OSTIM TECHNICAL UNIVERSITY
FACULTY OF ECONOMICS AND ADMINISTRATIVE SCIENCES
DEPARTMENT OF BUSINESS ADMINISTRATION
COURSE SYLLABUS FORM

BUS 203 **Business Statistics**							
Course Name	**Course Code**	**Period**	**Hours**	**Application**	**Laboratory**	**Credit**	**ECTS**
Business Statistics	BUS 203	3	3	0	0	3	5

Language of Instruction	En,glish
Course Status	Compulsory; Prerequisite(s):
Course Level	Bachelor
Learning and Teaching Techniques of the Course	Lecture, Discussion, Question-Answer, Problem Solving

Course Objective
This course introduces students to the Introduction to statistics, basic concepts of statistics, data presentation, summary measures, introduction to probability, inferential statistics, linear regression and correlation.

Learning Outcomes
The students who succeeded in this course will be able to; 1. learn how to develop and investigate a research question 2. learn the fundamental definitions of statistics 3. calculate and report summary statistics of a data set 4. understand the probability concepts 5. understand the concepts of inferential statistics 6. have a knowledge about the data analysis and its applications in MS-Excel, SPSS, R and Stata.

Course Outline
Introduction to statistics, basic concepts of statistics, data presentation, summary measures, introduction to probability, discrete and continuous probability models, inferential statistics: estimation, significance tests, hypothesis testing, analyzing association, linear regression and correlation.

Weekly Topics and Related Preparation Studies		
Weeks	**Topics**	**Preparation Studies**
1	How to Write a Research Article	– Basic Concepts of Research Methodology
2	Introduction (Agresti, Chap.1)	– Introduction to Statistical Methodology – Descriptive Statistics and Inferential Statistics – The Role of Computers and Software in Statistics
3	Introduction to Softwares: SPSS, MS-Excel (Data Analysis Add-ins) (Okello, Chap.1)	– Getting Started with SPSS – Preparing and Import Data for Analysis
4	Sampling and Measurement (Agresti, Chap.2)	– Variables and Their Measurement – Randomization – Sampling Variability and Potential Bias – Other Probability Sampling Methods
5	Descriptive Statistics (Agresti, Chap.3)	– Describing Data with Tables and Graphs – Describing the Center of the Data – Describing Variability of the Data – Measures of Position – Bivariate Descriptive Statistics – Sample Statistics and Population Parameters
6	Probability Distributions (Agresti, Chap.4)	– Describing Data with Tables and Graphs – Describing the Center of the Data – Describing Variability of the Data – Measures of Position – Bivariate Descriptive Statistics – Sample Statistics and Population Parameters
7	Problem Solving	– Problem Solving Session I
8	**MIDTERM EXAM**	
9	Statistical Inference: Estimation (Agresti, Chap.5)	– Point and Interval Estimation – Confidence Interval for a Proportion – Confidence Interval for a Mean – Choice of Sample Size – Estimation Methods: Maximum Likelihood and the Bootstrap
10	Statistical Inference: Significance Tests (Agresti, Chap.6)	– The Five Parts of a Significance Test – Significance Test for a Mean – Significance Test for a Proportion – Decisions and Types of Errors in Tests – Limitations of Significance Tests – Finding P(Type II Error)

		– Small-Sample Test for a Proportion-the Binomial Distribution
11	Comparison of Two Groups (Agresti, Chap.7)	– Preliminaries for Comparing Groups – Categorical Data: Comparing Two Proportions – Quantitative Data: Comparing Two Means – Comparing Means with Dependent Samples – Other Methods for Comparing Means – Other Methods for Comparing Proportions – Nonparametric Statistics for Comparing Groups
12	Analyzing Association Between Categorical Variables (Agresti, Chap.8)	– Contingency Tables – Chi-Squared Test of Independence – Residuals: Detecting the Pattern of Association – Measuring Association in Contingency Tables – Association Between Ordinal Variables
13	Linear Regression and Correlation (Agresti, Chap.9)	– Linear Relationships – Least Squares Prediction Equation – The Linear Regression Model – Measuring Linear Association: The Correlation – Inferences for the Slope and Correlation – Model Assumptions and Violations
14	Problem Solving	Problem Solving Session II
15	Review	Review
16	**FINAL EXAM**	

Textbook(s)/References/Materials:
Textbook: Agresti, A. (2018). Statistical methods for the social sciences, Pearson, Boston. ISBN 978-0-13-450710-1.
Supplementary References: Soskin, M. D. (1998). Statistical Methods for Business Decisions. U. of Central Florida. Devore J.L. (2011). Probability and Statistics for Engineering and the Sciences, 8th Edition, Cengage Learning. ISBN 978-0-5387-3352-6.
Other Materials: Okello, G. O. (2023). Simplified Business Statistics Using SPSS, Chapman & Hall. ISBN 978-1-0322-6517-9.

