PSCI 3075: Applied Political Science Research

University of Colorado Boulder

Spring 2022

Time:	MWF, 10:10AM-11:00AM MST
Location:	Eaton Humanities 1B80

Instructor:	Hannah L. Paul
Institution:	University of Colorado Boulder
Email:	hannah.paul@colorado.edu
Office Hours:	Monday & Wednesday noon-1:00PM or by appointment
Office Hours Link:	Link: https://cuboulder.zoom.us/j/95752361546
	Passcode: 483569

Methods Lab Coordinator:	Adriana Molina Garzon
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Appointment Scheduler:	https://calendly.com/adriana-molinagarzon/30min?month=2022-01

1   Course Overview

Why do some people turn out to vote, while others do not? Why do some countries go to war, while others do not? What explains increases in party polarization? These are examples of the types of questions that political scientists address in their research. Political scientists use a variety of methods to study to politics. This course introduces students to the types of research design and quantitative methodology used in political science research. Applied Political Science Research (PSCI 3075) directly builds on Quantitative Research Methods (PSCI 2075). In this course, students will gain conceptual and experiential knowledge on how to design a political science research project and implement it. We will cover topics such as theory building, hypothesis testing, measuring concepts, and evaluating causal relationships. The purpose of this course is to teach students how to use data and statistics to address political science questions like those listed above.

Course Goals: By the end of the course, students should have an understanding of how:

- To understand the major research designs used to study political phenomena.

- To apply a conceptual understanding of research design by producing an original research paper that uses quantitative methodology to address a social science research question.

- To describe quantitative information, like a table of regression results or a predicted probabilities plot, to a person without training in quantitative research methods.

Learning how to design and implement a research design that uses quantitative methods requires you to flex two muscles: 1- a conceptual understanding of research design and statistics, and 2- the ability the apply those concepts using tools like a statistical software, such as R. To successfully meet the course goals, you will have to develop an understanding of research methods *and* the ability to apply those concepts through conducting an original research paper that uses quantitative research methods.

Prerequisites: Completion of PSCI 2075 (Quantitative Research Methods) is required to take this course. A basic understanding of R and RStudio, as taught in PSCI 2075, is essential for participation in PSCI 3075. We will spend time reviewing the basics of R and RStudio at the beginning of the semester as we will use this software for some parts of the class.

Readings: Students have one required textbook for the course. Any additional required readings will be posted to Canvas. Students, who would like support with R and R Studio, are highly encouraged to obtain a copy of the R Companion text used in PSCI 2075. For most weeks, I will include suggested readings in this text.

- **Required** Kellstedt, Paul M. and Guy D. Whitten. 2018. *The Fundamentals of Political Science Research, 3rd Edition.* Cambridge University Press. ISBN: 9781316642672

- **Optional** Pollock III, Philip H. and Barry C. Edwards. 2017. *An R Companion to Political Analysis, 2nd Edition.* CQ Press. ISBN: 1506368840.

Students are required to have completed the required reading for a given week no later than the beginning of class on Wednesdays.

2 Course Evaluations

Course grades are determined by the following. Participation and quizzes are worth 15% of your final grade. There are two exams, which will take place in class. The first exam with focus on material from the first third of the course. The second exam will focus on material from the second third of the course. In the final third of the course, students will be evaluated with a research paper outline and an original research paper.

Participation and Quizzes	(15%)
Exam 1	(20%)
Exam 2	(25%)
Research Paper Outline	(15%)
Original Research Paper	(25%)

Grading Scale: The following is grading scale that shows how numerical grades are converted to a letter grade. If a final numerical grade falls on the number between two letters (but on or above 0.5), then I will round your grade up. For example, a 79.5 rounds up to 80, which earns a B letter grade.

A	95-100
A-	90-94
B+	87-89
B	84-86
B-	80-83
C+	77-79
C	74-76
C-	70-73
D+	67-69
D	64-66
D-	60-63
F	0-59

Participation and Quizzes (15%)

Weekly attendance will not be taken for this course. However, regular attendance is essential for a successful learning experience in this course. Students are expected to come to class ready to actively participate and discuss the readings.

To encourage attendance and to ensure students are adequately comprehending the reading, pop quizzes will be given periodically throughout the semester. Pop quizzes cannot be made up. Students' two lowest quiz grades will be dropped at the end of the semester.

Exams (45%)

There will be two in-class exams to assess your understanding of course material: Exam 1 (20%) and Exam 2 (25%). The format for exams will be a combination of multiple choice and short answer questions. Exams are designed to evaluate students' understanding of "big picture" concepts, major definitions, and how to apply research design knowledge to real-world scenarios. I will provide a basic study guide for each exam. Students will be allowed to bring one 3x5 inch notecard with notes for each exam. Exam 1 will be held in class on Friday, 02/11. Exam 2 will be held in class on Friday, 03/18. There is no "final" exam.

