

Seminar in Quantitative Research Methods II
POLS 5302 CRN: 23602

Spring 2023

The University of Texas at El Paso

Mondays 6:00-8:50
403 Liberal Arts (LART)

Dr. Charles Boehmer

Contact Information and Student Hours:

Office 202 Benedict Hall or 343 LART
Telephone: 747-7979 (Benedict Hall), 747-7017 (Dean's Office)
Email address: crboehmer@utep.edu
Website: See Blackboard through MY UTEP portal

Student Hours:

Please feel free to chat with me or come for help on course content on
Wednesdays, 11:30-12:30, or by appointment

Course Overview and Goals

The objective of this course is to deepen students' knowledge about quantitative data management and econometrics. A theoretical understanding of statistics is of limited use to social scientists or other analysts unless combined with an ability to apply such methods to data. Practical analytical skills are useful in many careers, including academia, public administration, business, etc. This course provides such skills. Knowledge useful for this course includes an understanding of research design, univariate statistics, normal distributions, T-tests, Chi², and correlation, although we will review these topics. This course will be taught with an emphasis on application; students will learn how and when to use certain research tools. The focus is on interpretation over mathematical theory. The main goal of this course is to expand

students' analytical tool chests. Here are the basic goals and programmatic outcomes of this course:

1. Students will have working understanding of multiple regression analysis
2. Students will know how to use control variables and interaction terms
3. Students will learn how to diagnose and remedy the problems of autocorrelation, heteroscedasticity, and multicollinearity
4. Students will learn about the problem of missing data and solutions
5. Students will learn the basics of data management and statistical software
6. Students will learn how to apply econometrics in graduate level research projects
7. Students will be introduced to some advanced topics of econometrics, such as count estimators and limited dependent variables

Student Evaluation

Student performance will be evaluated based on various assignments and class participation. The final grade will be based on the following components:

- Midterm Exam: 15%
- Homework Assignments: 25%
- Research Project Paper: 25%
- Final Exam: 25%
- Research Project Presentation: 10%

The Exams: The exams will be in-class and test mastery of the subject matter. The format of the exams will vary and will include some of the following question formats: short-answer, multiple-choice, interpretation of results, short-essay, or practical tests using data and software.

Homework Assignments: These assignments will serve to help provide practical learning of econometrics and data management. Emphasis is on carrying out certain software commands and interpreting results. Students may discuss these assignments with each other, but students must turn in to the instructor individual work, not group efforts and projects (separate log files and answers/interpretations are mandatory). You should also understand that too much reliance on classmates is counter-productive to performance on the exams, although group learning has its benefits.

Research Paper/Report Project: Student performance and learning will be evaluated in the quantitative research project that includes hypothesis-testing and some form of regression estimation analysis. More details will be provided during the semester. However, students may use either their own data or data obtained from existing research projects. Data used for examples in the course cannot be used for student papers. The final paper will include the following sections: an introduction, a literature

review, at least one hypothesis explained theoretically, research design, results section, conclusion, and a references. Look at journal articles as examples.

Research Project Presentation: Students will make a formal research presentation of their research paper. The presentation will be 20 minutes long and then be followed by a question and answer (Q&A) session for 10 minutes. Attire should be professional. A PPT slide presentation is required and handouts of empirical results or other content (paper or electronic) is suggested, especially if tables of statistical results are hard to read on the screen due to small print.

Software: Lecture or instruction provided by the instructor will use the statistical software STATA. The reason for using this software is that it has become popular in certain research circles such as political science, economics, and the health sciences (especially epidemiology). Learning multiple statistical software platforms is a professional asset. UTEP provides this software to students. Please see the following website:

https://www.utep.edu/technologysupport/ServiceCatalog/SOFTWARE_PAGES/soft_stat_a.html

Dishonesty and Unethical Behavior: Plagiarism and Cheating

Students typically engage in plagiarism out of duress and trying to find ways of short-cutting on work, out of ignorance about proper citation, or due to some differences across cultures in standards. For our purposes, plagiarism is the use of other people's words, songs, ideas, images, or even sentence/paragraph structure without documentation or their consent. Students must provide citation for passages in the text that are borrowed or inspired by other peoples' works. Please use either APA or APSA style guidelines for in-text citations, reference sections, and structuring papers. It is not hard to avoid plagiarizing -- if you use a quote from an author, acknowledge it in a footnote; if you paraphrase or summarize an argument, cite the source from where you obtained the idea. Often parenthetical citations are useful for this purpose. For example, one might write "One compelling reason why governments do what they do is that all people have goals, and they work to achieve those goals through political behavior. (Lowi, Ginsberg, and Shepsle 2002, p.14)", and then include the work in a bibliography or reference section at the end of your paper.

