

POLS 5302 – SEMINAR IN QUANTITATIVE RESEARCH
METHODS II
(ALSO PAD 5365)

Online Course

Non-mandatory class meetings: Wednesdays 1:30 pm and Thursdays 10:30 am

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| INSTRUCTOR: | Dr. Rebecca A. Reid |
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| OFFICE HOURS: | By appointment |

LAND ACKNOWLEDGMENT

We, the UTEP Department of Political Science, acknowledge that we are in the unceded territories of the Indigenous Peoples who, along with countless generations of ancestors, are the guardians and keepers of this land, both throughout history and more contemporary times: the Tigua, Mansos, Sumas, Ndé, the Piros, Mescalero Apache, Chiricahua Apache, Tarahumara, Yaqui, Jumano, Comanche, Kiowa, Rarámuri, Tohono O’odham, Yaqui, Kickapoo, Diné, Hopi, Zapotec, Mixtec, Aztec-Nahua-Mexica, Huichol, Tepehuan, Coahuilteco, Chichimeca, and the other Native communities who comprise our multinational region. As scholars and people who reside and work in these lands, we respect and honor the millennia-long history of Native peoples on this land and their ongoing presence today.

COURSE DESCRIPTION

This course further explores methods of quantitative analysis and hypothesis testing, including data management, various regression estimation methods, diagnostic techniques, and other topics. In this class, students will learn how to analyze a variety of quantitative data and are expected to complete an original, conference-worthy research paper. We will focus upon OLS regression, Gauss-Markov assumptions, diagnostic tools, experimental methods, maximum likelihood estimation techniques, and public policy and program evaluation methods.

We will be working primarily with STATA, although students may use R upon personal preference.

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

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.

LEARNING OUTCOMES

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 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.)

RECOMMENDED READING

- Acock, Alan C. 2016. *A Gentle Introduction to Stata*. Fifth Edition. Stata Press.

COURSE REQUIREMENTS AND GRADING

Evaluation in this course will be based on the following components:

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|-------------------------|-----|
| Comprehension Questions | 15% |
| Practice Questions | 15% |
| Research Sections | 10% |
| Exam | 15% |
| Final Exam | 20% |
| Final Research Paper | 25% |

The grading scale is as follows:

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

Comprehension Questions

Comprehension Questions are a short series of questions that evaluate student comprehension of class material. These assignments thus allow the instructor to evaluate and remedy any confusion in a timely manner. Students are evaluated by the completion and quality of effort of the assignment. Incorrect answers are not penalized as these assignments are designed to assess understanding of the material. Answers should be in student's own words. If outside references or resources are used, then please cite these sources in the assignment.

Practice Questions

Practice Questions are performance-based assessments that go beyond basic comprehension by asking students to apply their knowledge and skills to new scenarios. As such, these assignments evaluate student performance via application to real-world and simulated problems. These assignments can include essay or short answer questions, and may include statistical analysis questions. Students are evaluated by the completion and quality of effort of the assignment. Incorrect answers are not penalized as these assignments are designed to assess adequate application of course themes. If outside references or resources are used, then please cite these sources in the assignment.

Research Paper

Due on the last day of class (May 6th), students must submit an 10-20 page research paper of original design. Students should have a research question explicitly identified, why this question is important, a developed theory, hypotheses, data identification and sampling procedure, variable operationalization for all variables, appropriate methodology (ie. OLS statistical analysis), results and diagnostics, and conclusion. References and in-text citations (APSA style) must be included. References are not counted towards the page limitations. (See end of syllabus for outline template and the APSA style guide.) This paper will be evaluated on clarity and specification of the research question and theoretical argument, the synthesis of the literature review, the appropriateness of the research design and methods, the quality of the statistical analysis, the proper interpretation of results, the presence and quality of diagnostic analyses, and writing clarity (such as appropriate organization, sentence syntax, spelling, and grammar). I welcome the submission of drafts to me prior to the deadline for revisions and feedback.

Research Sections

Research Sections are the sections that generate students' final research papers. These sections ensure the timely completion of the final paper and allow students to receive feedback on each section prior to their final submission of their research paper. These assignments are graded by the completion and quality of effort of the assignment. Because each section builds upon previous sections (i.e., Research Question, Theory, Hypotheses, Research Design, Data and Methods, Results, Diagnostics, Conclusions), I recommend that each section submitted is appended to previous sections. In other words, when the Data and Methods section is due, the entire document including Research Question, Theory, Hypotheses, Research Design, and Data and Methods (i.e., the whole paper thus far) is submitted. While I will only evaluate the Data and Methods section officially (for that section grade), submitting the entire document will ensure that I am aware of changes in previous sections that may impact the newly drafted section. In this manner, I can provide more effective, holistic feedback and monitor progress to diagnose any problems in a timely fashion.

