

POLS 5302 – SEMINAR IN QUANTITATIVE RESEARCH

METHODS II

Spring 2023

The University of Texas at El Paso

Mondays 6:00-8:50

Room: 405 Liberal Arts (LART)

INSTRUCTOR: Dr. Jazmin Quezada

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Office Hours Benedict Hall rm.106: Wednesdays 900-1100 or by appointment

COURSE DESCRIPTION

This course aims to enhance students' proficiency in quantitative data management and econometrics, recognizing that a theoretical grasp of statistics becomes truly valuable when paired with the ability to apply these methods to real-world data. The practical analytical skills cultivated in this course are universally beneficial across diverse career paths, including academia, public administration, business, and more. It assumes a foundational knowledge of research design and univariate statistics. Delving into advanced quantitative analysis and hypothesis testing, the curriculum covers a spectrum of topics, encompassing data management, various regression estimation methods, diagnostic techniques, and more. Emphasizing practical application, the course centers on OLS regression, Gauss-Markov assumptions, diagnostic tools, experimental methods, and maximum likelihood estimation techniques. The primary focus is on the interpretation of concepts rather than delving into intricate mathematical theories.

Throughout the course, students will actively engage in analyzing various forms of quantitative data, culminating in the completion of an original, conference-worthy research paper. The emphasis on application extends to teaching students when and how to deploy specific research tools, fostering a skill set applicable to real-world scenarios.

Prerequisite: POLS 5300 or equivalent course with a minimum grade of "B" or better.

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: 20%
- Homework Assignments: 15%

- Research Project Paper: 30%
- Final Exam: 20%
- Research Project Presentation: 15%

The grading scale is as follows:

- 90-100	A
- 80-89	B
- 70-79	C
- 60-69	D
- 59 and below	F

LEARNING OBJECTIVES

Over the course of the semester students will have:

- An understanding of how to generate research questions and appropriate research designs, research techniques, data collection, measurement/operationalization, and data analysis.
- Learned to execute appropriate, advanced statistical analysis (including using statistical software).
- Developed their ability to digest and critically/analytically evaluate political science and social science research.
- Developed professional research writing capacity.
- Produced a conference-level research paper of the original design.
- Learned approaches to policy analysis and program evaluation.
- Developed proficiency in OLS and MLE methods.

REQUIRED READING

- Gujarati, Damodar N., and Dawn C. Porter. 2009. *Basic Econometrics*. McGraw- Hill. (Any edition.)

UTEP EDGE

This course encompasses activities associated with UTEP EDGE, including (1) problem-solving and (2) critical thinking through class discussion, applied methodological homework, and research experience. This course enables and requires (3) research and scholarly activity, as well as (4) creativity in that assignments challenge students to think in innovative ways to produce original arguments and evaluate problems. (5) communication is emphasized through the completion of the original research paper, where conveying and explaining the theoretical arguments, methodologies, and quantitative results are crucial.

The Exams : The exams will be in-class and test mastery of the subject matter. The exam format will be diverse, incorporating various question types to comprehensively evaluate understanding.

Students can expect to encounter the following question formats for exams and **homework**:

1. **Short-answer questions**: Assessing a concise and specific understanding of key concepts.
2. **Multiple-choice questions**: Evaluating knowledge across a range of topics with multiple response options.
3. **Interpretation of results**: Testing the ability to analyze and draw meaningful conclusions from data outputs.
4. **Short-essay questions**: Encouraging a more in-depth exploration of specific topics or concepts.
5. **Practical tests using data and software**: Assessing the application of theoretical knowledge to real-world scenarios, requiring hands-on manipulation of data and software tools.

This varied approach to examination ensures a well-rounded evaluation of students' capabilities, encompassing theoretical comprehension, analytical skills, and practical application. It also aligns with the course's emphasis on practical skills and the ability to apply econometric methods to real-world situations. Students should be prepared for a dynamic assessment experience that reflects the multifaceted nature of the skills developed throughout the course.

Homework Assignments: These assignments are designed to facilitate hands-on learning in the areas of econometrics and data management. The primary focus is on executing specific software commands and comprehending the resulting outcomes. While collaborative discussions among students are encouraged, each student must submit individual work to the instructor. Group efforts and projects are not permissible, and students must provide separate log files along with their answers and interpretations.

