creating a database. 12. Planning and implementation of research in the JASP package. 13. Interpretation of the obtained research results. 14. Discussion of the results, along with their limitations. 15. Planning research directions.		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
		51.0%	100.0%
Recommended reading	Basic literature	Babbie E., *Badania społeczne w praktyce*, Wydawnictwo Naukowe PWN, Warszawa 2007. King B. M., Minium E. W., *Statystyka dla psychologów i pedagogów*, Wydawnictwo Naukowe PWN, Warszawa 2009.	
	Supplementary literature	Konarzewski K., *Jak uprawiać badania oświatowe. Metodologia praktyczna*, WSiP, Warszawa 2000. Pilch T., Bauman T., *Zasady badań pedagogicznych. Strategie ilościowe i jakościowe*, Wydawnictwo Akademickie Żak, Warszawa 2010.	
	eResources addresses		
Example issues/ example questions/ tasks being completed	1. Benefits and limitations of using quantitative research methods and their ethical aspect. 2. Formulation of research problems/hypotheses, definition of variables and selection of research methods. 3. Developing a research tool and planning research implementation. 4. Analyzing and processing research results. 5. Using the basics of statistics in pedagogical research.		
Work placement	Not applicable		

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