

Subject card

Subject name and code	Statistics, PG_00178426						
Field of study	Finance and Accounting						
Date of commencement of studies	October 2025		Academic year of realisation of subject		2025/2026		
Education level	Bachelor'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	2		ECTS credits		7.0		
Learning profile	academic		Assessment form		exam		
Conducting unit	Department of Statistics -> Faculty of Management -> Rector						
Name and surname of lecturer (lecturers)	Subject supervisor		dr hab. Ewa Wycinka				
	Teachers						
Lesson types	Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
	Number of study hours	16.0	16.0	8.0	0.0	0.0	40
	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	40		2.0		133.0	175
Subject objectives	The student should understand the essence of statistical methods and be proficient in statistical nomenclature. He/she should be able to use freely elementary statistical methods in solving simple problems. The student should be able to explain the purpose of the use of particular methods and to interpret the results obtained in relation to economic and social phenomena.						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[FiRL3_U04] The student is able—from the perspective of finance and accounting—to correctly select and properly apply methods and tools from the fields of management and quality sciences, economics, and finance to analyse and forecast economic processes and evaluate economic phenomena.		The student uses methods of statistical description and inference, interprets regularities within populations and relationships between variables.		[SU2] presentation/project/paper/report [SU4] test/exam - oral or written		
	[FiRL3_W05] To an advanced degree, the student knows and understands the tools and techniques for obtaining, compiling, and analyzing the data necessary to assess the financial situation of various entities in management, quality sciences, economics, and finance.		The student identifies proper statistical methods, collects statistical data, and analyzes it using methods of descriptive statistics, association, and dynamic analysis to solve specific economic problems.		[SW4] test/exam - oral or written [SW2] presentation/project/paper/report		

Subject contents	Concept and methods of statistics, applications of statistics, basic concepts, statistical surveys (types, stages). Presentation of data: series, tables, graphs. Analysis of distribution properties: central tendency, dispersion, asymmetry, concentration. Random variables and their distributions. Discrete random variable and continuous random variable. Properties of distributions: normal, t-Student, chi-square, F-Snedecor. Concept of random sample, sample statistic and estimator. Properties of estimators. Point and interval estimation: mean and proportion. Statistical hypothesis verification: parametric tests (for 1 and 2 means, for 1 and 2 proportions, for 2 variances), non-parametric tests: test of randomness (Stevens series), tests of equality of probability distributions (chi-square, Kolmogorov), two sample tests (chi-square, Kolomogorov-Smirnov, series, signs) Analysis of correlation: Pearson's linear correlation coefficient and testing its significance, Spearman's rank correlation coefficient and testing its significance, association of qualitative characteristics (selected association and contingency coefficients) and the chi-square independence test. Time series analysis: essence and types of time series, graphical presentation, measures of the average level of a phenomenon in a time series, analysis of the dynamics of simple and complex phenomena (absolute growth, individual and aggregate indices, average rate)		
Prerequisites and co-requisites			
Assessment methods and criteria	Subject passing criteria	Passing threshold	Percentage of the final grade
	project	51.0%	20.0%
	colloquiums	51.0%	30.0%
	exam	51.0%	50.0%
Recommended reading	Basic literature	1. Makać W., Urbanek-Krzysztofak D., Metody opisu statystycznego, UG, Gdańsk, 2000 2. Balicki A, Makać W., Metody wnioskowania statystycznego, Wyd. UG, Gdańsk 2002 3. Aczel A.D., Statystyka w zarządzaniu, PWN, Warszawa, 2017	
	Supplementary literature	1. Wycinka E, Szreder M. (red.), Zastosowania metod ilościowych w ubezpieczeniach, Wyd. UG; Gdańsk 2020 2. Kot. S, Jakubowski J., Sokołowski A., Statystyka, Wyd. Difin, Warszawa 2011	
	eResources addresses		
Example issues/ example questions/ tasks being completed			
Work placement	Not applicable		

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