It is essential to recognize that excessive reliance on classmates can hinder performance on exams. Although collaborative learning has its advantages, an overdependence on peers may be counterproductive during examinations. Therefore, striking a balance between collaborative learning and individual understanding is crucial for optimal performance.

Research Paper/Project Slides: Student progress and comprehension will be assessed through a quantitative research project, incorporating hypothesis testing and regression estimation analysis. Additional information about the project will be shared throughout the semester. Students have the flexibility to utilize their own data or data from existing research projects. However, it's important to note that the data showcased in course examples cannot be used for student papers. The final paper should encompass sections to journal articles, comprising an introduction,

literature review, at least one theoretically explained hypothesis, research design, results, conclusion, and references.

Research Project Presentation: Students will make a formal research presentation of their research paper. The presentation will be 25 minutes long and then be followed by a question and answer (Q&A) session for 5 minutes. Attire should be professional. A PowerPoint (latex) 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.

Computer Software

-We will use R in combination with RStudio. R is a programming language highly popular among statisticians and social scientists. Its biggest advantages are being free and flexibility. Traditionally, the biggest complaint about R is that it is user-unfriendly, but thanks to RStudio, this is no longer true.

You need to install **both** R and RStudio Desktop (preferably the latest versions) on your computer. R can be downloaded at <https://cran.r-project.org/src/base/R-3/>. RStudio Desktop can be downloaded at <https://www.rstudio.com/products/rstudio/download/#download>.

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 if 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 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/>.

CIVILITY AND RESPECT

Civility in the classroom and respect for the opinions of others is very important in an academic environment. It is likely you may not agree with everything which is said or discussed in the classroom, but courteous behavior and responses are expected. Our campus community reflects and is a part of a society comprising all races, genders, ethnicities, creeds, sexualities, and social circumstances. It is fundamental to our mission to create an unbiased community and to oppose vigorously any form of racism, religious intolerance, sexism, ageism, homophobia, heterosexism, and discrimination against those with disabling conditions. During discussions and in assignments, students must show an awareness of diverse

audiences, which means that ALL identity groups (genders, sexualities, gender identities, races, ethnicities, colors, nationalities, creeds, religions, socioeconomic classes, etc.) must be discussed with respect. Any comments that reveal intolerance of any (majority or minority) identity group are unacceptable; that is, statements or arguments that are rooted in any identity group being less than (less valuable, less human, less dignified, less good, etc.) than another identity group are illogical and offensive. Nonproductive and/or offensive comments will be diplomatically addressed and used as a learning tool for the class; however, a student who fails to treat others respectfully will be dismissed from the course after one formal warning.

COVID STUDENT RESPONSIBILITIES

You must STAY AT HOME and REPORT if you (a) have been diagnosed with COVID19, (b) are experiencing COVID-19 symptoms, or (c) have had recent contact with a person who has received a positive coronavirus test. Reports should be made at screening.utep.edu. If you know anyone who should report any of these three criteria, encourage them to report. If the individual cannot report, you can report on their behalf by sending an email to COVIDaction@utep.edu.

- Complete self-screening (screening.utep.edu) prior to every campus visit.
- Complete COVID-19 student training at [this site](#).
- Contact instructor if temporary accommodations due to COVID-19 are needed (i.e., due to positive COVID-19 test, symptoms, or exposure).
- If unable to wear a face covering (e.g., medical reasons), the best course of action is to enroll in courses that are entirely online or to work with academic advisors, if necessary, to identify alternative courses. If this is not possible, request an accommodation from [Center for Accommodations and Support Services \(CASS\)](#) prior to coming to campus for in-person activities. Students who receive an accommodation to

not wear a face covering must share this with the professor and work to minimize contact with others in the class.

COURSE SCHEDULE

The following is a list of topics to be covered at each class meeting, and the readings, which should be completed in order to fully participate in class that day. You are required to read the material prior to the class. *Literature not included in the textbook but listed on syllabus are the responsibility of students to locate (online) and read.* Academic articles can often be found via the UTEP library's website under the "Articles and Database" tab, where you can search repositories like JSTOR and Sage as well as individual journal titles. Otherwise, will be provided to you.

While I give specific days on which certain topics will be discussed, the calendar is subject to change. Any alterations to the course schedule will be clearly announced. As a general rule, the course will follow this order of topics, regardless of date changes, unless otherwise announced. *Readings due* and *Watch* are homework assignments due prior to class that day.