Exams

Exams are take-home exams that are **cumulative** and will cover material learned in the class lectures, assignments, discussion, and the assigned readings. Students may use whatever resources they need to complete the assignments. However, these sources must be cited and included in the references for each exam. Each exam must be typed and either emailed to me. Plagiarized work and collusion will receive a failing grade (see Academic Dishonesty below). Each exam must be completed individually. These exams will include academic performance assessments via comprehension and application questions, and may or may not include questions similar to previous assignments (such as comprehension questions and practice questions).

As a general rule, **make up exams will NOT be offered**; although make up exams will be permitted only under the gravest of circumstances, and I reserve the right to determine whether a make up exam is offered to individuals based upon their situation and timely request. I reserve the right to alter the questions for make up exams.

SPECIAL ACCOMODATIONS

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 at www.sa.utep.edu/cass. CASS' Staff are the only individuals who can validate and if need be, authorize accommodations for students with disabilities.

ACADEMIC DISHONESTY

Absolutely no form of academic dishonesty will be tolerated. The University of Texas at El Paso prides itself on its standards of academic excellence. In all matters of intellectual pursuit, UTEP faculty and students must strive to achieve excellence based on the quality of work produced by the individual. In the classroom and in all other academic activities, students are expected to uphold the highest standards of academic

integrity. Any form of scholastic dishonesty is an affront to the pursuit of knowledge and jeopardizes the quality of the degree awarded to all graduates of UTEP. It is imperative, therefore, that the members of this academic community understand the regulations pertaining to academic integrity and that all faculty insist on adherence to these standards.

Any student who commits an act of scholastic dishonesty is subject to discipline. Scholastic dishonesty includes, but is not limited to, cheating, plagiarism, collusion, the submission for credit of any work or materials that are attributable in whole or in part to another person, taking an examination for another person, and any act designed to give unfair advantage to a student or the attempt to commit such acts. Proven violations of the detailed regulations, as printed in the Handbook of Operating Procedures (HOP) and available in the Office of the Dean of Students and the homepage of The Dean of Students at www.utep.edu/dos, may result in sanctions ranging from disciplinary probation, to failing a grade on the work in question, to a failing grade in the course, to suspension or dismissal, among others.

UNIVERSITY WRITING CENTER

The University Writing Center is a useful tool each of student should take advantage of in for all written/paper assignments. While not required, your paper will be improved following a consultation with the staff. The staff sees students through appointments or walk-ins, though appointments are preferred. For more information, go to: <http://uwc.utep.edu/index.php/hours-location>. For appropriate assignments, **I offer up to 10 points extra credit** if you consult the writing center. In order to be eligible for this credit, you must show evidence of your consultation and evidence of the revisions suggested and those you made. You must also provide a reflection as to what you learned from the experience (for instance, what types of errors do you systematically make and how can you correct them). Hence, credit will only be possible with adequate evidence and thoughtful reflection of the writing and revision process.

COUNSELING AND PSYCHOLOGICAL SERVICES

The center, located at 202 Union West, offers confidential counseling services in English or in Spanish. They also provide group and individual counseling for currently enrolled UTEP students. For more information, go to: <https://www.utep.edu/student-affairs/counsel/>.

ADELANTE CHILD DEVELOPMENT CENTER

Child care is available for children of all students of the University. The Adelante Child Development Center is located at 314 W. Schuster and is managed and operated by Adelante Childcare, Inc. Children aged three months to 12 years are accepted, depending on space availability (Hourly, daily and weekly care are available and the Center offers a Summer Camp for school-age children). Age-appropriate early childhood developmental programs are offered in the curriculum. The Adelante Child Development Center is licensed by the Texas Department of Protective and Regulatory Services. Financial assistance is available for qualifying parents through Child Care Services. For more

information, please call: **915-532-1114** or contact: studentaffairs.utep.edu/childcare. If, for any reason, you cannot find a care-taker for your child(ren), you are welcome to bring them to class.