Original Research Paper Outline (15%)

During part 3 of the semester – the "Political Science Analysis" section in the Course Outline after Spring Break – Students will submit an outline of the research paper that is due at the end of the semester. The purpose of the outline assignment is to help students develop each key component for their final research paper and to receive feedback prior to their final submission. To complete this assignment, students must fill out the "Research Paper Outline.docx" posted on Canvas. There is

no required page length. Responses are expected to fully answer each question. Succinct responses are encouraged. The research paper outline is due by Monday, 04/11 at 11:59PM MST on Canvas.

Original Research Paper (25%)

The final assignment for this course is a full-length research paper that addresses a relevant social science question and uses original quantitative analysis. In most cases, analysis will be conducted using multiple regression. There is not a page length requirement for the research paper. Students should aim for approximately 20 pages double-spaced, including tables, figures, references, and R code. The rubric for this assignment is included in the Original Research Paper Outline assignment on Canvas. The research paper is due by Saturday, 04/30, at 11:59PM MST on Canvas. The main text of the research paper should include the following components:

- Introduction including clear statement of the research question

- Literature review using 8-10 peer-reviewed academic sources

- Theory with formally stated hypothesis/hypotheses

- Research design including discussion of data and method used

- Presentation of and discussion of results

- Conclusion

The research paper should be formatted in the following way:

- 12-point Times New Roman font

- Double-spaced

- Use proper citation formatting, like APA or MLA, in the text and in the references. Any academic citation format can be used as long as it is consistently used.

- Order of research paper: 1- Paper title, author name, and date (title page or title on first page of main text); 2- Main text; 3- References; 4- Appendix (optional); 5- R Code.

3 Course Policies

Late Work Policy: Late work will be accepted but will be subject to a penalty of 10 percentage points per business day it is late. After five business days, half credit will be given. Extensions will only be given in extenuating circumstances. All of the due dates are on the syllabus, allowing you to plan accordingly. If you are having any troubles (i.e. extenuating circumstances), please contact me <u>before</u> the due date and we can work out an alternative schedule.

Grade Grievances: If a student has a grade grievance, they must wait 24 hours after their grade was published and submit a 1-2 paragraph discussion of why they believe they deserve a different

evaluation of the assignment. This discussion should include specific points, including page numbers if relevant, and should be submitted via a secure email to the instructor. The grade assigned after re-evaluation of the assignment will be the final grade, even if it is lower than the original grade given.

Office Hours: Office hours will be held virtually via Zoom. Please see the top of the syllabus for information about when and how to attend office hours. Students do not need to make an appointment for office hours. They may drop in. Office hours are meant to provide support for students in learning the class material. Participation in office hours is highly encouraged.

Communication: All communication for this class will take place through your official CU email account and Canvas. I cannot discuss your course grades and/or assignments from a non-CU account due to FERPA rules. Please check your CU email accounts and canvas regularly for changes in the course schedule or other announcements.

Expectations about In-Classroom Behavior: Students are expected to engage in respectful behavior toward their peers and the instructor. Students must also comply with university policy regarding COVID-19. At this time, this means students must wear a face covering while indoors on campus.

In an effort to foster an inclusive and safe learning environment, students are expected to: 1- Engage in respectful dialogue with their peers. While students are encouraged to discuss openly, thoughtfully, and passionately, I will not tolerate disrespectful or disruptive remarks, slurs or disparaging comments about individuals or groups, or any form of hate speech. 2- Keep cell phones silenced and put away during class.

If students do not comply with classroom expectations or university policies, the instructor may ask them to leave the classroom or implement other instruction as deemed necessary.

4 Course Outline

This is a tentative schedule for the semester that is subject to change by the instructor. Any updates to the syllabus will be posted to Canvas.

PART 1: FOUNDATIONS OF RESEARCH DESIGN

Week 1 (01/10 − 01/14) − *Remote***:**

Overview of course and syllabus, and concept-based introduction to the course, including the core components of a research design in political science.

Required Readings:

- Course syllabus

- *The Fundamentals of Political Science Research* (henceforth *FPSR*), Chapter 1

Suggested Readings:

- *Discovering Statistics Using R*, Chapter 1 (PDF on Canvas)

Week 2* (01/19 − 01/21) − *Remote*:

Practice-based introduction to political science research, crash course in probability, statistics, and R.

