

Course Description					
Name	Code	Semester	T+A Hour	Credit	ECTS
STATISTICS II	ULY2234160	Spring Semester	3+0	3	5
Prerequisites Courses	İSTATİSTİK I				
Recommended Elective Courses					
Language of Instruction	Turkish				
Course Level	First Cycle (Bachelor's Degree)				
Course Type	Required				
Course Coordinator	Assist.Prof. Mutlu GÜRSOY				
Name of Lecturer(s)	Assist.Prof. Recep ÖZSÜRÜNÇ				
Assistant(s)					
Aim	Students are aimed to understand the logic of inferential statistics and to apply hypothesis testing and regression analysis for simple business problems				
Course Content	This course contains; Introduction to Hypothesis Testing , Five - Step Procedure for Hypothesis Testing,z and t Tests About a Population Mean, z Tests About a Population Proportion,Sample Size Determination, The Chi – Square Distribution and Statistical Inference for Population Variance, One – Sample Hypothesis Testing Using EXCEL and SPSS,Statistical Inference Based On Two Samples ,Comparing Two Population Proportions and Variances by Using Large Independent Samples,Two Sample Hypothesis Testing Using Excel and SPSS,Experimental Design and Analysis of Variance,Two – Way Analysis of Variance,Chi – Square Tests,Simple Linear Regression Analysis,Regression Analysis - Confidence and Prediction Intervals,Simple Coefficients of Determination and Correlation, An F – Test for the Model, Residual Analysis.				
Course Learning Outcomes			Teaching Methods	Assessment Methods	
1. Will be able to explain the logic of hypothesis testing			16, 6, 9	A	
1.1 Locate hypothesis testing in inferential statistics				A	
1.2 Set up appropriate null and alternative hypotheses				A	
1.3 Describe Type I and Type II errors and their probabilities				A	
2. Will be able to translate one – sample hypothesis tests			16, 6, 9	A	
2.1 Use critical values and p-values to perform a z test about a population mean				A	
2.2 Use critical values and p-values to perform a t-test about a population mean				A	
2.3 Use critical values and p-values to perform a large sample z test about a population proportion.				A	
3. Will be able to use technology for one – sample hypothesis testing			16, 6, 9	A	
3.1 Realize one – sample tests using Excel				A	
3.2 Realize one – sample tests using SPSS				A	
4. Will be able to locate two – sample hypothesis tests			16, 6, 9	A	
4.1 Compare two population means when the samples are independent				A	
4.2 Recognize when data come from independent samples and when they are paired				A	
4.3 Compare two population means when the data are paired				A	
5. Will be able to use technology for two – sample hypothesis testing			16, 6, 9	A	
5.1 Realize two – sample tests using Excel				A	
5.2 Realize two – sample tests using SPSS				A	
6. Will be able to tell Analysis of Variance			16, 6, 9	A	
6.1 Explain the basic terminology and concepts of experimental design				A	
6.2 Compare several different population means by using a one-way analysis of variance				A	
6.3 Compare treatment effects and block effects by using a randomized block design				A	
7. Will be able to use simple regression analysis			16, 6, 9	A	
7.1 Explain the simple linear regression model				A	
7.2 Describe the assumptions behind simple linear regression and the standard error				A	
7.3 Interpret the basic coefficient of determination and the regression coefficient				A	
Teaching Methods	16: Question - Answer Technique, 6: Experiential Learning, 9: Lecture Method				
Assessment Methods	A: Traditional Written Exam				
Lecture Schedule					
Sequence	Topics	Preliminary Preparation			
1	Introduction to Hypothesis Testing				
2	Five - Step Procedure for Hypothesis Testing				
3	z and t Tests About a Population Mean, z Tests About a Population Proportion				
4	Sample Size Determination, The Chi – Square Distribution and Statistical Inference for Population Variance				
5	One – Sample Hypothesis Testing Using EXCEL and SPSS				
6	Statistical Inference Based On Two Samples				
7	Comparing Two Population Proportions and Variances by Using Large Independent Samples				
8	Two Sample Hypothesis Testing Using Excel and SPSS				
9	Experimental Design and Analysis of Variance				
10	Two – Way Analysis of Variance				
11	Chi – Square Tests				
12	Simple Linear Regression Analysis				
13	Regression Analysis - Confidence and Prediction Intervals				

School of Business and Management Sciences / Logistics Management
2023 - 2024 Academic Year
STATISTICS II
Syllabus

Lecture Schedule		
Sequence	Topics	Preliminary Preparation
14	Simple Coefficients of Determination and Correlation, An F – Test for the Model, Residual Analysis	
Evaluation Methods		Weight(%)
Midterm Exam		40
General Exam		60

Resources
[1] will be available at http://mebis.medipol.edu.tr [2] Bruce L. Bowerman, Richard T. O'Connell, Emily S. Murphree, James B. Orris (2013), İşletme İstatistiğinin Temelleri, 4.basımdan Çeviri, Çeviri Editörleri: N.Orhunbilge, M.Can, Ş.Er, Nobel Akademik Yayıncılık [3] David R. Anderson, Dennis J. Sweeney, Thomas A. Williams (2011), Statistics for Business and Economics, Eleventh Edition, South-Western Cengage Learning