

Identification	Subject	BSA 245 Statistics – 3KU credits/6ECT
	Department	Economics and Management
	Program	Undergraduate
	Term	Fall 2026
	Instructor	Sara Huseynova
	E-mail	huseynova.sara@khazar.org
	Classroom/hours	
	Language	English
Prerequisites	MATH 217 Probability Theory and Mathematical Statistics	
Compulsory/ Elective	Compulsory	
Textbooks and course materials	1. Paul Newbold, William L. Carlson and Betty M. Thorne `` <b>Statistics for Business and Economics</b> ’’, 9 <sup>th</sup> edition, 2021. 2. Levine, Krehbiel, Berenson, ``Business Statistics: A First Course’’, 7th edition, 2020. 3. Douglas A. Lind, William G. Marchal, Samuel A. Wathen Basic Statistics for Business and Economics, , Published by McGraw-Hill Education, 2019	
Course objective and content	This course provides learn statistical techniques for further study in business, economics, and finance. The course covers descriptive statistics, probability, discrete and continuous random variables, estimation, hypothesis testing, regression analysis. The course emphasizes statistics to solve management problems. Tools and methods are a necessary skill for a modern manager. The current business environment requires the ability to analyze and summarize data, and use statistical analysis for decision-making and problem solving. The course presents basic quantitative methods; the main goal is to provide a basic foundation of statistical methods to students with different education backgrounds and work experiences.	
Learning Outcomes	By the end of the course the students will be able to: - Developing a hypothesis, a research problem, and related questions - Framing the problem with the correct research methodology - Collecting data that accurately addresses the research problem - Measuring the effectiveness of estimation results - To provide a sound basis in statistics and probability for the student’s future academic and professional careers. - To demonstrate the use of statistics, probability, and statistical models to support decision making in business. - To develop the critical thinking and independent problem solving skills necessary to independently analyze business data and model business situations. - To work in a team to develop business research questions and effectively communicate the answers to those questions. - Conducting simple and linear regression analysis - Using data to make decisions - Presenting data to support the certain business policy or events	
Grading System	Methods	Percentage (%)
	Midterm Exam	30
	Attendance	5
	Activity	5
	Home Assignments	10
	Quizzes (2)	10

	Final Exam	40
	Total	100
Policy	Attendance: Students exceeding the 25% absence limit will not be allowed to participate at final exam. Class attendance shall mean physical presence in the classroom which should be 75%. Activity: The evaluation process for student engagement will rely on their level of participation during class discussions, including their responsiveness to the instructor's inquiries and their willingness to pose relevant questions pertaining to the subject matter. Quizzes: Two quizzes are held during the semester. Each quiz is 5% of the final grade and will take 80 minutes. The first quiz is planned to hold on the 6th week and the second quiz will be conducted on the 12th week of the semester. The quizzes are consisting of open-ended and multiple-choice questions. Home Assignment: Group Research report should comprise of the following sections: 1. Introduction 2. Hypothesis development 3. Data 4. Statistical analyze methods 5. Estimation result and interpretations 6. Conclusions 7. References Groups shall consist of min 3 and max 4 students. You should hand in group report before the presentations. Presentations shall not be more than 10-14 slides and 15 minutes. More details about the assignments will provided during the course. Besides this, after the presentations I will ask questions to each team member individually for their individual presentation grading. Correct answers will save you from losing. Additional questions may be asked if necessary. Deadline of this group research is due on 14th week of semester. Cheating / Plagiarism: Cheating or other plagiarism issues during mid-term and final examinations will lead to paper cancellation. As result, the student will automatically get zero (0), without any considerations. Artificial Intelligence Use in the Course In the “Statistics” course, students may use Artificial Intelligence (AI) tools as a supplementary learning and analytical aid to understand statistical concepts, clarify formulas, generate examples, interpret statistical results, and assist with data analysis. AI may also be used to support the preparation of tables, charts, and graphs, identify appropriate statistical methods for a given dataset, and explain the results obtained from statistical software. However, AI must not replace the student’s own statistical reasoning and independent analysis. Students should not submit AI-generated assignments, analyses, or interpretations as their own work, nor use AI-generated data, statistical results, or references without verification. All AI-generated information must be checked against reliable academic and official sources. Students must not enter personal, confidential, or sensitive data into AI systems. Where AI is used in assignments or research, students should indicate how and for what purpose it was used. The final statistical analysis, calculations, interpretation, and conclusions must be the student’s own responsibility.	
Tentative Schedule		
Week	Topics	Textbook/Chapters

