

1. GENERAL DESCRIPTION					
Course Code	Course Title	Course Type	Year of Study	Semester	ECTS Credits
ISL368	Applied Statistical Analysis	Elective	Third Year	Spring Semester	4
2. LEVEL OF THE COURSE					
First Cycle (Undergraduate)					
3. OBJECTIVE OF THE COURSE					
The aim of this course is to teach students the technical details and interpretations of univariate parametric hypothesis tests and regression and correlation analysis with their SPSS applications.					
4. NAME OF LECTURER(S)					
Assoc. Prof. Dr. Ali Sait ALBAYRAK					
5. LEARNING OUTCOMES					
LO1	Understand basic concepts, methods and techniques of sampling theory, sampling distributions, statistical estimation and hypothesis testing, ANOVA, correlation and regression analysis.				
LO2	Choose and apply most appropriate hypothesis tests among from parametric and nonparametric hypothesis tests.				
LO3	Investigate and interpret the claims about one, two and more than two population parameters.				
LO4	Apply and interpret the univariate parametric hypothesis tests using SPSS.				
LO5	Compute and interpret simple parametric and nonparametric correlation coefficients with SPSS.				
LO6	Develop appropriate simple and multiple regression models with SPSS and interpret SPSS results.				
6. MODEL OF DELIVERY					
Face to face					
7. PREREQUISITES AND CO-REQUISITES					
ISL223 Statistics I and ISL224 Statistics II					
8. RECOMMENDED OPTIONAL PROGRAM COMPONENTS					
None					
9. COURSE CONTENTS					
Basic Concepts, Sampling and Sampling Methods, Sampling Distributions, Parametric Hypothesis Testing, Chi-Square Tests, Univariate ANOVA Models, Regression and Correlation Analysis.					
10. WEEKLY DETAILED COURSE CONTENTS					
Week	Theoretical				
1	Sampling and Key Concepts, Sampling Error, The Purposes of Sampling, Reasons for Sampling and the Sampling Design Process.				
2	Sampling Methods and SPSS Applications and Introduction to SPSS.				
3	Sampling Distributions: The Sampling Distribution of the Arithmetic Mean, the Sampling Distribution of the Sample Proportion, the Sampling Distribution of the Sample Variance, the Sampling Distributions and Central Limit Theorem (CLT), Statistical Estimation, Basic Concepts and SPSS Applications.				
4	Hypothesis Testing: Concepts of Hypothesis Testing, Classification of Hypothesis Testing, Basic Steps in Hypothesis Testing, Errors in Hypothesis Testing (Type I and Type II Error) and Confidence Interval, Significance Level and Power of the Test, p -Value and Hypothesis Testing.				
5	Parametric one Sample and Two Independent Sample t or z test and SPSS Applications and Interpretations.				
6	Parametric Two Dependent Sample t or z test and SPSS Applications and Interpretations.				
7	One-Way ANOVA and N -Way ANOVA Models, Multiple Comparison Tests, SPSS Applications and Interpretations.				
8	Midterm Exam				
9	Chi-Square Tests: Chi-Square Independence Test, Chi-Square Homogeneity Tests, Chi-Square Goodness-of-Fit Tests and Chi-Square Based Nonparametric Correlation Coefficients: The Computation and				

	Interpretation of Phi (ϕ), Cramer's V and Contingency Coefficient (c) with SPSS.
10	Computation and Interpretation of Pearson Correlation Coefficient (r) and Spearman Correlation Coefficient (r^s) with SPSS.
11	Regression Analysis: Basic Concepts and Technical Details, Objectives and Assumptions of Regression Analysis.
12	Deviations from the Assumptions and Solutions, Pitfalls and Limitations Associated with Regression Analysis.
13	Analyzing and Interpretation of Cross-Sectional Data with Regression Analysis.
14	Analyzing and Interpretation of Time Series with Regression Analysis.
15	Multicollinearity and Stepwise Regression Analysis.
16	Final Exam

11. TEXTBOOK / MATERIAL / RECOMMENDED OR REQUIRED READINGS

- ✓ Ali Sait Albayrak, *ISL368 SPSS Uygulamalı İstatistik Analiz Ders Materyali*, Recep Tayyip Erdoğan Üniversitesi, İktisadi ve İdari Bilimler Fakültesi, Rize, 2012.
- ✓ Mustafa Köseoğlu, Rahmi Yamak, *Uygulamalı İstatistik ve Ekonometri*, Celepler Matbaacılık, Trabzon, 2012.
- ✓ Neyran Orhunbilge, *Uygulamalı Regresyon ve Korelasyon Analizi*, İstanbul Üniversitesi İşletme Fakültesi Yayın No: 281, İstanbul, 2002.

12. PLANNED LEARNING ACTIVITIES AND TEACHING METHODS

Activities are Given in Detail in the Section of "Assessment Methods and Criteria" and "Workload Calculation".

13. ASSESSMENT METHODS AND CRITERIA

Type of Assessment	Weight (%)
Midterm Examination	40
Final Examination	60

14. LANGUAGE OF INSTRUCTION

Turkish

15. WORK PLACEMENT(S)

None

16. WORKLOAD CALCULATION

Activities	Number	Time (Hours)	Total Workload (Hours)
Lectures (Face to Face Teaching)	14	3	42
Individual Studies Outside Class	14	3	42
Individual Study for Midterm Examination	1	8	8
Midterm Examination	1	1	1
Individual Study for Final Examination	1	16	16
Final Examination	1	1	1
Total Work Load (Hours)	32	32	110

17. CONTRIBUTION OF LEARNING OUTCOMES TO PROGRAM OUTCOMES

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14	PO15
LO1	5	4	5	4		3	3	4	2			3		2	
LO2	4	4	5	3		5	2		3			3		3	
LO3	5	4	4	3		4	3	4	4			3		4	
LO4	5	4	4	3		4	3	4	4			3		4	
LO5	5	4	4	3		4	3	3	3			3		3	
LO6	5	4	4	4		4	4	3	4			4		3	

* Contribution Level: 1=Very Low, 2=Low, 3=Medium, 4=High and 5=Very High. LO=Learning Outcome and PO=Program Outcomes.