GENERAL EXPECTATIONS

I expect all students to behave professionally in this class. You will be held responsible for all material covered in the textbooks, articles, videos, and the class discussions. If you miss a class, you are still responsible for the content of that day's information. I will not tolerate disruptive behavior, including (but not limited to) inappropriate computer use, reading newspapers, talking during lectures, using cell phones or pagers, and disrespecting classmates or the instructor. Additionally, I expect all students to attend class prepared and to show up on time. It is disrespectful to the instructor and the other students when individuals show up late or are not prepared to participate in the class discussion. I allow the use of laptops for class purposes only; however, should laptop usage become disruptive, I reserve the right to prohibit laptops and other electronic devices.

This class is designed to provide information and challenge students with new, and sometimes controversial, ideas and arguments. This class is designed to be a safe, open environment to express ideas, arguments, and opinions for learning purposes. However, safe does not always mean comfortable. This class does not *give* you knowledge—i.e., knowledge and understanding is not transfused to students by simply sitting in class. Learning is an interactive process, requiring engagement with the material. Assignments are designed to assist you in learning processes, which consist of understanding material, remembering material, and being able to clearly (and correctly) communicate that material. Learning also entails developing your own insights, and applying them to better your own livelihood and authentic self.

As a general policy, I do not offer incompletes, and **I will not change final grades for the course under any circumstances**, with the single exception of where an error occurred on my part.

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.

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 19- 22)

Introduction: Causal Inference and Theory

Reading due: Introduction, Chapter 1
Review Supplemental Materials (in Blackboard)

Watch:

Hypothesis Testing

<https://www.youtube.com/watch?v=mUKqItFRiU0>

https://www.youtube.com/watch?v=93n-Au_FOKI&t=3s

<https://www.youtube.com/watch?v=BWxUCt9Ppno&t=475s>

Difference of Means

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

Week 2
(January 25- 29)

OLS Regression

Reading due: Chapters 2-4, and:

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.

Article Outline (of above article) Due Friday, Jan 29th by 7 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?

Week 3
(February 1- 5)

Regression: Dummy and interaction terms

Reading due: Chapters 5-9, and:

Ray, James Lee. 2003 "Explaining Interstate Conflict and War: What Should Be Controlled For?" *Conflict Management and Peace Science* 20 (2): 1- 31.

Research Question due Friday, Feb 5th by 7 pm

Week 4
(February 8- 12)

OLS Regression: Assumptions and Diagnostics

Reading due: Chapters 10-13, and:

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

Comprehension Questions #1 due Friday, Feb 12th by 7 pm:

Week 5
(February 15- 19)

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>

Comprehension Questions #2 due Friday, Feb 19th by 7 pm
Practice Questions #1 due Friday, Feb 19th by 7 pm

Week 6
(February 22- 26)

Binary Dependent Variables: Logit and Probit Models

Reading due: Chapters 14-15, 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.

Theory and Hypotheses due Friday, Feb 19th by 7 pm

Week 7
(March 1-5)

Event Count and Duration Models

Reading due: Chapter 15 (pg. 576-590), and:

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*. TBA.

Comprehension Questions #3 due Friday, March 5th, by 7 pm
Practice Questions #2 due Friday, March 5th, by 7 pm

Week 8
(March 8- 12)

Panel Data

Reading due: Chapter 16, and:

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.

Take Home Exam 1 due Friday, March 12th, by 7 pm

March 15- 19

Spring Break

Week 9
(March 22- 25)

Autoregressive Models

Reading due: Chapter 17, and:

Achen, Christopher. 2000. "Why Lagged Dependent Variables Can Suppress the Explanatory Power of Other Independent Variables." Paper for APSA annual meeting.

Comprehension Questions #4 due Friday, March 25th, by 7 pm

Practice Questions #3 due Friday, March 25th, by 7 pm

Week 10
(March 29- April 1)

Time Series

Reading due: Chapter 21, 22

Comprehension Questions #5 due Friday, April 1st, by 7 pm

Data and Methods Section due Friday, April 1st, by 7 pm

Week 11
(April 5- 9)

Time Series

Reading due:

Enders, Walter, and Todd Sandler. 1993. "The Effectiveness of Antiterrorism Policies: A Vector-Autoregression-Intervention Analysis." *American Political Science Review* 87 (December): 829- 844.