If you use facts or figures from a source and they are not common knowledge, cite the source of the information. Copying and pasting in text from websites or other electronic documents is unacceptable unless you provide a reference, and even then, this may be a stylistic problem. If you directly borrow sentences, or even clauses or sentence fragments, these should be set-off in quotation marks and include a reference to the original source. If you are inspired to borrow the style, organization, or ideas of other person's work, you will still need to provide references to specific passages and bibliographical information. Most citation of material should be through paraphrasing, which is fine again as long as you note the source in the text. It is unacceptable to include multiple paragraphs or long passages not set off as block quotes and then provide a single reference of the original source at the end. The goal of writing is to use primarily your own words and ideas. Other people's words should be used in quotations as examples or evidence. Student plagiarism it is often obvious to the instructor.

UTEP takes steps through the web and in University classes to inform students about plagiarism. Thus, it is your responsibility to be educated about this topic. I join the University in taking plagiarism very seriously. If caught plagiarizing, I will report you for college review and possible discipline. Similarly, all other forms of cheating are also dishonest and will not be acceptable.

Other Course Expectations and Policies

Graduate education often requires a higher level of organization and commitment. Students are expected to attend every class session and turn in assignments on time. The penalty for late work will be twenty points deducted per day, unless there are important circumstances that need to be taken into account. Additionally, all papers and assignments need to be professional, meaning word-processed with standard citation and writing styles (one can review the APSA or APA guidelines), including page numbers, the use of headings/subheadings, etc. Additionally, the instructor will evaluate requests for an incomplete grade or course withdrawal (after deadline) on a case-by-case basis but will generally be unwilling to grant such without some valid reason relating to the disruption of studies by forces not readily controllable by the student. The student must document emergencies such as deaths in the family or illness.

Disabilities and Accommodations

If you have a disability and need classroom accommodations, please contact The Center for Accommodations and Support Services (CASS) at 747-5148, or by email to cass@utep.edu, or visit their office located in UTEP Union East, Room 106. For additional information, please visit the CASS [website](#). *CASS' Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.* The Student is responsible for presenting to the instructor any CASS accommodation letters and instructions before arrangements need to be made for exams, quizzes, or other needs. However, even without a formal accommodation, please share with me ideas about how to make aspects of the course accessible and easier to navigate.

Diversity statement

We will value diversity, equity, and inclusion in our course by respecting each other and our differences and unique perspectives. We will treat each other with respect and kindness. The instructor values your opinions and perspective on how the course may be improved and increase respect for all of us. Our differences are educational and by understanding each other, and learning how we can help each other, we gain a richer educational and cultural experience.

Resources for Life and Success

Succeeding in our studies and academic work becomes difficult if we have unfulfilled needs. If you have any needs concerning food security or similar needs, please either notify the instructor or otherwise check out the services provided by UTEP's Student Affairs studentaffairs@utep.edu, such as the Food Pantry

<https://www.utep.edu/student-affairs/foodpantry/> or other emergency services
<https://www.utep.edu/student-affairs/dean-of-students-office/emergencyaid/index.html>. If you feel you need help handling stress and other personal issues, please see UTEP's Counseling Center <https://www.utep.edu/student-affairs/counsel/index.html>. For health concerns, see <https://www.utep.edu/chs/shc/>.

Course Readings and Other Helpful Resources

- Gujarati, Damodar, and Dawn C. Porter. *Basic Econometrics*. 6th or 5th Edition (2009). McGraw Hill. (Note, you may use an earlier edition, such as 4th). I do not own the 6th edition, so we may need to compare textbooks if we have different versions. This book has been ordered through the bookstore for the 6th edition, but feel free to obtain cheaper versions, such as the 5th edition used copies.
- Sage green book monographs that can be accessed for free at [SAGE Research Methods Online \(SRMO\)](#)
- Other journal articles included on course calendar, most of which should be accessible through the UTEP library electronic databases or provided by the instructor

Optional but highly recommended, especially for those intending to master this material and go on to future statistical methods courses

- Baum, Christopher F. 2006. *An Introduction to Modern Econometrics Using Stata*. College Station, TX: Stata Press.
- Acock, Alan C. 2006. *A Gentle Introduction to Stata*. College Station, TX: Stata Press.
- Cox, Nicholas J., and H. Joseph Newton. 2014. *One Hundred Nineteen Stata Tips*, 3rd edition. College Station, TX: Stata Press.