Week 1 (January 15- 19)

Introduction: Causal Inference and Theory

Reading due: Introduction, Chapter 1- HW: #1.4,1.2 due(01/26/24) 10pm

*Additional readings: Bratton, Kathleen A., and Kerry L. Haynie. 1999. "Agenda Setting and Legislative Success in State Legislatures: The Effects of Gender and Race," *The Journal of Politics* 61 (3): 658-679.*

"<https://www-jstor-org.utep.idm.oclc.org/stable/2647822?sid=primo>"

Article Outline (of the above article) Due Friday, Jan. 29th by 10 pm:

- 1) What is the research question(s)?
- 2) Summarize the theory.
- 3) Identify the hypotheses.
- 4) What is the research design?
- 5) Identify the methods employed?
- 6) Do the results confirm hypotheses or not?
- 7) What is the contribution(s) of this article?

Watch:

Hypothesis Testing: https://youtu.be/oEd-35_-c-w?si=eSwMEIJVZ7rQVPhr

https://youtu.be/mUKqItFRiU0?si=YMuQ_U230YWDW401

https://youtu.be/93n-Au_FOKI?si=u3KSioSMbw5XCeEc

<https://youtu.be/BWxUCt9Ppno?si=z81cppI5yZ9JVK4p>

Difference of Means

<https://www.youtube.com/watch?v=uUQ-yEp1nhQ>

Week 2 (January 22-26)

OLS Regression *Reading due: Chapters 2, H.W. #2.5, 2.10, 2.12 Due: Jan. 29th 10 pm and*

Lowell Barrington, "Russian-speakers in Ukraine and Kazakhstan: 'Nationality,' 'Population,' or Neither?" Post-Soviet Affairs, vol. 17, no. 2 (April-June 2001): 129-158- Identify the hypotheses. Due: Jan 26th

Finding a Research Question *Watch: Research Puzzles -Be thinking of your research project for the final project; due Feb. 9th 10 pm.*

- <https://www.youtube.com/watch?v=gVD9zsrGG48>

Sampling

- https://youtu.be/d1FxFwFQZS0?si=NGiY3y_Lh0vXcf-6

- https://youtu.be/tJkrCY9QYWc?si=CMqqV5yj-0_PHMd-

Normal Distributions, Central Limit Theorem

- <https://www.youtube.com/watch?v=rzFX5NWojp0>

Confident Intervals, Standard Error, P-value

- <https://youtu.be/BWxUCt9Ppno?si=gf7r-JTCkmunSjyj>
- <https://youtu.be/z3ule2gFwkA?si=SJ2tG83L2Q6kdHZj>

- <https://youtu.be/ukcFrzt6cHk?si=aq9-HHe93MsXPD0H>

Week 3 (January 29th – February 2nd)

Regression: Dummy and interaction terms - *Reading due: Chapters 3-4 and*

Ray, James Lee. 2003 “Explaining Interstate Conflict and War: What Should Be Controlled For?” *Conflict Management and Peace Science* 20 (2): 1- 31. (Due Feb. 2nd 10pm)

- ***Research Question/project due Friday, Feb 12th by 10 pm (Due date for declaration of Research Project Topic)***

HW. Ch3. #3.1, 3.2, 3.17, 3.21(Due Feb. 2nd 10pm)

Week 4 (February 5th -9th)

Confidence Intervals - *Reading due: Chapters 5-6, and:*

Clarke, Kevin. 2005. “The Phantom Menace: Omitted Variable Bias in Econometric Research.” *Conflict Management and Peace Science* 22 (Winter): 341- 352.

HW: Ch5. #5.2, 5.5, 5.20, Ch6. #6.2, 6.14 - DUE: Feb. 20th 11pm

Week 5 (February 12th – 16th)

Reading due: Chapters 7. HW: #7.20 - DUE: Feb. 16th 11pm and

Mitchell, Sara McLaughlin, Jonathan J. Ring, and Mary K. Spellman. 2013. "Domestic Legal Traditions and States' Human Rights Practices." *Journal of Peace Research* 50 (2): 203-217.->

Write: *Theory and Hypotheses due Friday, Feb. 16th by 11 pm*

Article Outline (of the above article)

- 1) What is the research question(s)?
- 2) Summarize the theory.
- 3) Identify the hypotheses.
- 4) What is the research design?
- 5) Identify the methods employed?
- 6) Do the results confirm hypotheses or not?
- 7) What is the contribution(s) of this article?

