



## AYDIN ADNAN MENDERES UNIVERSITY COURSE INFORMATION FORM

Course Title	Applied Data Analysis								
Course Code	ECON425			Course Level		First Cycle (Bachelor's Degree)			
ECTS Credit	5	Workload	120 (Hours)	Theory	3	Practice	0	Laboratory	0
Objectives of the Course	This course aims to teach students the basic principles and methods of data analysis. Using common software such as Eviews, Stata, Gauss, Python and R, students will be introduced to data preparation, cleaning and basic analyses. Students will develop skills in analysing, interpreting and reporting economic data.								
Course Content	This course focuses on data set preparation. For this purpose, students are taught the processes such as preparation, processing and cleaning of raw data sets to be used in studies involving statistical or econometric analysis. Within the scope of the course, topics such as basic statistical analyses, descriptive statistics, data evaluation with graphs will be covered.								
Work Placement	N/A								
Planned Learning Activities and Teaching Methods	Explanation (Presentation), Demonstration, Individual Study, Problem Solving								
Name of Lecturer(s)	Lec. Ahmet ÜNLÜ								

### Assessment Methods and Criteria

Method	Quantity	Percentage (%)
Midterm Examination	1	40
Final Examination	1	60

### Recommended or Required Reading

1	Yıldırtan, D. Ç. (2010). Eviews Uygulamalı Temel Ekonometri. Türkmen Kitabevi.
2	Satman, M. H. (2018). İstatistik ve Ekonometri Uygulamaları ile R. Türkmen Kitabevi.
3	Atan, S. ve Emekçi, H. (2021). İktisat ve İşletme Uygulamaları için R ile Veri Analizi (İstatistik-Modelleme-Uygulama-Yayınlama). Seçkin Yayıncılık.
4	Güriş, B., Çağlayan, E. ve Güriş, S. (2011). Eviews ile Temel Ekonometri. Ders Yayınları.

### Week Weekly Detailed Course Contents & Teaching Methods

Week	Weekly Detailed Course Contents & Teaching Methods
1	Theoretical Data Analysis, Data types, Data collection. Relationship between Statistics, Econometrics and Data Analysis
2	Theoretical Basic Statistical Concepts, Descriptive Statistics, Data Visualisation Operations
3	Theoretical Menu-Based and Code-Based Softwares: Overview of Eviews, Stata, Gauss, Python, and R.
4	Theoretical Introduction to Eviews
5	Theoretical Data Analysis in Eviews
6	Theoretical Data Analysis in Eviews
7	Theoretical Introduction to Stata
8	Theoretical Data Analysis in Stata
9	Theoretical Converting Data to Matrix Format
10	Theoretical R Programına Giriş
11	Theoretical Introduction to Gauss
12	Theoretical Introduction to Python
13	Theoretical Data Analysis in Python
14	Theoretical Data Visualization in Python

### Workload Calculation

Activity	Quantity	Preparation	Duration	Total Workload
Lecture - Theory	14	3	3	84
Midterm Examination	1	10	3	13
Final Examination	1	20	3	23
Total Workload (Hours)				120
[Total Workload (Hours) / 25*] = ECTS				5

\*25 hour workload is accepted as 1 ECTS



**Learning Outcomes**

1	Students will gain the ability to prepare, clean and analyse data sets using Eviews, Stata, Gauss, Python and R softwares.
2	Students will learn how to visualize data with graphs and calculate descriptive statistics and will be able to interpret their basic outputs.
3	Students will develop the ability to analyse economic data and interpret the results by applying basic econometric methods.
4	Students will gain the ability to sort and interpret data sets.
5	Students will develop skills in analysing data, interpreting results and preparing analysis reports by doing hands-on projects on real data sets.

**Programme Outcomes (Economics)**

1	Understands the fundamental concepts and theories of economics and analyzes economic events within microeconomic and macroeconomic frameworks.
2	Comprehends the historical development of economic theories and applies them to current economic issues.
3	Follows, analyzes, and evaluates international, national, regional and sectoral economic developments within the scope of economic policies.
4	Understands the connections between economics and related disciplines such as law, business, accounting, finance, and sociology for economic analysis.
5	Designs economic research, collects data using qualitative and quantitative methods, conducts analysis, and interprets results.
6	Tests economic theories using econometric methods and derives scientific and policy recommendations.
7	Uses basic computer programs and statistical software to process, visualize, and interpret economic data.
8	Communicates economic concepts and research findings clearly and effectively, both in writing and verbally, to experts and the general public.
9	Has basic level proficiency in English as a foreign language to follow developments in the field .
10	Works independently, takes initiative, and assumes responsibility in team settings.
11	Adopts a lifelong learning approach and continuously develops critical, analytical, and innovative thinking skills.
12	Conducts economic analyses on sustainable development, income equality, and social welfare while adhering to ethical values and demonstrating social responsibility.

**Contribution of Learning Outcomes to Programme Outcomes** 1:Very Low, 2:Low, 3:Medium, 4:High, 5:Very High

	L1	L2	L3	L4	L5
P1	4	4	5	4	5
P2	3	3	4	3	4
P3	3	3	3	3	4
P4	3	3	3	3	3
P5	4	4	5	4	5
P6	5	5	5	5	5
P7	5	5	5	5	5
P8	3	4	4	4	5
P9	2	2	2	2	2
P10	4	4	4	4	5
P11	4	4	5	4	5
P12	4	4	5	4	5

