

Subject card

Subject name and code	Quantitative Methods, PG_00155360						
Field of study	Management						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2024/2025		
Education level	postgraduate 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		English		
Semester of study	1		ECTS credits		4.0		
Learning profile	academic		Assessment form				
Conducting unit	Katedra Statystyki -> Faculty of Management -> Rektor						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Ewa Wycinka				
	Teachers		dr Arkadiusz Kozłowski				
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	15.0	30.0	0.0	0.0	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		6.0		49.0	100
Subject objectives	The aim of the course is to introduce students to the methods and techniques of business research, including collecting and preparing data, descriptive statistics, statistical inference and communicating research results.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[ZARZMU2_K05] The student is ready to make an in-depth assessment of phenomena and justify his position through rational, logical and entrepreneurial use of knowledge - basing his assertions and decisions on an in-depth analysis of the information he receives.	The student is ready to make an in-depth assessment of mass phenomena.	[SK2] presentation/project/paper/report [SK4] test/exam - oral or written
	[ZARZMU2_W01] The student has an expanded knowledge of the social sciences with particular emphasis on the discipline of management and quality sciences and understands their connections with other social sciences.	The student has extensive knowledge in the field of statistical research.	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report
	[ZARZMU2_U09] The student has an in-depth ability to formulate hypotheses and objectives and solve the research problem, using the literature on the subject and appropriately selected research methods.	The student has advanced ability to formulate statistical hypotheses.	[SU2] presentation/project/paper/report [SU4] test/exam - oral or written
	[ZARZMU2_U06] The student can forecast and simulate complex economic and social phenomena concerning the macro scale (economy) and micro terms (enterprise) using complex methods and tools applied in management and quality studies.	The student can quantitatively forecast and simulate complex economic phenomena.	[SU2] presentation/project/paper/report [SU4] test/exam - oral or written
	[ZARZMU2_U04] The student can creatively apply management and quality studies knowledge in professional practice.	The student is able to creatively apply acquired knowledge of quantitative methods in professional practice.	[SU2] presentation/project/paper/report
	[ZARZMU2_U08] The student correctly uses complex terminology in the field of social sciences, especially in the discipline of management and quality studies, clearly and communicatively expresses his point of view.	The student correctly uses complex terminology related to statistical description and inference.	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report [SU4] test/exam - oral or written
	[ZARZMU2_U05] The student can correctly select and apply advanced, complex methods and tools used in management and quality studies.	The student can quantitatively forecast and simulate complex economic phenomena.	[SU2] presentation/project/paper/report [SU4] test/exam - oral or written
	[ZARZMU2_K03] The student is aware of the need to identify critical complex problems, including economic and social ones, and to plan ways to solve them under changing and unpredictable conditions.	The student is aware of the need to identify important problems and plan ways to solve them using quantitative methods.	[SK2] presentation/project/paper/report [SK4] test/exam - oral or written
	[ZARZMU2_W13] The student has in-depth knowledge of advanced methods and techniques of managerial analysis, supporting the process of economic decision-making, and is familiar with the sources of obtaining data and information in the various fields of social sciences, especially management and quality studies.	The student has in-depth knowledge of a number of methods of descriptive statistics, visual presentation of data and interpretation of analysis results.	[SW4] test/exam - oral or written [SW1] oral statement/conversation/discussion [SW2] presentation/project/paper/report
	[ZARZMU2_K02] The student is aware of the need to supplement and expand the acquired knowledge and skills and strives to combine knowledge from different fields and disciplines of science interdisciplinarily. The student can inspire others to learn.	The student is aware of the need to supplement and expand knowledge in the field of quantitative methods.	[SK2] presentation/project/paper/report

	Course outcome	Subject outcome	Method of verification
	[ZARZMU2_K01] The student is aware of the depreciation of knowledge over time and understands the need for lifelong learning and deepening of knowledge in both academic and non-academic modes. The student is able to inspire and organize the learning process of others.	The student is aware of the depreciation of statistical knowledge over time and understands the need to learn new methods of data analysis.	[SK2] presentation/project/paper/report
	[ZARZMU2_U10] The student has an in-depth ability to prepare written works and multimedia presentations on specific issues in management and quality studies, present them, and lead discussions in Polish and foreign languages.	The student has advanced skills in preparing statistical research reports.	[SU2] presentation/project/paper/report
	[ZARZMU2_K06] The student is ready to work in, contribute to or manage groups. Takes the initiative when working in a group. The student can lead and supervise a team.	The student is ready to work in a team on projects requiring a quantitative approach.	[SK2] presentation/project/paper/report
	[ZARZMU2_U01] The student has an in-depth ability to interpret socio-economic phenomena and current events in economic policy and economics, independently formulate his own opinions in this area, and propose adequate solutions in the case of changes occurring in these areas.	The student has an in-depth ability to interpret socio-economic phenomena of a quantitative nature	[SU1] oral statement/conversation/discussion [SU2] presentation/project/paper/report [SU4] test/exam - oral or written
Subject contents	1. The essence of statistical research and measurement 2. Presenting data in tables and graphs 3. Methods of descriptive statistics 4. Correlation and regression analysis 5. Time series analysis 6. Basic concepts of probability theory 7. Methods of inferential statistics		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	In-class activities	51.0%	20.0%
	Assignment - conducting research and presenting results	51.0%	30.0%
	Oral exam	51.0%	50.0%
Recommended reading	Basic literature	1. Oakshott L., <i>Essential quantitative methods for business, management and finance</i> , Bloomsbury Academic, London 2020. 2. Aczel A.D., and Sounderpandian J., <i>Complete business statistics</i> , McGraw-Hill Higher Education, Boston 2009.	
	Supplementary literature	1. Sharma J.K., <i>Business Statistics</i> , Vikas, India 2020, fifth edition. 2. Malhotra N.K., <i>Marketing research, An applied orientation</i> , Pearson Education, New Jersey 2010, 6th ed.	
	eResources addresses	Adresy na platformie eNauczanie:	
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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