Assessment		
Studies	**Number**	**Contribution margin (%)**
Attendance	**14**	**10** (each 1)
Lab		
Classroom and application performance grade		
Field Study		
Course-Specific Internship (if any)		
Quizzes / Studio / Critical		
Homework	**5**	**10** (each 2)
Presentation		
Projects		
Report		
Seminar		
Midterm Exam/Midterm Jury	**1**	**30**
General Exam / Final Jury	**1**	**50**
Total		**100**
Success Grade Contribution of Semester Studies		**50**
Success Grade Contribution of End of Term		**50**
Total		**100**

ECTS / Workload Table			
Activities	**Number**	**Duration (Hours)**	**Total Workload**
Course hours (Including the exam week): 16 x total course hours)	16	3	48
Laboratory			
Application			
Course-Specific Internship (if any)			
Field Study			
Study Time Out of Class	16	2	32
Presentation / Seminar Preparation			
Projects			
Reports			
Homework	5	1	5
Quizzes / Studio Review			
Preparation Time for Midterm Exams / Midterm Jury	1	20	20
Preparation Period for the Final Exam / General Jury	1	25	25
Total Workload	**(130/25 = 5.2)**		**130**

Course' Contribution Level to Learning Outcomes						
Nu	**Learning Outcomes**	**Contribution Level**				
		1	**2**	**3**	**4**	**5**
LO1	to learn how to develop and investigate a research question					X
LO2	to learn the fundamental definitions of statistics.					X
LO3	to calculate and report summary statistics of a data set.					X
LO4	to understand the probability concepts.					X
LO5	to understand the concepts of inferential statistics.					X
LO6	to have a knowledge about the data analysis in MS-Excel, SPSS, R and Stata.					X

Nu	**Program Competencies**	**Learning Outcomes**						**Total Effect (1-5)**
		LO1	**LO2**	**LO3**	**LO4**	**LO5**	**LO6**	
1	Know the basic concepts and practical information about the science of business administration and core business activities.	X						4
2	Evaluate global and local issues by using ideas and concepts from the field of business administration; examine and analyze management related information and applications in line with scientific principles by using appropriate qualitative and quantitative methods; interpret and synthesize the data and find solutions to business related problems.			X				5
3	Take responsibility as a member of an interdisciplinary team to solve unpredictable and complex business problems; be able to work effectively in teams of various functions and disciplines; effectively carry out project activities.					X		4
4	Carry out independent studies in the field by utilizing obtained knowledge and skills.					X		3
5	Set goals and objectives for the institution he/she works at; detect and solve basic problems; analyze the internal and external environment of the business; evaluate the developments, support continuous improvement and provide innovative strategies.		X					3

6	Acquire the skill to manage activities aimed at the improvement of the employees as a leader, make decisions and implement them.			X				4
7	Acquire the entrepreneurship skill; design and manage a business; promote innovativeness and sustainability.			X				5
8	Maintain life-long learning activities; achieve self-improvement; follow higher level educational programs		X					4
9	Inform stakeholders with a sense of social responsibility as an individual with effective communication skills; share his/her emotions, thoughts and solutions to problems verbally and in writing; understand the behaviors and psychology of his/her colleagues.					X		4
10	Use the information and communication technologies and computer software required by the field.						X	5
11	Effectively use English to follow, read, write and speak about the universal information in the field of business and management sciences and be able to communicate with colleagues in a foreign language with professional proficiency.		X					4
12	Act according to the law in all his/her affairs; have a sense of professional and ethical responsibility and code of business conduct and act in line with social values.	X						4
13	Be aware of the contemporary business problems as well as the interdisciplinary scope of business administration and analyze these; have the competence to understand the effects of business and management sciences on these problems on a universal, environmental, legal, social and societal level and in terms of health, security and globalization.	X						5
14	Give research proposals, be able to design research studies, prepare and present research reports.	X						5
15	Manage work time and personal time; fulfil the requirements of his/her duties on time.		X					3
16	Have the competence to work in non-governmental organizations, private sector and public entities.	X						5
Total Effect								67

Policies and Procedures
Web page: https://www.ostimteknik.edu.tr/business-administration-1240
Exams: The exams aim at assessing various dimensions of learning: knowledge of concepts and theories and the ability to apply this knowledge to real world phenomenon, through analyzing the situation, distinguishing problems and by suggesting solutions. The written exams can be of two types, i.e. open-ended questions, which can also be in the formof problems or multiple-choice questions. Exams are composed of a final exam comprising 50% of the student's grade and a mid-term exam, with less weight. The rest of the grade comes from other assessment methods, shown in the assessment table included in this syllabus. The Department of Business Administration does not tolerate any act of academic dishonesty. Examinations are individual and must be completed without any outside assistance. Students who attempt to cheat during exams will receive a failing grade from that exam. The case could also be carried to the Dean's Office for additional disciplinary action.
Assignments: The assignments could be in the form of Homework or paper writing. A paper must include 1- Abstract 2- Introduction, 3- Literature review 4- Research Method, 5- Findings and Discussion 6- Conclusion. Scientific Research Ethic Rules are very important while preparing assignments. The students should be careful about citing any material used from outside sources and reference them appropriately. The students must not adopt "cut-copy-paste" behavior from the sources in the internet or use the contents of any type of previous work in their assignments. Plagiarism is unethical behavior and is subject to disciplinary action.
Missed exams: Any student missing an exam needs to bring an official medical report to be able to take a make-up exam.
Projects: The projects (if are a part of the course requirements) could be performed either individually or in groups, without engaging in plagiarism.
Attendance: Attendance requirements are announced at the beginning of the term. Student are usually expected to attend at least 70% of the classes during each term.
Objections: If the student observes a material error in his/her grade, he/she has the right to place an objection to the Faculty or the Department. The claim is examined and the student is notified about its outcome.