

**ANKARA YILDIRIM BEYAZIT UNIVERSITY – DEPARTMENT OF INTERNATIONAL TRADE AND BUSINESS
COURSE SYLLABUS**

Course Code	Course Title	Course Type	ECTS Credits	Prerequisite Information	Date of Preparation
ITB 413	Applied Data Analysis I	Elective	5	No	September 2025
Instructor of the Course & E-Mail Address	Assoc. Prof. Dr. Seda Ekmen Özçelik / sedaekmenozcelik@aybu.edu.tr				
Office Hours & Office Room	Mondays 16.30-17.30 (Esenboğa B278) Tuesdays 13.30-14.30 (Cinnah 613)				
Course Content and Objectives	<p>Course Objectives:</p> <p>This course aims to introduce students to the fundamental principles and applications of data analysis using IBM SPSS Statistics. The objective is to develop students' ability to organize, analyze, and interpret data through practical exercises. Emphasis is placed on understanding when and how to apply appropriate statistical techniques, interpret the results, and effectively communicate findings. The course also enhances students' analytical and problem-solving skills by linking statistical theory with real-world applications.</p> <p>Course Content:</p> <p>The course covers the application of descriptive and inferential statistical techniques using IBM SPSS Statistics. Topics include data management, descriptive statistics, correlation analysis, hypothesis testing, comparison of group means (t-tests, ANOVA, ANCOVA), non-parametric tests, reliability analysis, and simple regression analysis. Students will gain hands-on experience in data handling, statistical testing, and interpretation of SPSS output. The course includes lectures, computer-based exercises, assignments, and student presentations.</p>				
Textbook(s)	<p>Andy Field, "Discovering Statistics Using IBM SPSS Statistics", Sage Publishing.</p> <p>Darren George and Paul Mallery, "IBM SPSS Statistics 25 Step by Step: A Simple Guide and Reference", Routledge.</p> <p>Nancy L. Leech, Karen C. Barrett and George A. Morgan, "SPSS For Introductory and Intermediate Statistics", Routledge.</p>				
Teaching Methods and Techniques	<p>The course is conducted through interactive lectures and computer-based laboratory sessions. Students actively use IBM SPSS Statistics to perform data management, statistical analysis, and result interpretation. Practical exercises and assignments are designed to reinforce theoretical concepts and enhance analytical skills. Class discussions and student presentations are incorporated to encourage critical thinking, collaboration, and effective communication of data-driven insights.</p>				
Course Learning Outcomes	1	Demonstrate an understanding of the basic concepts and principles of data analysis.			
	2	Manage and prepare datasets using IBM SPSS Statistics, including data entry, transformation, and coding.			
	3	Apply descriptive statistical techniques to summarize and visualize data effectively.			
	4	Conduct correlation and hypothesis tests to examine relationships and differences between variables..			
	5	Use appropriate parametric and non-parametric methods (t-tests, ANOVA, ANCOVA, Chi-square, etc.) to analyze data.			
	6	Interpret and report statistical outputs generated by SPSS in a clear and meaningful way.			
	7	Develop practical data analysis and presentation skills through applied exercises and projects.			
Program Outcomes Contributed by the Course	This course contributes to the following program outcomes of the International Trade and Business program: P1, P2, P5, P7, P8, and P10. Program Outcomes (PO)				
	P1	Understands concepts related to international trade and business and gains the ability to			

		evaluate current developments.
	P2	Designs solutions to problems in this field using the conceptual, practical, and methodological skills acquired in international trade and business.
	P3	Develops new ideas in international trade and business.
	P4	Writes and speaks fluently in English.
	P5	Can convey knowledge and suggestions related to the field to relevant parties both verbally and in writing.
	P6	Has an awareness of ethical issues and understands how business decisions affect those involved in making those decisions.
	P7	Can question the validity of theoretical concepts in international trade and business by analyzing their role in practice.
	P8	Can develop decision-making processes by analyzing the business and financial structure of the international institution in which they are employed.
	P9	Has knowledge of the laws, rules, and ethical codes related to their field of study.
	P10	Can evaluate international trade and business issues in parallel with the globalization process.

Contribution of the Course to Field Instruction
This course makes a significant contribution to the field by equipping students with the practical skills and analytical competence necessary to conduct data-based research. By integrating statistical theory with hands-on applications in IBM SPSS Statistics, students learn how to manage datasets, perform statistical analyses, and interpret empirical results. The course strengthens students' ability to use quantitative evidence in decision-making, report writing, and academic research, thereby enhancing their overall methodological and analytical proficiency within the field.

Topics Covered in the Course	1. Week	Syllabus and Introduction
	2. Week	Introduction to SPSS: An overview of the course is provided, including highlighting how to download the data files and the output files.
	3. Week	Data Management: Create, modify, or compute new variables, manipulate a dataset by splitting, merging, or transposing techniques.
	4. Week	Exploring the data: Generate descriptive statistics for numeric variables, create frequency tables and cross tabulations of categorical variables, graph the distributions or relationships of variables, normal distribution tests and interpret these measures
	5. Week	Associations: Pearson's correlation, Spearman's correlation, Kendall's tau-b, Chi-square test of association
	6. Week	One sample tests: One sample t-test, Chi-square goodness-of-fit test
	7. Week	Differences between groups: Independent Samples t-test, Dependent Samples t-test, Independent Samples t-test, Dependent Samples t-test, One-way ANOVA, Two-way ANOVA
	8. Week	Midterm Week
	9. Week	Differences between groups: One-way ANCOVA, two-way ANCOVA, Mann-Whitney U-test, Wilcoxon signed rank test
	10. Week	Reliability: Cronbach's alpha, Cohen's kappa, Fleiss' kappa, Weighted kappa,
	11. Week	Prediction: Univariate linear regression
	12. Week	Prediction: Univariate linear regression (con't)
	13. Week	Logistic Regression and Estimation Techniques
	14. Week	Reporting and Interpreting Results: Writing statistical findings, creating tables and graphs, discussing implications)
	15. Week	Presentations

Course Evaluation Criteria	In-Term Studies	Quantity	Percentage %
	Mid-terms		%
	Quizzes		%
	Assignments	2	% 40
	Attendance		%
	Practice		%
	Project		%
	Final examination	1	% 60
	Total		100%

Disability Policy	<p>If you have a documented disability (e.g., visual, hearing, or physical impairment, etc.) that may influence your performance in this course, it is recommended to meet with the Engelsiz AYBU (https://aybu.edu.tr/engelsiz/content_list-327-yildirim-beyazit-universitesi-engelsiz-universite-birimi-yonergesi.html) to arrange for reasonable conditions (such as accommodation, etc.) to ensure an equitable opportunity to meet all the requirements of this course. You may also contact the local authority of the Faculty of Humanities and Social Sciences. You should communicate your needs to the course instructor as soon as possible to ensure that any course needs concerning exams, lecture materials, etc. are met.</p>
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