

**Antalya Bilim University**  
**College of Business, POLS 258/304**

**Quantitative Data Analysis**  
**Spring 2024**

**Class time: Firday 10.00-13.00**  
**Office Hour: Friday 14.00-15.00**

**Cerem I. Cenker Özek**  
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**(A2-70)**

This course is designed to make students familiar with the basics of quantitative data analysis. The course is organized into two main components. The first component presents the main concepts in data analysis and it also provides a brief overview of descriptive statistics. Online data analyses, which utilize quantitative methodology, supplement this component. The second component introduces the students to logic of inference in quantitative data analysis. Hypothesis testing, correlation analysis as well as regression analysis will be covered in this component.

Quantitative Data Analysis course is a hands-on course. Students learn how to utilize STATA for quantitative data analysis via weekly lab sessions. At the end of the course, students are expected to learn how to interpret STATA log files for quantitative analysis. The class materials are designed to make students feel comfortable reading and understanding quantitative research articles at the end of the course.

**Course book:**

The course material will be uploaded to LMS system prior to each week's class. Please make sure to logon the system to access the readings as well as announcements made regarding class.

**Expectations & Requirements:**

- 1) Attendance & Participation (5%):** Attendance is COMPULSORY in this course. Your grade is comprised of both attendance and participation. Students are also expected to actively follow the weekly discussions and participate in STATA sessions. University attendance policy (FX) is applied in this course.
- 2) Mid-term (20%):** Students will have one mid-term exam throughout the semester and it will constitute 20% of the overall grade. Midterm will base on ALL of the course material we will cover until the exam date.
- 3) Quizzes (25%):** There will be six (6) quizzes throughout the semester and they will constitute 25% of the overall grade. The first quiz will be on the fourth week. There will be three quizzes

in total before the midterm, and three quizzes in total after the midterm. Each quiz will base on that week's lecture.

- 4) Final exam (50%):** The final exam will make 50% of the student's overall grade. The final exam questions base on the course material we cover after the midterm exam.

### **Expected Student Conduct in On-line Class Environment**

The expected student conduct during on-line classes includes and not limited to:

- ✓ Coming to class on time and not leaving the class early without prior permission of the instructor.
- ✓ Focusing carefully on the course and avoiding engaging in not-class related activities such as checking e-mails from laptops/cell phones, reading not-class related materials such as newspapers and magazines and checking content from social media.
- ✓ Students are expected to behave mindful about the instructor as well as the fellow students while asking questions and making comments. They should request permission from the instructor before asking a question or making a comment. Also, they should respect other student's right to ask questions/make comments.
- ✓ Students are encouraged to turn off their cell phones during the class time and they should use their laptops only for class-related purposes.

### **Course Schedule**

#### **WEEK 1. (February 12-18) Introduction**

#### **WEEK 2-4. (19 Feb.- 10 March) Quantitative logic and methodology**

Chambliss & Schutt, Chapter 2, 3, 8

Babbie, E. (2014). The Basics of Social Research( 6th edition). Wadsworth, Cengage Learning, 127-162; 436-462.

**Lecture topics:** Basic concepts in research  
Research design  
Ethics in Research  
Conceptualization, Operationalization and Measurement

**Check out at least one of the following web sites:**

Our World in Data <https://ourworldindata.org/>

World Values Survey (WVS) Database, <http://www.worldvaluessurvey.org/wvs.jsp>

International Social Survey Program, <http://www.issp.org/>

**WEEK 5-7. (11-31 March) Descriptive Quantitative Data Analysis**

Rowntree, D. (1981) *Statistics without Tears*, Charles Scribner's sons: New York, Chapters 2,3,4.

Bargagliotti, A. and Franklin, C. (2021) *Statistics and Data Science for Teachers*. American Statistical Association. Unit 1, 3-67.

<https://www.statisticteacher.org/2021/10/21/new-book-statistics-and-data-science-for-teachers/>

**Lecture topics:** Univariate analysis- Distributions, central Tendency and dispersion  
Cross-tabulation table

**WEEK 8. (1-7 April) MIDTERM**

**WEEK 9-12 (8 April-5 May) Inferential Quantitative Data Analysis I**

Philip H. Pollock III, *The Essentials of Political Analysis*, Sage Publications, 2012. Chapters 6-7.

Teiman, D. (2009) *Quantitative Data Analysis: Doing Social Research to Test Ideas*, Jossey-Bass, Chapters 5-6.

**Lecture topics:** Population parameters and sample statistics

Central Limit Theorem and Normal Distribution

Student's t-distribution

STATA user's guide <https://www.stata.com/manuals/u.pdf>

STATA tutorial <https://www.princeton.edu/~otorres/StataTutorial.pdf>

**WEEK 13-14 (6-19 May) Inferential Quantitative Data Analysis II**

Philip H. Pollock III, *The Essentials of Political Analysis*, Sage Publications, 2012. Chapter 8.

**Lecture topics:** Correlation

Bivariate regression

R square

Dummy variable regression

Multivariate regression

STATA user's guide <https://www.stata.com/manuals/u.pdf>

STATA tutorial <https://www.princeton.edu/~otorres/StataTutorial.pdf>