Experimental Designs

Watch: https://www.youtube.com/watch?v=pCC5-s0_p9M

<https://www.youtube.com/watch?v=exrrMLib3oI>

<https://www.youtube.com/watch?v=urgTfIXsUIM>

<https://www.youtube.com/watch?v=jUbv637ktYs>

<https://www.youtube.com/watch?v=BoyHLpDudXc>

Week 6 (February 19th – 23rd) NO CLASS

Binary Dependent Variables: Logit and Probit Models - *Reading due: Chapters 8-10*

HW: #8.5, 8.10, 9.4, 9.12, 1

0.3, 10.32. *DUE: Feb. 23rd 10 pm*

Week 7 (February 26th – March 1st)

Event Count and Duration Models - Reading due: Chapters 11-13 and additional reading->
HW: #11.2, 11.20, 12.25 DUE: March 1st 11pm

ABSTRACT of research project Due: March 4th 11 pm.

Bell, Sam, Patricia Blocksome, Kevin Brown, and Amanda Murdie. 2017. "Help or Hindrance? The Role of Humanitarian Military Interventions in Human Security NGO Operations." International Political Science Review. -> Write: Theory and Hypotheses- breakdown paper: Due- Friday, March 4th 11 pm (Identify the causal relationship being examined in the article. In other words, the first task in the analysis of a statistical results table is to identify the outcome (dependent) variable(s) and the explanatory (independent) variables.)

Week 8 (March 4th -8th)

Reading due: Chapters 14-15 and additional reading->

Simmons, Beth. 2009. "Civil Rights in International Law: Compliance with Aspects of the 'International Bill of Rights'." *Indiana Journal of Global Legal Studies* 16 (2): 437-481. – Write Analysis - breakdown paper: Due- Friday, March 8th 11 pm

Week 9 (March 11th -15th)

Panel Data - Reading due: Chapters 16 HW: #16.1, 16.9, 16.13 Due: March 15th 10 pm and;

Achen, Christopher. 2000. "Why Lagged Dependent Variables Can Suppress the Explanatory Power of Other Independent Variables." Paper for APSA annual meeting. – (Identify the causal relationship being examined in the article. In other words, the first task in the analysis of a statistical results table is to identify the outcome (dependent) variable(s) and the explanatory (independent) variables.). Due: Monday 16th 10pm

Week 10 (March 18th -22nd) SPRING BREAK ENJOY! -Take home exam due March 25th beginning of class.

Autoregressive Models

Reading due: Chapter 17,18 : HW: #14.8, 15.3, 15.4, 15.17, 16.14 – Due April 1st 10pm and

- Market Civilization and Its Clash with Terror; Michael Mousseau, *International Security*, Vol. 27, No. 3 (Winter, 2002-2003), pp. 5-29 : Write *Theory and Hypotheses: Due 4/1.11pm*

Week 11 (March 25th – April 1st) Time Series

Reading due: Chapter 21, 22 HW. #21.16 ,21.17and;

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 – Write: (Identify the causal relationship being examined in the article. In other words, the first task in the analysis of a statistical results table is to identify the outcome (dependent) variable(s) and the explanatory (independent) variables.). Due: April 8th 11 pm

Week 12 (April 8th – 12th)

Methods of Policy Analysis and Program Evaluation - *Comprehension Questions #2, #3 due Friday, April 12th, by 10 pm*

Final Project Slide Presentations (4 Per class)

Week 13 (April 15th -19th)

Methods of Policy Analysis and Program Evaluation

Comprehension Questions #7 due Friday, April 19th, by 7 pm

Final Project Slide Presentations (4 Per class)

Week 14 (April 22nd – 26th)

Methods of Policy Analysis and Program Evaluation

Practice Questions #4 due Friday, April 26^t, by 7pm

Final Project Slide Presentations (4 Per class)

Week 15 (April 29th – May 3rd)

Final Makeup Day (For project) – All Project slides due April 29th 11 pm

Research Paper due at 5 pm March 6th

Week 16 (May 6th -10th)

*Final Exam May 6th ~ **In Class***

Components/Organization of a Research Paper

1) Introduction

a. Usually one or two paragraphs long and includes the research question and why this question is important/ worthy of study

