Syllabus

ECON 311: Introduction to Econometrics

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Koç University, Spring 2026

- **Class:** Tuesdays **and** Thursdays from 11:30-12:40 at SOSB08.
- **Lab sessions:** Tuesdays 17:30-18:40 at SNAB242 **or** Wednesdays 17:30-18:40 at SNAB242.
- **Office hours:** By appointment on Zoom.
  - https://kocun.zoom.us/j/98531307930
  - Meeting ID: 985 3130 7930
  - Passcode: 852077
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Course Description

This is the first undergraduate course in econometrics, which introduces students to the basic tools used in empirical research in economics. The course will introduce linear regression, which is the most widely used tool for a systematic examination of data. A significant emphasis will be placed on the estimation of linear regression parameters, hypothesis testing, and the interpretation of regression results. The following questions are relevant to this course, as economists have been using econometric methods to provide answers to them:

- What is the effect of increasing education on earnings?
- How does mass migration impact employment and earnings of natives in the host country?
- Does increasing police forces in a city reduce crime?
- Does healthcare spending improve health outcomes?
- How do minimum wage regulations impact employment and educational attainment?
- How do drunk driving laws affect traffic fatalities?
- Is the demand for cigarettes (in)elastic?
- Does reducing class size improve elementary school education?
- Is there racial discrimination in the market for home loans?
- By how much will Türkiye's GDP grow next year?

Pre-requisites:

- MATH 201 (Statistics) or its equivalent (MATH 211, ENGR 200, ENGR 201)
- ECON 201 (Intermediate Microeconomics)

Students who got a grade of C− or below in MATH 201 are strongly advised to work independently to make up for any deficiency they have during the first two weeks of the semester.

Course Goals

Upon successful completion of this course, you will be able to (among others):

- build empirical models to explain various economic phenomena,
- develop and estimate linear and non-linear regression models,
- formulate and test hypotheses,
- interpret empirical findings,
- make predictions based on empirical models,
- discuss limitations of various empirical models and possible improvements,
- differentiate correlation from causality,
- use Stata for regression analysis.

The aim of the course is to give you a strong foundation for empirical research in economics. After completing this course, you will be familiar with various tools that applied economists use to answer diverse questions in various fields of economics. Importantly, the methods you will learn on this course will serve as a starting point for serious theory-based empirical research (structural), as well as for research aims at exploring causal relationships (reduced-form). For those students who do not plan to do academic research in the future, the skills that you will develop during this course will help you in non-academic settings (e.g., industry) as well.

Required Reading

The course is based on the following textbook:

- Stock, James H. & Watson, Mark W. (2019), 4th Edition. Introduction to Econometrics. Pearson.

This is one of the best books for an introductory econometrics course. The book has an applied perspective; therefore, will help you understand how econometrics can be used to analyze real world problems. You are required to have this book, either as hard copy (available at the bookstore) or as e-textbook. If you have the previous version of the book (the 3rd edition), that will also work. The best learning strategy would be to closely follow the textbook chapters while we cover the corresponding topics in the lecture. You should read the text and solve the exercises. Moreover, you can benefit from the online materials available at MyLab associated with this textbook. Note that using MyLab is not required.

Assessment and Grading

Your performance in the course will be assessed based on three midterms and a final.

- **Midterms (60%):** There will be two midterms, each having 30% of the overall grade.
- **Final (40%):** The final will be cumulative, with an emphasis on the second half of the course.

The exam dates will be announced during the semester. Note that **there will not be a remedial exam** (see the remedial exam policy below). The following table provides the grade boundaries, which might change depending on the final grade distribution.

>= 90	A+
85 – 89	A
80 – 84	A-
75 – 79	B+
70 – 74	B
65 – 69	B-
60 – 64	C+
55 – 59	C
50 – 54	C-
45 – 49	D+
40 – 44	D
< 40	F

Overview of the Course Schedule

Module 1: Linear Regression with One Regressor (Chapters 4 & 5)

- Midterm 1: Based on the first module.

