FACULTY OF ECONOMICS, ADMINISTRATIVE AND SOCIAL SCIENCES
Economics Program

ECONOMETRIC ANALYSIS II - Syllabus Spring 2026 – ABU

1. COURSE

Econometric Analysis II
Credits: 3 (T)
Semester: Spring (2025-2026)
Prerequisites: Statistics I & II, Econometric Analysis I
Classroom: TBA
Date and time: Wednesday ____

2. INSTRUCTOR

- Instructor: Prof. Dr. Nilufer Kahraman
- Email: TBA
- Course web page: https://www.niluferkahraman.com/econometricanalysisii
- Office: TBA
- Office Hours: TBA
- Course assistant: TBA
- Email: TBA

3. CONTENT

Econometric Analysis II deepens students' understanding of econometric methods and their applications in economic research. The course covers advanced topics including panel data models, time series econometrics, instrumental variables, and general methods of moments (GMM). Students will learn how to apply these techniques to complex economic data and conduct empirical research. Emphasis is placed on practical applications and interpretation of econometric results, with the goal of preparing students for real-world economic analysis and further academic research.

4. BOOKS and OTHER MATERIALS

4.1. Textbooks

Heiss, F. (2016). *Using R for introductory econometrics* (pp. 216-217). Düsseldorf, Germany.

Wooldridge, J. M. (2016). *Introductory econometrics a modern approach*. South-Western cengage learning.

4.2. Additional materials

Shumway, R. H., & Stoffer, D. S. (2006). *Time series analysis and its applications: with R examples*. New York, NY: Springer New York.

Kleiber, C., & Zeileis, A. (2008). Applied econometrics with R. Springer Science & Business Media.
* Open source R material on this book: https://hhsievertsen.github.io/applied_econ_with_r/

4.3. Software: R-Studio

- R is an open-source software for statistical computing and graphics. https://www.r-project.org/
- We will be using the RStudio interface. RStudio should be downloaded after R. https://www.rstudio.com/products/RStudio/

4.4. Other materials

https://www.niluferkahraman.com/econometricanalysisii

5. DERS HEDEFLERİ VE BEKLENTİLER

5.1. Upon successful completion of this course, the student will be able to:

- Evaluate and prepare economic data for advanced econometric analysis.
- Apply and interpret multiple linear regression models, including dummy variables and interaction effects.
- Conduct diagnostic tests to evaluate the validity and robustness of regression models.
- Formulate and estimate models for panel data and time series data.
- Identify and correct for issues of endogeneity using Instrumental Variables (IV) and Two-Stage Least Squares (2SLS).
- Interpret and communicate the results of empirical analysis clearly and concisely in the format of a research report.

5.2. Expectations

This course serves as a bridge between econometric theory and applied empirical research. You are expected to not only understand the concepts but also to implement them using R. A significant portion of the course will involve hands-on data analysis. Students are expected to keep up with the assigned readings from Wooldridge and other sources, and to complete weekly problem sets which will involve both theoretical questions and practical R-based exercises. The course culminates in an empirical research project where you will formulate a research question, analyze a dataset, and present your findings.

5.3. Technological Requirements

- To have knowledge of basic computer hardware and be able to use input/output devices
- Basic word processing, spreadsheet, and data presentation skills
- Basic knowledge and skills in Internet usage
- Basic skills in R language.

6. TEACHING AND LEARNING METHODS

6.1. Delivery Methods

In addition to in-class meetings, online discussion and sharing tools will be used in the course.

6.2. Teaching Approach

Active learning strategies are planned to develop students' multifaceted thinking models, creativity, and critical thinking skills. In this course, grading will not be based on memorized information, but rather on the knowledge and applications that students have internalized, made sense of, and structured logically.

6.3. Course Interaction

- Face-to-face interaction in the classroom
- Email
- Website

6.4. Feedback

- Feedback on assignments
- Midterm exam evaluation
- Final exam evaluation
- Project evaluation

7. COURSE POLICIES

7.1. Class Participation: Due to the structure of the course, it is important for students to participate by sharing information and ideas and to complete the computer applications. This type of participation will be considered for bonus points.

7.2. Assignment/Project Submission Procedure: Assignments requested electronically will be sent via email; printed assignments will be submitted in person.