2) Theory (and Literature Review)

1. Roughly half of your paper, depending on your theoretical argument and its complexity
2. Offer your theory and causal mechanism(s) as the main narrative, while **synthesizing** existing literature to bolster your claims, provide examples, and put your theory into context
3. Includes your causal mechanisms and your hypotheses

3) Data and Methods

4. Usually a page or two, discusses what sample data you have selected, its sources, and why this data is appropriate
5. Includes the geographic and temporal limits of data (eg. United States presidential elections from 1960-2016)

6. Discuss the operationalization of your dependent variable (i.e. tie our concept to your variable in the data and how coded, any descriptive statistics)
 - i. What is the variables
 - ii. How is this variable most appropriate for this project
 - iii. How is the variable coded
 - iv. Where does this data come from
7. Discuss the operationalizations for each of your independent variables and controls—usually a paragraph each, including each of the aspects above
8. Identify what type of analysis you are running and justify it (i.e. why is that specification the most appropriate)

4) Results

9. Includes tables and figures of your results, along with substantive interpretations of the results as text and in the form of predicted probabilities or marginal effects for all statistically significant variables
10. Identify the extent to which your hypotheses are supported or not

5) Conclusions

11. Summarize the substantive meaning of this project's results and place within larger context
12. Identify the limitations of the project
13. Where should research go from here

6) References

- a. APSA style, alphabetized

How to Read and Evaluate Research (Quick Tips)

- 1) What is the research question?
- 2) What is the theoretical argument and/or thesis?
- 3) What is the dependent variable?
- 4) What are the main independent variables?
- 5) Do the variables match the theory? Are they appropriate? Do they measure what

the authors claim?

- 6) What data is utilized and is it appropriate?
- 7) Did the authors include all relevant variables and exclude irrelevant variables?
Are there confounding variables? Are there omitted variables?
- 8) What method of analysis was employed? Qualitative or quantitative? Is this method appropriate for the research question?
- 9) What are the results? How strong are these results?
- 10) What are the limitations of the theory, methods, and results?
- 11) How generalizable are the results?
- 12) How persuasive is the article? Why?

Comprehension Questions #2: Experimental Designs

- 1) In as much detail as possible, explain the benefits and limitations of experimental research designs.
- 2) Identify and explain the common statistical methods associated with experimental designs. How do you know which method to employ?
- 3) What assumptions are required in order to use experiments?
- 4) If those assumptions are violated, what are your alternatives? (Identify the assumptions and each alternative and explain why that alternative remedies the violations.)
- 5) Explain analyses of variance.

Comprehension Questions #3: Logit and Probit

- 1) In as much detail as possible, explain what is a logit model.
- 2) Under what conditions is a logit model appropriate to use? Why?
- 3) What assumptions are required in order to use a logit model?
- 4) If those assumptions are violated, what are your alternatives? (Identify the assumptions and each alternative and explain why that alternative remedies the violations.)
- 5) Under what conditions should you run a probit model?
- 6) What is the difference between a logit and probit model?

Comprehension Questions #4: Event Count and Duration Models

- 1) In as much detail as possible, explain what is an event count model.
- 2) Under what conditions is poisson model appropriate to use? Why?
- 3) What assumptions are required in order to use a poisson model?
- 4) If those assumptions are violated, what are your alternatives to a poisson model? (Identify the assumptions and each alternative and explain why that alternative remedies the violations.)
- 5) Under what conditions should you run a negative binomial model?
- 6) What is the difference between a poisson and negative binomial model?

7) In as much detail as possible, explain what is an event history (or duration/survival) model.

- 8) Under what conditions is survival model appropriate to use? Why?
- 9) What assumptions are required in order to use a survival model?

- 10) If those assumptions are violated, what are your alternatives to a survival model? (Identify the assumptions and each alternative and explain why that alternative remedies the violations.)
- 11) What are the different types of survival models? How do you know which one to use?
- 12) Explain and define what a censored observation is.

