

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
STATISTICS I	MIS2152740	Fall Semester	3+0	3	5
Prerequisites Courses					
Recommended Elective Courses					
Language of Instruction	English				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Required				
Course Coordinator	Assist.Prof. Esra BAYTÖREN				
Name of Lecturer(s)	Assist.Prof. Esra BAYTÖREN				
Assistant(s)					
Aim	The aim of this course is to provide students with skills in collecting, analyzing and presenting information.				
Course Content	This course contains; Introduction to Statistics - Basic Concepts ,Organizing Data – Frequency Distributions and Graphs for Nominal and Ordinal Variables,Organizing Data – Frequency Distributions and Graphs for Interval and Ratio Variables,Measures of Central Tendency,Measures of Variability ,Measures of Distribution Shape, Relative Location, and Detecting Outliers ,Measure of Association Between Two Variables - Covariance and Correlation,Introduction to Probability - Basic Concepts,Discrete Probability Distributions ,Continuous Probability Distributions ,Sampling and Sampling Distributions, Selecting of a Sample, Point Estimation,Sampling Distribution of the Sample Mean and Proportion,Confidence Intervals,Confidence Intervals for a Population Proportion.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. Will be able to describe the limited but crucial role of statistics in social research.			10, 16, 6, 9	A, E, G	
1.1 Knows statistical terminology					
1.2 Distinguishes between descriptive and inferential statistics					
1.3 Identifies types of data and the measurement level for each variable					
2. Will be able to explain the purpose of descriptive statistics in making data comprehensible.			10, 16, 6, 9	A, E, G	
2.1 Summarizes qualitative and quantitative data by using frequency distributions, bar charts, pie charts, histograms, frequency polygons, and ogives					
2.2 Summarizes data, using measures of central tendency, such as the mean, median, and mode					
2.3 Describes data, using measures of variation, such as the range, variance, and standard deviation					
3. Will be able to explain how to use relationship metrics to define and analyze the importance of relationships.			10, 16, 6, 9	A, E, G	
3.1 Interprets scatter diagrams					
3.2 Interprets covariance and correlation coefficient of a bivariate data set					
3.3 Explains the concepts of total, explained, and unexplained variance					
4. Will be able to remember how to use probability theory to make decisions in situations of uncertainty.			10, 16, 6, 9	A, E, G	
4.1 Calculates the probability of an event, using classical probability or empirical probability					
4.2 Calculates the probability of compound events, using the addition and multiplication rules					
4.3 Calculates the conditional probability of an event					
5. Will be able to explain how the behavior of a random variable is summarized through a probability distribution.			10, 16, 6, 9	A, E, G	
5.1 Explains the difference between a discrete random variable and a continuous random variable					
5.2 Describes the characteristics of the normal distribution					
5.3 Recognises the most common probability distributions					
6. Will be able to explain sampling procedures and sampling distributions.			10, 16, 6, 9	A, E, G	
6.1 Explains the concept of random sampling					
6.2 Describes the sampling distribution of the sample mean					
6.3 Explains Central Limit Theorem					
7. Will be able to explain the logic of estimation and the role of the sample, sampling distribution, and population.			10, 16, 6, 9	A, E, G	
7.1 Calculates confidence interval for a population mean based on z-test and t-test					
7.2 Determines the appropriate sample size when estimating a population mean					
Teaching Methods	10: Discussion Method, 16: Question - Answer Technique, 6: Experiential Learning, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam, E: Homework, G: Quiz				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Introduction to Statistics - Basic Concepts				
2	Organizing Data – Frequency Distributions and Graphs for Nominal and Ordinal Variables				
3	Organizing Data – Frequency Distributions and Graphs for Interval and Ratio Variables				
4	Measures of Central Tendency				
5	Measures of Variability				
6	Measures of Distribution Shape, Relative Location, and Detecting Outliers				
7	Measure of Association Between Two Variables - Covariance and Correlation				
8	Introduction to Probability - Basic Concepts				
9	Discrete Probability Distributions				
10	Continuous Probability Distributions				
11	Sampling and Sampling Distributions, Selecting of a Sample, Point Estimation				
12	Sampling Distribution of the Sample Mean and Proportion				

Lecture Schedule		
Sequence	Topics	Preliminary Preparation
13	Confidence Intervals	
14	Confidence Intervals for a Population Proportion	
Evaluation Methods		Weight(%)
(Midterm Exam) 10 separate MyLab assignments as a part of midterm exam		10 x 4
Midterm Exam		40
(General Exam) Quiz as a part of final exam		24
(General Exam) Written exam as a part of final exam		36
General Exam		60

Resources
[1] Statistics for Business and Economics, 14th edition, McClave, Benson, Sincich, Pearson, 2022
[2] Statistics for Business and Economics, 11th Edition, David R. Anderson, Dennis J. Sweeney, Thomas A. Williams, South-Western Cengage Learning, 2011
[3] İşletme İstatistiğinin Temelleri, 4.basımdan Çeviri, Çeviri Editörleri: N.Orhunbilge, M.Can, Ş.Er, Nobel Akademik Yayıncılık, 2018
[4] Lecture Notes