GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	STATISTICS I, PG_00061097		
Field of study	Management		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2025/2026
Education level	second-cycle 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	English
Semester of study	1	ECTS credits	4.0
Learning profile	general academic profile	Assessment form	assessment
Conducting unit	Department of Statistics and Econometrics -> Faculty of Management and Economics -> Wydziały Politechniki Gdańskiej		
Name and surname of lecturer (lecturers)	Subject supervisor	dr inż. Sabina Szymczak	
	Teachers		

Lesson types and methods of instruction

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	0.0	30.0	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

Formulates and solves problems using appropriate methods and reliable data, obtaining results that explain the given phenomena.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K7_W06] knows and understands the principles of evaluating the reliability of utilized data, applying in-depth specialized knowledge in the field of economic analysis.	selects appropriate methods for a correctly identified problem and obtains a solution based on reliable data	[SW1] Assessment of factual knowledge
[K7_U05] collaborates with others in team projects, effectively fulfilling both leadership and team member roles to achieve established goals.	prepares statistical analyzes and, as part of teamwork, interprets the obtained results	[SU2] Assessment of ability to analyse information

Subject contents

Types of statistical features and measurement scales
Distribution visualization (histogram, boxplot)
Location measures: arithmetic mean, geometric mean, mode, median, quartiles
Dispersion measures
Measures of the shape of the distribution

Analysis of interdependencies between quantitative and qualitative features (correlation, Pearson's linear correlation coefficient; rank correlation coefficients, contingency coefficients)
Index account (individual and aggregate price, quantity and value Laspeyres, Paasche and Fisher indices, single-base and chain indices)
Elements of descriptive analysis of a time series (linear and non-linear trend function, seasonality)
Elements of linear regression model analysis: function parameters, goodness of fit.

Prerequisites and co-requisites

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
Lecture (final test, quizes)	60.0%	50.0%
Laboratories (final test, exercises)	60.0%	50.0%

Recommended reading	Basic literature	Aczel A.D., Sounderpandian J. (2008), Complete Business Statistics. McGrawHill. Dalgaard, Peter. Introductory Statistics with R. 2nd ed. New York: Springer, 2008. Baldock, Sarah. Using R for Statistics by Sarah Baldock. 1st ed. 2014. Berkeley, CA: Apress, 2014
	Supplementary literature	Kot S.M., Sokołowski A., Jakubowski J., Statystyka, Difin, Warszawa, 2007 Górecki, Tomasz. *Podstawy statystyki z przykładami w R / Tomasz Górecki.* Legionowo: Wydawnictwo BTC, 2011.
	eResources addresses	
Example issues/ example questions/ tasks being completed	Using R, analyse the distribution of a variable by calculating the basic descriptive measures and drawing plots. Conclude by comparing the obtained distribution with your knowledge about the given feature.	
Work placement	Not applicable	

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