Comprehension Questions #7: Time Series Models

- 1) In as much detail as possible, explain what are time series models.
- 2) Under what conditions is an ARIMA model appropriate to use? Why?
- 3) What assumptions are required in order to use an ARIMA model?
- 4) Under what conditions is an error correction model appropriate to use? Why?
- 5) What assumptions are required in order to use an error correction model?
- 6) Under what conditions is an ARCH model appropriate to use? Why?
- 7) What assumptions are required in order to use an ARCH model?
- 8) Under what conditions is a vector autoregression (VAR) model appropriate to use? Why?
- 9) What assumptions are required in order to use a vector autoregression (VAR) model?
- 10) Discuss the differences and pros/cons of each of these four times series models.

Research Paper Grading Rubric

	Below Expectations	Acceptable	Exceeds expectations	Score
Research Question	Author did not develop a suitable research question. Research question is either undeveloped and/or not clearly stated. 0 points	Author developed a suitable research question. Research question is fairly well developed and articulated. 3 points	Author developed an interesting and unique research question that is appropriate for a research paper. Research question is well developed and clearly articulated. 5 points	____/5
Theoretical Argument	Paper lacks a clear theoretical argument and/or lacks clearly stated hypothesis 0 points	Paper has fairly well developed theoretical argument and to some extent has clearly stated hypothesis 8 points	Paper has a clear, well-organized, well- specified theoretical argument and has clearly stated hypothesis 15points	____/15
Literature rcited	Paper lacks a review of the literature and/or the literature reviewed is not clearly related to research question 0 points	Paper has fairly well-developed literature review on relevant research 3 points	Review of literature clearly synthesizes existing research within the theoretical framework 5 points	____/5
Data	Data is insufficient or incorrect for research question and/or absent 0 points	Data includes minor errors in cleaning, citation, completeness, or appropriateness and/or is not clearly described prior to analysis 3 points	Data is complete, appropriate, cited, and cleaned for analysis and clearly described prior to analysis 5 points	____/5
Research Design and Methods	Research design and methodology is not appropriate to evaluate research question and data and/or design is not correctly executed 0 points	Research design and methodology is somewhat appropriate for research question and data and/or design is fairly well-executed 8 points	Research design and methodology is clearly appropriate and well-justified for the research question and data and design is well-executed and replicable 15 points	____/15

Statistical Analysis	Author fails to include appropriate statistical analysis and/or analysis	Statistical analysis is fairly well-executed with	Statistical analysis is well-executed, complete, and clearly explained/justified, and replicable	____/15
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	is incorrectly executed or incomplete 0 points	minor mistakes and/or omissions 8 points	15 points	
Graphs and Tables	Paper lacks appropriate figures and tables and/or they are unclear, not labeled, or incomplete 0 points	Figures and tables are mostly clear and complete, with minor errors or omissions 5 points	Figures and tables are professional, clear, labeled, complete, and appropriate depictions of data and results 10 points	____/10
Interpretation of Results	Author fails to include results and/or fails to correctly interpret results 0 points	Interpretation of results include minor errors or omissions and/or are unclear 5 points	Author correctly and clearly interprets all relevant results in an organized, consistent manner 10 points	____/10
Diagnostic Tests and Limitations	Author fails to include diagnostic tests and/or such diagnostic tests are incorrect or inappropriate and/or fails to discuss the limitations of the paper 0 points	Author includes some diagnostic tests with few errors or omissions and/or provides only superficial discussion of the limitations of the paper 3 points	Author includes all necessary, correctly executed diagnostic tests and presents the results of each and offers insightful and complete discussion of limitations of the paper 5 points	____/5
References	Author fails to include appropriate references 0 points	Author includes some references but is incomplete or inappropriate 3 points	Author includes complete, formatted references 5 points	____/5
Writing Clarity	Paper lacks organization and clarity and/or includes several spelling and grammatical mistakes and typos 0 points	Paper is somewhat organized and/or includes some minor spelling and grammatical mistakes or typos 5 points	Paper is well- organized and clearly written and lack spelling and grammatical errors and typos 10 points	____/10

<Title page optional>

I. Introduction (page 1)

Research Paper Outline

Discusses your research question, why this question is important, and any background information that is necessary to understand the question; will be relatively short section

II. Theory (page 2)

1. Explicitly explains how your independent variable affects your dependent variable; includes the story of how the causal mechanism works between your variables, under what conditions, for whom, etc.
2. Uses previous research (often referred as literature reviews) to help develop your arguments. Previous literature is used to supplement (NOT replace) your arguments to show how your theory fits within existing knowledge and offers examples and evidence to bolster your claims. You need to explain and justify everything—nothing speaks for itself.
3. Ends with hypothesis (or multiple hypotheses) that are single sentence summaries of what you expect to see in the actual data/results. The hypothesis is the predicted observation based upon your theory.