1		Their classification. Social, economic and demographic data. Statistical data system: volume indicators, average indicators, characteristics of variation. Statistical experiments. Program, methodological and organizational issues in statistical experiments. Artificial Intelligence in Statistical Analysis: applications of AI in data collection, processing, classification, statistical analysis and interpretation of results.	Paul Newbold, William L. Carlson and Betty M. Thorne `` <b>Statistics for Business and Economics</b> ``, 9 th edition, 2021. Chapter 1
2		Frequency distribution. Graphical representations for discrete and interval observations. Realization on MS EXCEL program.	Paul Newbold, William L. Carlson and Betty M. Thorne `` <b>Statistics for Business and Economics</b> ``, 9 th edition, 2021. Chapter 2
3		Central tendency. Mean, Mode and Median. Calculation by the economic and business problem. Realization on MS EXCEL program.	Paul Newbold, William L. Carlson and Betty M. Thorne `` <b>Statistics for Business and Economics</b> ``, 9 th edition, 2021. Chapter 3
4		Skewness and kurtosis distribution. Defining the importance of these distributions and explanation result on business problem. Realization on MS EXCEL program.	Paul Newbold, William L. Carlson and Betty M. Thorne `` <b>Statistics for Business and Economics</b> ``, 9 th edition, 2021. Chapter 4
5		Dispersion analyses. Standard deviation, Mean, linear deviation, mean square deviation, dispersion. Relative indicators of size and intensity in variations: coefficient of oscillation, linear coefficient. Realization on MS EXCEL program. (Quiz 1)	Paul Newbold, William L. Carlson and Betty M. Thorne `` <b>Statistics for Business and Economics</b> ``, 9 th edition, 2021. Chapter 5
6		Elements of Chance: Probability Methods. Conditional Probability and Bayes Theorem	Paul Newbold, William L. Carlson and Betty M. Thorne `` <b>Statistics for Business and Economics</b> ``, 9 th edition, 2021. Chapter 6
7		Discrete Probability Distributions Continuous Probability Distribution	Paul Newbold, William L. Carlson and Betty M. Thorne `` <b>Statistics for Business and Economics</b> ``, 9 th edition, 2021. Chapter 7
8		Midterm-exam Covariance and correlation analyses. Finding the importance of correlation coefficient. Explanation result on business problem. Realization on MS EXCEL program.	Paul Newbold, William L. Carlson and Betty M. Thorne `` <b>Statistics for Business and Economics</b> ``, 9 th edition, 2021. Chapter 8
9		Linear regression analyses. Explanation result on business problem. Realization on MS EXCEL program.	Paul Newbold, William L. Carlson and Betty M. Thorne `` <b>Statistics for Business and Economics</b> ``, 9 th edition, 2021. Chapter 9

10		Defining the significance of linear regression model by the tests.F-Fisher test, S-student test, Determination coefficient. Realization on MS EXCEL program. (Quiz 2)	Paul Newbold, William L.Carlson and Betty M.Thorne `` Statistics for Business and Economics '', 9 th edition, 2021. Chapter 9
11		Gauss Markov theorem. Explanation on business problem.	Paul Newbold, William L.Carlson and Betty M.Thorne `` Statistics for Business and Economics '', 9 th edition, 2021. Chapter 10
12		Confidence Interval Estimation of Unknown Population Mean when population variance is unknown	Paul Newbold, William L.Carlson and Betty M.Thorne `` Statistics for Business and Economics '', 9 th edition, 2021. Chapter 11
13		Confidence Interval Estimation of Unknown Population Mean	Paul Newbold, William L.Carlson and Betty M.Thorne `` Statistics for Business and Economics '', 9 th edition, 2021. Chapter 12
14		Hypothesis Tests of Single Population	Paul Newbold, William L.Carlson and Betty M.Thorne `` Statistics for Business and Economics '', 9 th edition, 2021. Chapter 13
15		Course Review/ Home assignment	
		Final Exam	