7.3. Make-up Exams: Students who can prove an excuse accepted by the Faculty Administrative Board with the necessary documentation may take a make-up exam on a date to be announced by the department.

7.4. Bonus Points: Active and constructive participation in the course, both in-class and online, beyond the standard course requirements will be considered for bonus points.

7.5. Internet Usage Etiquette (Netiquette):
http://www.meb.gov.tr/duyurular/duyurular/internetEtigi/intEtik.htm

7.6. Attendance: In cases of extraordinary circumstances, the relevant regulations of Antalya Science University will be followed.

8. EVALUATION AND GRADING

Your final grade will be calculated based on the weighted scores from your assignments, midterm exam, and final exam/project. The evaluation methods and grading scale are as follows (Note: This may change according to the regulations to be decided by the ABU).

GRADE	MARKS	GRADE	MARKS
A+	-	C+	60-64
B+	80-84	D+	45-49
B	75-79	D	40-44
B-	65-74	F	0-39

Evaluation Methods*	Description	Percentage	Total
Midterm Assessment	Written Assignment (Portfolio) or Exam	40%	40
Final Assessment	Written Report or Exam	60%	60
Bonus Points	Presentations	Up to 5 pts	
Total Score		100%	100

9. COURSE SCHEDULE

WEEK	TOPICS	Material and assignments
1-2	Introduction and Data Preparation; Review of OLS	**Readings:** Wooldridge Ch. 1-3. **Assignment 1:** R setup.
3	Simple and Multiple Linear Regression	**Readings:** Heiss (2016). **Assignment 2 Due.**
4	Diagnostic Testing for Regression Models	**Readings:** Wooldridge (2016) Ch. 8-9 (Heteroskedasticity).
5	Dummy Variables and Interaction Effects	**Assignment 3 Due.**
6-7	Instrumental Variables (IV) and Two-Stage Least Squares (2SLS)	**Readings:** Wooldridge Ch. 15.
8	Panel Data Models (Fixed & Random Effects)	**Readings:** Wooldridge Ch. 13-14. **Final Project Proposal Due.**
9	Midterm Exam	Covers Weeks 1-8.
10	Time Series Analysis I: Introduction and Stationarity	**Readings:** Shumway & Stoffer (2006); Wooldridge Ch. 10.
11	Time Series Analysis II: ARIMA Models	**Assignment 4 Due.**
12	Cointegration and Error Correction Models	**Readings:** Wooldridge Ch. 18.
13	Generalized Method of Moments (GMM)	Introduction to GMM.
14	Limited Dependent Variable Models	**Readings:** Wooldridge Ch. 17. **Final Project Presentations.**
15	FINALS	**Final Project Report Due.**

** Please note that this schedule is tentative and may be adjusted during the semester; an announcement will be made in the event of any changes.*

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Course Code	Course Name	Course Type	Weekly Course Hours			Credit	ECTS
			T	P	L		
3102	Econometric Analysis II					3	5
Course Year/Semester	2026/Spring						
Prerequisites		**Prerequisite Courses**				Statistics I-II & Econometric Analysis I	
Language of Instruction	English						
Instructor	Prof. Dr. Nilufer Kahraman					**Office Hours**	
E-Mail							
Phone Number						**Office Number**	
Teaching Assistants						**E-Mail**	
Course Description/Objectives:	Econometric Analysis II deepens students' understanding of econometric methods and their applications in economic research. The course covers advanced topics including panel data models, time series econometrics, instrumental variables, and general methods of moments (GMM). Students will learn how to apply these techniques to complex economic data and conduct empirical research. Emphasis is placed on practical applications and interpretation of econometric results, with the goal of preparing students for real-world economic analysis and further academic research.						
	1. Evaluate and prepare economic data for advanced econometric analysis.						
	2. Apply and interpret multiple linear regression models, including dummy variables and interaction effects						

Learning Outcomes	3. Conduct diagnostic tests to evaluate the validity and robustness of regression models.
	4. Formulate and estimate models for panel data and time series data.
	5. Identify and correct for issues of endogeneity using Instrumental Variables (IV) and Two-Stage Least Squares (2SLS).
	6. Interpret and communicate the results of empirical analysis clearly and concisely in the format of a research report.