University of Gdańsk

Subject card

Subject name and code	Descriptive Statistics, PG_00156894		
Field of study	Finance and Accounting		
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	English
Semester of study	1	ECTS credits	5.0
Learning profile	academic	Assessment form	
Conducting unit	Katedra Statystyki -> Faculty of Management		
Name and surname of lecturer (lecturers)	Subject supervisor	dr hab. Ewa Wycinka	
	Teachers	dr hab. Ewa Wycinka	

Lesson types

Lesson type	Lecture	Tutorial	Laboratory	Project	Seminar	SUM
Number of study hours	15.0	30.0	0.0	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	19.0	61.0	125

Subject objectives

To acquire knowledge of conducting statistical research and data analysis. To learn about the possibilities of applying statistical methods in economic and social life. To develop the ability to select appropriate methods to analyse economic and social phenomena and to interpret the results obtained.

Learning outcomes

Course outcome	Subject outcome	Method of verification
[FiRL3_U03] The student can properly analyse the causes, course and effects of specific processes and phenomena in finance and accounting, using advanced theories and relevant social sciences methods. Can identify stakeholders of processes and phenomena from the disciplines of management and quality sciences and economics and finance.	Students will be able to analyse the causes, course and effects of financial and accounting processes using advanced theories and methods of descriptive statistics. Examples include the analysis of corporate financial data, the study of market trends and the evaluation of financial performance on the basis of statistical data.	[SU2] presentation/project/paper/ report [SU4] test/exam - oral or written
[FiRL3_W06] The student has advanced knowledge of methods and tools, including data acquisition and analysis techniques, appropriate to management science and quality, which allow describing economic structures and institutions and the processes within and between them.	Students are able to use advanced methods and tools of descriptive statistics, such as data exploration and analysis techniques, to describe economic structures and institutions and the processes within them. Examples include the analysis of demographic, economic and social data.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/ report
[FiRL3_K06] Creativity: - thinks creatively, is able to go beyond the usual patterns, - is able to think and act in an entrepreneurial manner, - is able to adapt flexibly to the requirements of the environment.	The student demonstrates creative thinking by solving unusual statistical problems. The student works on projects that require an entrepreneurial approach and flexible adaptation to changing data analysis conditions.	[SK2] presentation/project/paper/ report [SK4] test/exam - oral or written
[FiRL3_U02] The student can acquire data from various sources to analyze specific economic processes and phenomena related to finance. Is able to use information technologies.	The student is able to obtain data from a variety of sources such as databases, reports and surveys to analyse specific economic processes and phenomena. Uses information technology, such as spreadsheets and statistical software, to analyse and present data.	[SU2] presentation/project/paper/ report [SU4] test/exam - oral or written
[FiRL3_W05] The student has knowledge of views on economic and social structures and institutions and types of social ties and their historical evolution.	Students gain knowledge of economic and social structures and institutions and their historical evolution by analysing statistical data for different periods and regions. It also explores how these structures influence contemporary economic phenomena.	[SW4] test/exam - oral or written [SW2] presentation/project/paper/ report
[FiRL3_U01] The student understands and can correctly interpret complex economic phenomena in finance and accounting, and other social sciences. The student understands and can explain the content of announcements of economic institutions, articles published in the daily press and journals in the field of finance (excluding scientific journals). The student correctly applies concepts of social sciences.	Students will be able to correctly analyse and interpret press releases, financial reports and other publications of economic institutions. He/she knows how to draw key information and conclusions from these documents using statistical data analysis methods.	[SU2] presentation/project/paper/ report [SU4] test/exam - oral or written

Subject contents

Introductory topics: concept and methods of statistics, applications of statistics, basic concepts (population, sample, variable characteristics), statistical research (types, stages).Presentation of data: series, tables, graphs.Analysis of distribution properties: central tendency (mean, median, mode), dispersion (spread, variance, standard deviation, coefficient of variation, Sharpe ratio), asymmetry, concentration.Correlation analysis (Pearson's linear correlation coefficient),Linear regression (estimation and interpretation of function parameters, goodness of fit), non-linear regression functions (estimation and interpretation of parameters of selected functions, evaluation of goodness of fit).Spearman's rank correlation coefficient. Correlation of qualitative variables (selected association and contingency coefficients). 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).

<table>
<tr><td>Prerequisites and co-requisites</td><td colspan="3">Knowledge of basic calculus</td></tr>
<tr><td>Assessment methods and criteria</td><td colspan="3"><table>
<tr><th>Subject passing criteria</th><th>Passing threshold</th><th>Percentage of the final grade</th></tr>
<tr><td>project</td><td>51.0%</td><td>20.0%</td></tr>
<tr><td>colloquium 2</td><td>51.0%</td><td>40.0%</td></tr>
<tr><td>colloquium 1</td><td>51.0%</td><td>40.0%</td></tr>
</table></td></tr>
<tr><td rowspan="3">Recommended reading</td><td>Basic literature</td><td colspan="2">1. Statistics for business and economics / Anderson [David R. et al.], Cengage Learning EMEA, 5th edition, cop. 2020.</td></tr>
<tr><td>Supplementary literature</td><td colspan="2">1. Applied business statistics : making better business decision / Ken Black, John Wiley & Sons, cop. 2011.

2. Complete business statistics / Amir D. Aczel, Jayavel Sounderpandian, McGraw-Hill Higher Education, 2009</td></tr>
<tr><td>eResources addresses</td><td colspan="2">Adresy na platformie eNauczanie:</td></tr>
<tr><td>Example issues/ example questions/ tasks being completed</td><td colspan="3"></td></tr>
<tr><td>Work placement</td><td colspan="3">Not applicable</td></tr>
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