Course Calendar

Week 1 (January 23): Introduction to class, variables and level of analysis, review of basic statistics, sampling, normal distributions/central tendency

- Review PPT lecture slides presented as review or introduction to content usually covered in POLS 5300
- Review Syllabus

Week 2 (January 30): Correlation Interpretation, Bivariate Regression Assumptions and Estimations

- SAGE Research Methods Online (SRMO,) Lewis-Beck & Lewis Beck Chapter 1
- Gujarati and Porter, Chapters 1 & 2
- Review research paper guidelines

Week 3 (February 6): Return to Regression Assumptions and Inferential Hypothesis Testing

- SAGE Research Methods Online (SRMO), Lewis-Beck & Lewis-Beck Chapter 2
- Gujarati and Porter, Chapters 3, 4 & 5

Week 4 (February 13): Multiple Regression

- Lewis-Beck & Lewis-Beck Chapter 3 (up to page 55 and pp. 83-86)
- Gujarati and Porter, Chapters 7 & 8
- SAGE Research Methods Online (SRMO), William D. Berry & Stanley Feldman, Multiple Regression in Practice chapter: The Multiple Regression Model: A Review

Week 5 (February 20): Interaction Terms, Dummy Variables, and Nonlinearity – Estimation and Interpretation

- SAGE Research Methods Online (SRMO), Lewis-Beck & Lewis-Beck (pp. 64-73 and pp.83-96)
- Gujarati and Porter, Chapter 9 and 13 (pp. 467-496, but skim after p. 487)
- Brambor, Clark, and Golder (2006) *Political Analysis*. Available at <http://pan.oxfordjournals.org/content/14/1/63.full>
- “On Economic Development and War.”, manuscript (Rafael Reuveny and Charles Boehmer)

Week 6 (February 27): Data Management and Missing Data

- SAGE Research Methods Online (SRMO), Paul D. Allison, 2002, Missing Data, (especially the sections of Introduction, Assumptions, Conventional Methods, Nonignorable Missing Data, and Conclusion <https://methods-sagepub-com.utep.idm.oclc.org/book/missing-data?fromsearch=true>)
- Gujarati and Porter, Chapter 13 (pp. 499-500)
- Boehmer, Jungblut, and Stoll, 2011 “Tradeoffs in Trade Data: Do Our Assumptions Affect Our Results?” *Conflict Management and Peace Science* (I will post a PDF of this paper)
- Due date for declaration of Research Project Topic

Week 7 (March 6): Midterm Examination

Week 8 (March 20): Multicollinearity and Research Paper Structure

- Lewis-Beck & Lewis-Beck (pp. 75-83)
- Gujarati and Porter, Chapter 10
- Writing Research Papers, and review of research paper guidelines

Week 9 (March 27): Heteroscedasticity

- William D. Berry & Stanley Feldman, Multiple Regression in Practice [SAGE Research Methods Online \(SRMO\), Heteroscedasticity and Autocorrelation](#)
- Gujarati and Porter, Chapter 11

Week 10 (April 3): Research Design Types

- Gujarati and Porter, Introduction to the 5th edition, also review notes from your previous quantitative statistics class(es)

Week 11 (April 10): Autocorrelation

- Gujarati and Porter, Chapter 12
- William D. Berry & Stanley Feldman, Multiple Regression in Practice [SAGE Research Methods Online \(SRMO\), Heteroscedasticity and Autocorrelation](#)

Week 12 (April 17): Panel Data

- Gujarati and Porter, Chapter 16
- Beck, Nathaniel, and Jonathan N. Katz. "What to Do (and Not to Do) with Time-Series—Cross-Section Data," *American Political Science Review*, Vol. 89 (1995), pp. 634-647. Available on JSTOR
- Review research paper guidelines

Week 13 (April 24): Limited and Count Dependent Variables

- Gujarati and Porter, Chapter 15 (skim discussion of Tobit models)

Read at least the sections discussing research design and the empirical results of the articles below, and take note about how the articles are structured

- Boehmer, Charles. 2010. "Economic Growth and Violent International Conflict: 1875-1999." *Defense and Peace Economics* Vol. 21 (3): 249–268.
- Boehmer, Charles, and Sergio Peña. 2012. "The Determinants of Open and Closed Borders". *Journal of Borderland Studies* 27 (3): 273-285.
- Boehmer, Charles. 2007. "The Effects of Economic Crisis, Domestic Discord, and State Efficacy on the Decision to Initiate Interstate Conflict" *Politics and Policy* 35 (4) December: 774-809.
- Boehmer, Charles, and Mark Daube. 2013. "The Curvilinear Effects of Economic Development on Domestic Terrorism." *Peace Economics, Peace Science and Public Policy* 19 (3): 359-368.

Week 14 (May 1): Research Presentations

Due date for Research Papers, at the start of class. Students submit papers through Safe Assign in Blackboard.

FINAL EXAM (IN CLASS on May 8, (7:00 to 9:45)