

Course description Faculty of Management
E. Kwiatkowski University of Business and Administration
in Gdynia academic year 2021/2022

**1. Course information in compliance with the Study Programme of
MANAGEMENT**

Course Name: Statistics						Course Code: B12			
Type of studies: Bachelor's Full-time / Part-time			Profile of education: PRACTICAL			Specialization scope: all			
Year: II Term: 3			Course /module status: obligatory / basic education			Course / module language: English			
Type of classes	Lectures	Practical classes			Total	consultation	ECTS Credits		
		tutorials	laboratory classes	seminars			Classes with lecturer	Independent work of student	Total
Teaching Hours Full time studies	15	-	30	-	45	5	1,8	1,2	3
including practical classes	-	-	30	-	30	3	1,2	0,8	2
Teaching Hours Part time studies	10	-	20	-	30	3	1,2	1,8	3
including practical classes	-	-	20	-	20	2	0,8	1,2	2
Form of examination	Graded pass / Exam								
Course / module Coordinator	dr Anna Białk-Wolf								
Lecturers	mgr Jarosław Szczukowski								
Priority effects of the item specified in the Senate resolution		Z_W03, Z_U05, Z_K01							

2. Lecturer tasks

Course learning objectives:

This course is an introduction to the theory and application of statistical analysis. Descriptive techniques will be studied, with emphasis placed on statistical sampling.

This course is also designed to making sense of data. Becoming data literate means having a basic understanding of how data is collected, analyzed, displayed and summarized. This type of understanding can help to make more

informed judgements about data results by others and help to make conclusions and inferences about data collected

Subject code	Expected learning outcomes	Reference to learning outcomes for the field of Management
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Knowledge

W_01	The student knows and understands the principles of functioning of entities in the market economy to an advanced level, and understands the relationships between them, including their practical applications.	Z_W03
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Skills

U_01	The student can use appropriate statistical methods in the analysis of phenomena and processes occurring in the organization and society, as well as select and use appropriate methods and mathematical and statistical tools as well as advanced information and communication techniques for the interpretation and forecasting of industry phenomena.	Z_U05
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Social competence

K_01	The student is ready to critically evaluate his knowledge, constantly improve his competences and professional qualifications in the changing economic conditions of the world.	Z_K01
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Topics of particular classes with the number of hours

LECTURES (theoretical classes)

1. Statistics as a science. The subject and scope of the statistical survey. Types of statistical research. Stages of a statistical survey. Methods of presenting statistical material (2 hours / 1 hour)
2. Analysis of the structure of the statistical population - average measures (2 hours / 2 hours)
3. Structure analysis based on measures of differentiation, measures of asymmetry, concentration (2 h / 2 h)
4. Comprehensive structure analysis (1 hour / 0.5 hours)
5. Investigation of the dependence of two features. Correlation diagram. Pearson's correlation coefficient. Covariance. Correlation testing using the Spearman's rank coefficient; Correlation of quality characteristics (3 hrs / 2 hrs)
6. Linear regression (1 hour / 0.5 hours)
7. Time series. Average level of the phenomenon over time. Single-base increments and indices, chainsaw. Average rate of change (2 hours / 1 hour)
8. Individual and aggregate indexes of value, quantity, price (2 hours / 1 hour)

LABORATORY (practical classes)

1. Introductory concepts: statistical population, statistical unit, statistical features, series, cumulative series - exercises (2 hours / 2 hours)
2. Grouping exercises and creating distribution series. Create charts for your data in various types of series (4 h / 2 h)
3. Solving problems in the field of structure analysis, on the basis of classical and positional - average measures, dispersion, asymmetry and concentration, comprehensive structure analysis (12 hours / 8 hours)

4. Practical use of correlation and regression analysis (quantitative features correlation coefficient, rank correlation coefficient, qualitative traits correlation coefficient, linear regression analysis) (6 h / 4 h)
5. Increments, indexes, average rate of change. Individual and aggregate indexes - solving practical tasks (6 hours / 4 hours)

Methods of teaching	Lectures: lecture using multimedia techniques with elements of discussion, analysis of examples. Laboratory exercises: solving practical tasks in cooperation with the teacher.
Literature	1. John E. Hanke, Arthur G. Reitsch, Understanding Business Statistics, Richard D. Irwin Inc., Burr Ridge, IL, 1991 2. Joseph G. Van Matre, Glenn H. Gilbreath, Statistics for Business and Economics, Business Publications Inc., Brookline, OK, 1987
Optional Literature	Kenneth M. Bond, James P. Scott, Essential Business Statistics: A Minitab Framework, Creighton University, Boston, 1988

3. Tasks and time of independent student work

Tasks descriptions	Number of hours		ECTS Credits	
	Full-time	Part-time	Full-time	Part-time
The tasks of theoretical	10	15	0,4	0,6
Preparation for classes and final exam	10	15	0,4	0,6
The tasks shaping practical skills	20	30	0,8	1,2
Doing exercises	20	30	0,8	1,2
TOTAL student workload in hours	30	45	1,2	1,8

4. Methods of verification and documentation of the learning outcomes assessment

Symbol of learning outcomes	Methods of verification and documentation
W_01	Exam
U_01	Activity during lectures and tutorials, creative participation in tutorial discussions, presentations on the contents of the tutorials, final exam.
K_01	Activity during lectures and tutorials, creative participation in tutorial discussions, presentations on the contents of the tutorials, final exam.

	<p>Basic criteria of assessment:</p> <p>Completion of laboratory exercises - in the form of practical tasks, the passing threshold of 51%. Completion of the lecture - in the form of a written multiple-choice test and open-ended questions, a pass mark of 51%. The scale of grades in accordance with the applicable regulations: less than 51% - failure 2.0 51% to 60% - rating 3.0 61% to 70% - rating 3.5 71% to 80% - rating 4.0 81% to 90% - rating 4.5 91% to 100% - rating 5.0 In the event of failure to meet the pass threshold criterion, the student may take a retake / test. Final module grade: 40% exam grade, 60% laboratory grade</p>
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