Module 2: Linear Regression with Multiple Regressors (Chapters 6 & 7)

- Midterm 2: Emphasis on the second module.

Module 3: Nonlinear Regression (Chapter 8)

- Final: Cumulative, with more emphasis on the second and third modules.

Notes:

- Chapters corresponding to each module are the chapters of the textbook, Stock and Watson.
- We will cover parts of Chapters 2 and 3 (Probability and Statistics) as background.
- Each topic builds on the previous one, e.g., you need to learn Module 1 to understand Module 2.
- The exact weekly schedule will be shaped depending on the progress.
- If time permits, we will cover parts of Chapter 9, as well.
- Exam dates will be announced later.
- During problem sessions, you will see Stata applications of the topics we cover in lectures.

Policies

Syllabus & LearnHub: You need to read the syllabus carefully. Note that there might be updates in the syllabus; in that case the updated version will be shared with you on LearnHub. All course materials, including the textbook slides, and problem sets will be posted on LearnHub. Also you will be able to see your exam results on this website. So, please make sure you have access to it.

Office Hours: I will hold office hours on Zoom by appointment (Zoom link details are provided above). If you have any questions regarding the course material, do not hesitate to contact me and attend my office hours. Please send me an email to schedule an appointment by Friday of the previous week. That is, e.g., if you would like to attend my office hour on the 3rd week of the semester, send me an email by Friday of the 2nd week. You need to include your weekly course schedule in the email so that we can find a suitable time.

Communications: I will make announcements on LearnHub and via email. So, again please make sure that you have access to LearnHub, and regularly check your school email address (@ku.edu.tr) listed on the system. If you email me, please include "ECON 311" in the subject; otherwise, I might not answer your email. And please allow me 48 hours to reply to your emails. Note that if your email is about a subject that concerns the entire class, I will make an announcement on LearnHub instead of answering your email. In that case, you will get an answer to your question in the announcement. You will need to have access to Zoom. Although the course is 100% in-person, there might be circumstances that force us to make the classes online. Being prepared for such circumstances in advance will make the logistics much easier.

Attendance: I will not take attendance; it will be your decision whether to attend the lectures or not. The questions in exams will be based on the lectures and lab sessions. So, you would be willing to attend classes to get a better grade. Also, there will be in-class exercises, which will not be posted on LearnHub. If you miss a lecture, I suggest going over the relevant parts of the textbook (if possible, also receive the lecture notes and in-class exercises from a classmate) and come to my office hours if you have any questions.

Missing Exams: The university rules apply. If you have a valid reason (e.g., illness) and you document it within two days after the exam (e.g., medical report), then you will be eligible to take a make-up exam. In the case of a health-related issue that precludes you taking the exam, you need to send the health report to the university health center. You will be eligible to take a make-up exam only if your health report is confirmed by the health center; please do not send your reports to me. I will receive information directly from the health center. For all other issues (e.g. school team's sports competition for an athlete) that cause you miss an exam, you need to contact Student Affairs office (or CASE Dean's Office); they will inform me whether you have a valid excuse and are eligible to take the make-up exam. The make-up exams will be held during the regular make-up exam period, which is after the finals. Make-up exams will be more difficult than regular exams. Note that there is no make-up for a make-up exam. <u>You cannot take the regular or make-up exams earlier or later; so, please make your travel plans accordingly.</u>

Remedial Exam Policy: This course is offered in both Fall and Spring semesters. Therefore, there will not be a remedial exam. If you fail this course during this semester, you will take it again during the next, or you will take the amnesty exam if you are eligible to do so (e.g., in the case of graduation).

Disability-Related Accommodations: If you have any documented disability, please consult the Office of Disability Services first about the necessary accommodation, and then talk to me. I will do my best to meet your accommodation needs in this class.

Student Code of Conduct: Koç University Student Code of Conduct applies to all activities in this class; refer to https://apdd.ku.edu.tr/en/academic-policies/student-code-of-conduct/ for further information.