- The hypothesis tells me what you should see in the real world if your theory is true. Your theory tells me why this outcome should be predicted and how these causal mechanisms work in detail.

This is the bulk of your paper! This will be the longest section (of writing), and you want to have a developed theory where I can see each step of how your independent variable affects your dependent variable. Like a recipe, your theory needs to take me step by step. This is the section that is most important for your grade since it reflects your understanding of material and your thinking like a scientist.

III. Data and Methods

1. Identifies data source and the geographic and temporal limits of data (eg. United States presidential elections from 1960-2016 or cross-country analysis from 1980-2008)
2. Discuss the operationalization of your dependent variable (i.e. tie our concept to your variable in the data and how coded, any descriptive statistics)
 - i. What are the variables?
 - ii. How is this variable most appropriate for this project?
 - iii. How are each of your variables coded?
 - iv. Where does this data come from?
3. Discuss the operationalizations for each of your independent variables and

controls—usually a paragraph each, including each of the aspects above

- Include descriptive statistics for each variable

- Eg: What type of variable is each of your variables (continuous, categorical, binary, etc.)? Identify the minimum and maximum for each variable. How many observations does each variable have?

Results

What are the appropriate descriptive statistics for each variable and provide these values for each variable?

- Mean, mode, or median
- Variance or standard deviation
 - Identify what type of analysis you are running and justify it (i.e., why is that specification the most appropriate)

1. Includes tables and figures (i.e., graphs) of your results, along with substantive interpretations of the results as text and in the form of predicted probabilities or marginal effects for all statistically significant variables

1. All tables and figures must be discussed in the text as well to explain what they show. Nothing “speaks for itself.”

2. Identify the extent to which your hypotheses are supported or not
3. Include diagnostic tests at the end of the section, and discuss these results

and their implications on your results. (You can include a separate Diagnostic section, if you prefer.)

Conclusions

1. Summarize the substantive meaning of this project’s results and place within larger context
2. Identify the limitations of the project
3. Where should research go from here?

<References>

APSA Style Guide

For full style manual see <https://connect.apsanet.org/stylemanual/wp-content/uploads/sites/43/2018/11/Style-Manual-for-Political-Science-2018.pdf>

In-text Citations

These are parenthetical portions, usually at the end of sentences, that provide the immediate source of the information used in the sentence. Citations are required for direct quotations,

paraphrasing, and facts or opinions not generally known or easily checked. The citations refer the reader to the full source information in the reference list at the end of the manuscript, and are therefore an essential aspect of a manuscript.

APSA employ the *author-date* style preferred by many in the physical, natural, and social sciences. For example: (Smith 2002) or (Smith 2002, 148). See more examples below.

Each parenthetical citation **must** have a matching source that appears in the reference list at the end of the manuscript, including the citations found in endnotes and in the source notes of tables and figures.

Template: (author last name(s) <space> publication year) (author last name(s) <space> publication year, page number)

Examples: (Arena 2014) (Durant n.d.) *where n.d. means “no date”

Page numbers must be included for quotes, and should be included to point to specific data sets, ideas, or to avoid ambiguity. The numbers should point to a specifically contextual page or range of pages. The page numbers can be cited as either inclusive or nonconsecutive page numbers.

(Jentleson 2015, 12–14) (Fraser 2017, 227)

With two or three authors, cite all names each time. Use *and*, not an ampersand (&). (Dodd and Oppenheimer 1977) (Roberts, Smith, and Haptonstahl 2016)

When four or more authors are cited, *et al.* should follow the first author’s last name, even in the first reference, unless the author is in multiple references where the *et al.* would not be the same, in which case use the first and second author’s last names before *et al.* (and so on) or a shortened title in quotes preceded by a comma.

(Angel et al. 1986)

When multiple sources are cited together, they are included in the same parentheses, but separated by semicolons. They should be alphabetized.

(Hochschild 2015; Jentleson 2015)

(Hauck 2000; Hauck and Vogelsong 2005; Hauck, Smith, and Vogelsong 2010; Jordan et al. 1999, 56–58; Walthall 2012)

Citations of multiple sources by the same author, but published in different years, can omit the name with the second source and beyond.