Comprehension Questions #6 due Friday, April 9th, by 7 pm

Week 12
(April 12-16)

Methods of Policy Analysis and Program Evaluation
Comprehension Questions #7 due Friday, April 16th, by 7 pm

Week 13
(April 19- 23)

Methods of Policy Analysis and Program Evaluation
Comprehension Questions #8 due Friday, April 16th, by 7 pm

Week 14
(April 26- 30)

Methods of Policy Analysis and Program Evaluation
Practice Questions #4 due Friday, April 30th, by 7pm

Week 15
(May 3- 6)

Putting it all together
Conclusion and Review

Research Paper due March 6th

Take Home Final Exam Due May 11th by 7 pm

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)

- a. Roughly half of your paper, depending on your theoretical argument and its complexity
- b. 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
- c. Includes your causal mechanisms and your hypotheses

3) Data and Methods

- a. Usually a page or two, discusses what sample data you have selected, its sources, and why this data is appropriate
- b. Includes the geographic and temporal limits of data (eg. United States presidential elections from 1960-2016)
- c. 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
- d. Discuss the operationalizations for each of your independent variables and controls—usually a paragraph each, including each of the aspects above
- e. Identify what type of analysis you are running and justify it (i.e. why is that specification the most appropriate)

4) Results

- a. 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
- b. Identify the extent to which your hypotheses are supported or not

5) Conclusions

- a. Summarize the substantive meaning of this project's results and place within larger context
- b. Identify the limitations of the project
- c. 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?

Practice Questions #1: OLS

Download the ANES data (1990-2000) and codebook (available on Blackboard an online), and complete the following tasks.

1. Isolate the dataset so that the only years included are 1990-2000.
2. Appropriate “clean” the data to ensure that missing values are correctly coded, discrete variables set to 0, etc. Describe which variables you ‘cleaned’ and the final coding for these variables.
3. Examine the influences on the liberal-conservative feeling thermometer (vcf0801), using the following independent variables:
 - Age group (vcf0102)
 - Gender (vcf0104)
 - Race (vcf0105)
 - Religion (vcf0128)
 - Education (vcf0140)
 - Party identification (vcf0301)
4. Describe your data using cross-tabulations, summary statistics, and/or graphs (whichever is appropriate) of the independent variables and the dependent variable. What conclusions can you draw about the appropriate model specification?
5. Estimate an OLS regression model and report the results in appropriate table format (i.e. do not just include STATA output). Explain the substantive conclusions from the regression.
6. Perform the appropriate diagnostic tests, and explain the conclusions you draw from these tests. Is your model properly specified? If not, what additional steps are necessary (apart from developing a better theory) to improve the model?

Write up your results (no longer than 7-8 pages).

Practice Questions #2: Logit

Using the ANES Cumulative Dataset 1948-2000 (and accompanying codebook) downloaded previously, complete the following tasks.

1. Isolate the dataset so that only the years 1990-2000 are included.
2. Examine influences on the presidential vote for each respondent (vcf0704a), using ALL of the following independent variables: Age Group (vcf0102), Gender (vcf0104), Race (vcf0105), Religion (vcf0128), Education (vcf0140), Ideology (vcf0803) and Party Identification (vcf0301).
3. Estimate a logit model (including any preliminary steps necessary for a sound analysis) and report the results in appropriate table format (i.e., do not just include STATA output). Explain the substantive conclusions from the model.

Calculate the marginal effects for ALL of the variables, report these effects in an appropriate table format and provide a substantive interpretation of the coefficients.

4. Perform the appropriate goodness-of-fit and diagnostic tests (including a residual plot), and explain the conclusions you draw from these tests. Is your model properly specified? If not, what additional steps are necessary (apart from developing a better theory) to improve the model?

Write up your results (no longer than 7-8 pages).

Practice Questions #3: Model Specification

Using the dataset you have acquired for your research paper, complete the following tasks.

1. Identify the appropriate dependent variable and independent variables. Describe each variable appropriately.
2. Do you include any control variables or autoregressive (lagged) variables? Should you? What are the implications?
3. What kind of data do you have? (Cross-sectional, longitudinal, panel). How do you know?
4. Based upon your data, dependent variable, and theory, what kind of model is appropriate? Explain how you know.
5. What are the appropriate diagnostic tests for this model, and why?

Write up your results (no longer than 7-8 pages).

