



## Subject card

Subject name and code	ESSENTIALS OF STATISTICS, PG_00061163						
Field of study	Management						
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		English		
Semester of study	1		ECTS credits		5.0		
Learning profile	general academic profile		Assessment form		exam		
Conducting unit	Department Of Statistics And Econometrics -> Faculty Of Management And Economics -> Wydział 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		8.0		72.0	125
Subject objectives	Selects an appropriate methodology for testing regularities occurring in mass processes, using statistical software to process data and interpret obtained results						
Learning outcomes	Course outcome		Subject outcome		Method of verification		
	[K6_U07] uses information technology to improve data analysis and decision-making processes		uses statistical software that facilitates the analysis of mass data and supports decision-making processes		[SU4] Assessment of ability to use methods and tools		
	[K6_W02] demonstrates comprehensive preparation in terms of methods, techniques for formulating and solving problems		formulates the problem appropriately, obtains the data, selects methods necessary for solving the given problem, and interprets the results correctly		[SW1] Assessment of factual knowledge		
Subject contents	Measurement scales. The concept and the way of representing the distribution of features. Location measures: arithmetic mean, geometric mean, mode, median, quartiles) Dispersion measures (variance, standard deviation, coefficient of variation, quartile range) Distribution asymmetry, kurtosis, asymmetry measures (relative moment three, quartile skewness). 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 (exam, quizzes)		60.0%		50.0%		
	Laboratory (final test, exercises)		60.0%		50.0%		

Recommended reading	Basic literature	<p>Aczel A.D., Sounderpandian J. (2008), Complete Business Statistics. McGrawHill.</p> <p>Dalgaard, Peter. Introductory Statistics with R. 2nd ed. New York: Springer, 2008.</p> <p>Baldock, Sarah. Using R for Statistics by Sarah Baldock. 1st ed. 2014. Berkeley, CA: Apress, 2014</p>
	Supplementary literature	<p>Kot S.M., Sokołowski A., Jakubowski J., Statystyka, Difin, Warszawa, 2007</p> <p>Górecki, Tomasz. <i>Podstawy statystyki z przykładami w R / Tomasz Górecki</i>. Legionowo: Wydawnictwo BTC, 2011. Print.</p>
	eResources addresses	Adresy na platformie eNauczanie:
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	

Document generated electronically. Does not require a seal or signature.