

Subject card

Subject name and code	Statistics, PG_00156073						
Field of study	Management						
Date of commencement of studies	October 2024		Academic year of realisation of subject		2024/2025		
Education level	undergraduate 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	1		Language of instruction		Polish		
Semester of study	2		ECTS credits		7.0		
Learning profile	academic		Assessment form				
Conducting unit	Katedra Statystyki -> Faculty of Management -> Rektor						
Name and surname of lecturer (lecturers)	Subject supervisor		dr Dorota Banaszkiewicz				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	30.0	30.0	0.0	0.0	0.0	60
	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	60		29.0		86.0	175
Subject objectives	The student will learn and understand the issues of statistical research. Learn the basic methods of statistical analysis, including the analysis of structure, correlation, regression and time series, used to assess economic and social phenomena.						

Learning outcomes	Course outcome	Subject outcome	Method of verification
	[ZARZL3_U07] The student is able to search for information necessary in making rational decisions of an operational and strategic nature in enterprises.	demonstrates creativity in solving problems related to the analysis and interpretation of economic data, independently formulates conclusions based on statistical materials and analysis results, is aware of the need to further supplement and expand knowledge.	[SU4] test/exam - oral or written
	[ZARZL3_U10] The student can prepare written works and multimedia presentations on specific issues in the field of management and quality studies, present them and lead discussions.	Knows the basic methods and techniques of managerial analysis supporting the process of making economic decisions, and also knows the sources of obtaining data and information in the scope of specific fields of social sciences.	[SU2] presentation/project/paper/report
	[ZARZL3_W01] The student has advanced knowledge in the social sciences, with particular emphasis on the discipline of management and quality sciences, and understands their interrelationships with other social sciences.	demonstrates creativity in solving problems related to the analysis and interpretation of economic data, independently formulates conclusions based on statistical materials and analysis results, is aware of the need to further supplement and expand knowledge.	[SW2] presentation/project/paper/report
	[ZARZL3_U08] The student correctly uses the terminology of the social sciences, especially the discipline of management and quality sciences, clearly and communicatively expresses his opinions.	the student is able to prepare and conduct basic statistical research in the field of socio-economic phenomena, is able to make a statistical description, is able to assess interdependencies and build regression models, as well as assess the development of the studied phenomena over time, has the ability to interpret the obtained results	[SU5] implementation of a problem task
	[ZARZL3_U05] The student can correctly select and apply advanced methods and tools used in management and quality sciences.	the student is able to prepare and conduct basic statistical research in the field of socio-economic phenomena, is able to make a statistical description, is able to assess interdependencies and build regression models, as well as assess the development of the studied phenomena over time, has the ability to interpret the obtained results	[SU2] presentation/project/paper/report
	[ZARZL3_W13] The student knows advanced methods and techniques of managerial analysis to support the process of economic decision-making, and is familiar with sources of data and information from various fields of social sciences, especially management and quality sciences.	the student understands the essence of statistical research, knows the basic methods and tools for analyzing economic and social phenomena, the student has knowledge about the information system of public statistics, labor market statistics and price statistics, defines national accounts	[SW2] presentation/project/paper/report
	[ZARZL3_K06] The student is ready to work in, co-create or manage a group. The student is able to think and act in an entrepreneurial manner.	Is able to apply acquired knowledge from a specific area of management sciences in professional practice.	[SK2] presentation/project/paper/report
	[ZARZL3_K05] The student is ready to correctly evaluate phenomena and clearly justify his position through rational, logical and entrepreneurial use of knowledge - basing his assertions and decisions on the analysis of received information.	Has basic knowledge of economics, with particular emphasis on the discipline of management sciences, and understands their relationship with other social sciences.	[SK2] presentation/project/paper/report
	[ZARZL3_U04] The student is able to use the acquired knowledge of management science and quality in professional practice.	demonstrates creativity in solving problems related to the analysis and interpretation of economic data, independently formulates conclusions based on statistical materials and analysis results, is aware of the need to further supplement and expand knowledge.	[SU5] implementation of a problem task

	Course outcome	Subject outcome	Method of verification
	[ZARZL3_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 prepare and conduct basic statistical research in the field of socio-economic phenomena, is able to make a statistical description, is able to assess interdependencies and build regression models, as well as assess the development of the studied phenomena over time, has the ability to interpret the obtained results	[SK5] implementation of a problem task
	[ZARZL3_K03] The student knows the need to identify important problems, including economic and social issues, and plan ways to solve them.	Is able to correctly select and apply methods and tools used in management sciences.	[SK3] text preparation/written work
	[ZARZL3_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.	Is able to search for information necessary to make rational decisions of an operational and strategic nature in enterprises.	[SK2] presentation/project/paper/report
	[ZARZL3_U06] The student is able to forecast and simulate selected economic and social phenomena in relation to macro (economy), as well as micro (enterprise) scale using methods and tools applied in management and quality sciences.	has knowledge in the field of dynamic analysis, studying changes that occur over time	[SU3] text preparation/written work
Subject contents	Concept and methods of statistics, application of statistics, basic concepts and definitions (population, sample, features), statistical research (classification, stages, essence of representative research, sampling schemes). Data processing and presentation. Analysis of empirical distribution. Correlation of quantitative, ordinal and qualitative features Estimation and interpretation of linear and curvilinear regression function parameters, assessment of function fit. Essence and types of time series, graphical presentation. Analysis of dynamics: individual and aggregate indicators. Decomposition of time series: estimation and interpretation of linear and curvilinear trend function parameters. Forecasting phenomena. Isolation of seasonal fluctuations. The course content includes the minimum program requirements referred to in: Regulation of the Minister of Development and Technology of April 19, 2023 amending the regulation on minimum program requirements for postgraduate studies in the field of real estate valuation: 6. Basics of statistics and econometrics (8 hours) 6.1. Elements of the theory of examining statistical sets 6.1.1. Probability distributions of random variables 6.1.2. Descriptive statistics 6.1.3. Confidence intervals for mean and variance 6.1.4. Elements of statistical hypothesis verification		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	final exam	51.0%	50.0%
	project	51.0%	20.0%
	two tests	51.0%	30.0%

Recommended reading	Basic literature	Aczel A. D. Statistics in Management, PWN, Warsaw 2000; Makać W., Urbanek-Krzysztofiać D. Methods of Statistical Description, UG, Gdańsk 2004; Makać W. Economic Statistics, Selected Macroeconomic Measures, Gdańsk 2010; Krzysztofiać M., Makać W., Plenikowska Slusarz T., Statistics, PWSPSiG, Gdańsk 2003; Kassyk Rokicka H. Statistics a Collection of Tasks, PWE, Warsaw 2001; Hryniewicka I. Statistical Exercises in Economic Sciences, ODIDK, Gdańsk 2003;
	Supplementary literature	Jóźwiak J., Podgórski J., Statistics from the Basics, PWE Warsaw 2000; Sobczyk M., Statistics, PWN, Warsaw 2000; Zajac K., Outline of statistical methods, PWE, Warsaw 1994;
	eResources addresses	Adresy na platformie eNauczanie:
Example issues/ example questions/ tasks being completed		
Work placement	Not applicable	

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