(Barbarosa 1973; 1978) (Barbarosa 1973, 18; 1978, 32)

If two or more sources are published by the same author in the same year, add lowercase letters to the publication year. To determine how to label the sources with the letters, alphabetize them by title.

(Frankly 1957a, 1957b)

A parenthetical citation to a statute or court case should include the name of the case (in italics except for v.) or statute and the year.

(*Baker v. Carr* 1962)

References

The References section is the same as a Works Cited or Bibliography section at the end of the manuscript.

All references should be alphabetized by author last name. Single-authored sources precede multi-authored sources beginning with the same last name. Multi-authored sources with the same name (first and last) of the first author should continue to be alphabetized by the second author's first name. When a source cannot be alphabetized by the author's name, alphabetize it by (in descending order): year (oldest to newest), editor's name, title, or descriptive phrase. When alphabetizing by article title, an initial article is ignored. Undated or forthcoming books follow all dated works.

All sources included in in-text citations should also appear in the References.

Each part of a reference is separated by a period, except when otherwise indicated. Each part begins with a capital letter unless it is a lowercase part of an author's, editor's, or translator's name. The general format is:

author last name, author first name. year of publication. "Title of article or chapter." *Book or Journal Title* Volume (issue number): page number range.

If the source was published by an organization, association, or corporation and does not carry an author's name, the organization is listed as the author, even if it is also the publisher.

When no author is associated with a source, but an editor(s) or translator(s) is, those names take the place of the author's name. The abbreviations *ed.* or *eds.*, or *trans.* follows the name(s), preceded by a comma.

If the source does not have an author, editor, translator, organization, association, or corporation that sponsored it, the title should be used in place of the name.

When the year of publication cannot be located, *n.d.* must take its place. When the publication is forthcoming (that is, not yet published), the term *forthcoming* takes the place of the year.

Examples

Journal examples

Aldrich, John H. 1980. "A Dynamic Model of Presidential Nomination Campaigns." *American Political Science Review* 74 (3): 651–69.

Chambers, Simone. 2018. "Against Democracy. By Jason Brennan." Review of *Against Democracy*, Jason Brennan. *Perspectives on Politics* 16 (2): 503–5. doi: 10.1017/S153759271800066X.

Prufer, Olaf. 1964. "The Hopewell Cult." *Scientific American*, December 13–15. *Book Chapter examples*

Halchin, L. Elaine. 2001. "And This Parent Went to Market: Education as Public Versus Private Good." In *School Choice in the Real World*, eds. Robert Maranto, Scott Milliman, Frederick Hess and April Gresham, 39–57. Boulder, CO: Westview.

Halchin, L. Elaine. 2001. "And This Parent Went to Market: Education as Public Versus Private Good." Chap. 1 in *School Choice in the Real World*, eds. Robert Maranto, Scott Milliman, Frederick Hess and April Gresham. Boulder, CO: Westview.

Hall, Peter Dobkin. 2006. "A Historical Overview of Philanthropy, Voluntary Associations, and Nonprofit Organizations in the United States, 1600–2000." In *The Nonprofit Sector: A Research Handbook*, 2nd edition, eds. W. W. Powell and R. Steinberg, 32–65. New Haven, CT: Yale University Press.

Hermann, Margaret G. 1984. "Personality and Foreign Policy Decision Making: A Study of Fifty-Three Heads of Government." In *Foreign Policy Decision Making*, eds. Donald A. Sylvan and Steve Chan, 133–52. New York: Praeger.

Book examples

Davidson, Roger H., Walter J. Oleszek, Frances E. Lee, and Eric Schickler. 2016. *Congress and Its Members*, 14th edition. Washington, DC: CQ Press.

Website/Blog/Social Media example

Sides, John. 2008. "Who Will Win the Nominations?" *The Monkey Cage* [blog], January

3. http://themonkeycage.org/2008/01/who_will_win_the_nominations/.

Dissertation or thesis example

Munger, Frank J. 1955. "Two-Party Politics in the State of Indiana." PhD diss. [or Master's thesis.] Harvard University.

Conference paper (unpublished) example

Mefford, Dwain, and Brian Ripley. 1987. "The Cognitive Foundation of Regime Theory." Paper presented at the Annual Meeting of the American Political Science Association, Chicago.