GDAŃSK UNIVERSITY OF TECHNOLOGY

Subject card

Subject name and code	Descriptive Statistics, PG_00067932		
Field of study	Economics		
Date of commencement of studies	October 2025	Academic year of realisation of subject	2025/2026
Education level	first-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	Polish
Semester of study	2	ECTS credits	5.0
Learning profile	general academic profile	Assessment form	exam
Conducting unit	Department of Statistics and Econometrics -> Faculty of Management and Economics -> Faculties of Gdańsk University of Technology		
Name and surname of lecturer (lecturers)	Subject supervisor	dr Błażej Kochański	
	Teachers	mgr inż. Jakub Czubek dr Błażej Kochański	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	30.0	0.0	30.0	0.0	0.0	60

E-learning hours included: 0.0

eNauczanie source addresses:

Moodle ID: 3787 Statystyka opisowa 2026
https://enauczanie.pg.edu.pl/2025/course/view.php?id=3787

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	5.0	60.0	125

Subject objectives

To prepare students to apply statistical methods and information technology tools in the analysis of mass processes and to interpret the obtained results in the context of socio-economic and business problems.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[K6_W02] possesses advanced knowledge of methods and techniques that enable precise formulation and effective problem solving.	knows basic statistical methods that support precise problem formulation and analysis	[SW1] Assessment of factual knowledge
[K6_U07] uses advanced information technologies to enhance data analysis and decision-making processes.	is able to use appropriate tools for statistical data analysis and decision support	[SU3] Assessment of ability to use knowledge gained from the subject

Subject contents	Course content – lecture Population and sample. Sources of statistical data. Typology of statistical variables and measurement scales. Statistical series, grouped data, histogram, cumulative distribution function (CDF). Measures of central tendency. Positional measures (arithmetic mean, geometric mean, harmonic mean, median, mode, quartiles, percentiles). Measures of dispersion (variance, standard deviation, coefficient of variation, interquartile range, and others), box plot. Measures of distribution shape (skewness, kurtosis). Gini coefficient. Probability distributions of random variables. Normal distribution. Correlation analysis. Covariance, Pearson linear correlation coefficient, Spearman rank correlation coefficient, Kendalls tau coefficient. Scatter plot. Correlation testing. Association between qualitative variables. Contingency table. Chi-square test of independence. Regression analysis. Difference between correlation and regression analysis. Statistical modeling, simple and multiple linear regression. Least squares method. Significance testing of parameters. Measures of model fit accuracy. Analysis of changes in time. Absolute changes and individual indices. Aggregate indices (Laspeyres, Paasche, Fisher). Time series (periods/points in time). Components of a time series (trend, seasonal fluctuations, cyclical fluctuations, random/irregular component).
Prerequisites and co-requisites	

Assessment methods and criteria

Subject passing criteria	Passing threshold	Percentage of the final grade
calculation tasks (test)	60.0%	50.0%
written exam	60.0%	50.0%

Recommended reading	Basic literature	Barrow, M. (2017), Statistics for Economics, Accounting and Business Studies, Harlow: Prentice Hall. Newbold, P., Carlson, W.L., Thorne, B. (2019). Statistics for Business and Economics, New York: Pearson Education.
	Supplementary literature	Anderson D. (2019), Essentials Of Statistics For Business & Economics, Cengage Learning Bąk I.,Markiewicz I., Mojsiewicz M., Wawrzyniak K. (2021), Formulas and tables Statistical and econometric methods, CeDeWu
	eResources addresses	

Example issues/ example questions/ tasks being completed	What is a statistical feature? Provide types of features and examples. The concept of general population and samples. Calculation and interpretation of basic descriptive measures of distribution. Knowledge of basic distributions of a random variable. Correlation coefficient (calculation method, interpretation). Assumptions of the Classical Linear Regression Model (KMRL). Time series components, trend analysis, measurement of seasonal fluctuations. Simple methods of examining the dynamics of economic phenomena, absolute growth, relative growth.
Practical activites within the subject	Not applicable

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