Practice Questions #4: Policy and Program Evaluation

1. The Sunshine After-School Program runs 20 after-school programs at 20 different sites. Each year, Sunshine contracts an evaluator to assess its program using a rubric based on youth development principles and to produce a report based on evaluation findings. These evaluations are required for Sunshine to receive its funding, and investors use these findings to make decisions on sustaining the programs. One year, Sunshine wanted the evaluator to conduct a youth focus groups at each of the 20 sites as part of the evaluation. At one site, the focus group took longer than the planned 30 minutes because four of the six students extensively described their dislike of one of the staff members at the site. They said that the staff member was rude to the m, did not teach or manage groups well, and did not come prepared for the after-school programming. They also said, however, that they appreciated all the other staff. In fact, at the 19 other sites visited, participants had glowing comments about staff. What do you think the evaluator should do? Explain why.
 - a. Put the students' quotes about the one staff member in the report—the funders should know!
 - b. Schedule a conference call with the specific after-school program's site director to report what the students said, without revealing their identities.
 - c. Email Sunshine's executive director as soon as possible, saying you want to meet with them to discuss some critiques you hear and how to include them in the report, if at all.
 - d. Keep the students' negative perceptions about the staff member to yourself.
2. Increased concerns about homeless populations have been expressed by city council. The local government has decided to launch a program to provide these people basic medical services and food supplies (offered at these medical sites). How would you monitor the effect of such a program, especially in light of the transient nature of this population?
3. The local government is initiating a shift from municipally-provided ambulance services to a privately-provided service, based upon the results of a policy analysis. Assume that the analysis was correctly conducted. Design an approach to monitor and evaluate the impact of the policy. Include in this design at least a specification of the variables to be observed, an identification of the ways in which changes will be measured, and a statement of the decision rules that will be used to draw a conclusion. Develop a timeline that displays the steps in the process and the responsibilities of the actors involved.
4. Assume you are the director of an electricity service provider in a seven-county region. You fear that the newly-scheduled evaluation will generate negative results, potentially resulting in the loss of your contracts to competing providers. You decide to do your best to thwart the evaluation. What could you do to invalidate the evaluation? Discuss as many actions as you can, fully explaining each.

Comprehension Questions #1: OLS

- 1) In as much detail as possible, explain what is an OLS model.
- 2) Under what conditions is an OLS model appropriate to use? Why?
- 3) What assumptions are required in order to use an OLS 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) How does OLS differ from difference of means tests? How do you know which to use?

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?
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- 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 #5: Panel Data

- 1) In as much detail as possible, explain what is panel data and panel regression models.
 - 2) Under what conditions is a fixed effect model appropriate to use? Why?
 - 3) What assumptions are required in order to use a fixed effect 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 random effects model?
 - 6) What is the difference between a fixed effect and random effect model?
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- 7) What is a hierarchical or multilevel model?
 - 8) Under what conditions is a multilevel model appropriate to use? Why?
 - 9) What assumptions are required in order to use a multilevel model?

Comprehension Questions #6: Autoregressive Models

- 1) In as much detail as possible, explain what are autoregressive models.
- 2) Under what conditions is are autoregressive models appropriate to use? Why?
- 3) Explain how each type of autoregressive model incorporates effects of time.
- 4) Explain why autoregressive models cannot be modeled through regular OLS.
- 5) Explain the difference between stationary and non-stationary. Why must data always be non-stationary in order to run analyses?
- 6) If a time series is non-stationary, how can it be made to be stationary?

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.

Comprehension Questions #8: Methods of Policy Analysis and Program Evaluation

1. Identify the steps in the policy analysis process. Briefly explain each of the six main steps.
2. How does policy analysis differ from the research process learned previously (such as that related to your research paper)?
3. What is forecasting, and what is its role in policy analysis?
4. Explain spatial modeling or spatial analysis.
5. How do you establish evaluation criteria? Give examples as appropriate.
6. What are the methods to evaluating alternative policies?
7. What are the methods to evaluate implemented policies and programs? Briefly explain each method and when it is appropriate to use.
8. What is program evaluation?
9. Explain the embedded evaluation approach. What are the five main steps in the embedded evaluation framework?

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 is incorrectly executed or incomplete 0 points | Statistical analysis is fairly well-executed with minor mistakes and/or omissions 8 points | Statistical analysis is well-executed, complete, and clearly explained/justified, and replicable 15 points | ____/15 |
| 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 |

Research Paper Outline

<Title page optional>

I. Introduction (page 1)

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?

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)

Results

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.