Required Readings:

- *FPSR*, Chapter 7

- Codecademy_Learn R_ Introduction Cheatsheet (PDF on Canvas)

- Codeacademy_Learn R_ Data Frames Cheatsheet (PDF on Canvas)

Suggested Readings:

- *An R Companion to Political Analysis* (henceforth *RCPA*), Introduction

- R Programming - DDS. (2020, March 15). "R Programming for Beginners | Complete Tutorial | R & R Studio. youtube.com. https://www.youtube.com/watch?v=BvKETZ6kr9Q (Tip: Skip to the "RStudio overview" chapter which starts at 8:16 and ends at 10:30)

- 365 Data Science. (2020, December 21). "Real-world application of the Central Limit Theorem (CLT). youtube.com. https://www.youtube.com/watch?v=N7wW1dlmMaE

- *Discovering Statistics Using R*, Chapter 3

- Venables, Smith, and the R Core Team 2017, *An Introduction to R* (read selectively or skim)

*No class on Monday 01/17 (Martin Luther King Jr. Holiday)

Week 3* (01/24 − 01/28):

What makes a "good" research question? Theory-building and causal relationships.

Required Readings:

- *FPSR*, Chapters 2-3

Suggested Readings:

- "The Public Role of Political Science", Robert Putnam 2002

*Last day to drop a class without penalty is Wednesday (01/26 at 11:59PM)

Week 4 (01/31 − 02/04):

Types of research design and measuring concepts.

Required Readings:

- *FPSR*, Chapters 4-5

Suggested Readings:

- *RCPA*, Chapters 2-3

Week 5* (02/07 − 02/11):

Describing data, variable measurement, and descriptive statistics.

Required Readings:

- *FPSR*, Chapter 6

Suggested Readings:

- *RCPA*, Chapter 2

*Exam 1 in class on Friday, 02/11

STARTING A RESEARCH PAPER

Week 6 (02/14 − 02/18):

Writing hypotheses, testing hypotheses, and statistical significance.

Required Readings:

- *FPSR*, Chapter 8
- Gelman, Andrew and Hal Stern. 2006. "The difference between 'significant' and 'not significant' is not itself statistically significant." *The American Statistician* 60(4): 328-331.

Suggested Readings:

- *RCPA*, Chapter 6

Week 7 (02/21 − 02/25):

The basics of regression analysis: regression assumptions and bivariate regression.
Required Readings:

- *FPSR*, Chapter 9

Suggested Readings:

- *RCPA*, Chapter 8-9
- *Discovering Statistics Using R*, Chapter 5

Week 8 (02/28 − 03/04):

Multiple regression, interpretation of regression results, statistical vs. substantive significance
Required Readings:

- *FPSR*, Chapter 10

Suggested Readings:

- *RCPA*, Chapter 9

Week 9 (03/07 − 03/11):

Multiple regression with categorical variables and interpretation.
Required Readings:

- *FPSR*, Chapter 11 (246-256)

Suggested Readings:

- *RCPA*, Chapter 8

Week 10*: (03/14 − 03/18)

Interactions, outliers, and multicollinearity.
Required Readings:

- *FPSR*, Chapter 11 (256-272)

Suggested Readings:

- DATAtab. (2021, February 10). "Multicollinearity (in Regression Analysis). https://www.youtube.com/watch?v=G1WX5GiFSWQ

*Exam 2 in class on Friday, 03/18

Week 11 (03/21 − 03/25): Spring Break, No class or office hours

POLITICAL SCIENCE ANALYSIS

Week 12 (03/28 − 04/01):

How to write a research paper and discussion of research paper outline.

Required Readings:

- *FPSR*, Chapter 1 (skim)

Choose <u>one</u> of the following:

- Hager, Anselm, and Susanne Veit. "Attitudes Toward Asylum Seekers: Evidence from Germany." *Public Opinion Quarterly* 83, no. 2 (2019): 412-22. https://doi.org/10.1093/poq/nfz023.
- Hall, Melinda Gann. "State Supreme Courts in American Democracy: Probing the Myths of Judicial Reform." *American Political Science Review* 95, no. 02 (April 13, 2005): 315-30. https://doi.org/10.1017/s0003055401002234.

Suggested Readings:

- *RCPA*, Chapter 11

Week 13* (04/04 − 04/09):

Cleaning datasets, data management, data replication, and presenting results.

Required Readings:

- "Ten Tips For Writing Good R Scripts", *RCPA*, Chapter 1 (PDF on Canvas)

Suggested Readings:

- *Discovering Statistics Using R*, Chapter 4

*Research Paper Outline DUE Monday 04/11 @ 11:59PM (submit on Canvas)

Week 14 (04/11 − 04/15):

Limited dependent variables: What to do when your dependent variable is not continuous.

Required Readings:

- *FPSR*, Chapter 12 (273-282)

Suggested Readings:

- *RCPA*, Chapter 10

Week 15 (04/18 − 04/22):

Time series analysis: an overview of analyzing data that vary over time.

Required Readings:

- *FPSR*, Chapter 12 (282-297)
- "Thinking Time-Serially", Mark Pickup 2014

Suggested Readings:

- "A Principled Approach to Time Series Analysis", Suzanna Linn and Clayton Webb 2020

Week 16* (04/25 − 04/27):

Wrapping up and research paper workshop.

Required Readings: None

Suggested Readings: None

*Last day of classes is 04/28; Reading day on Friday, 04/29

*Final papers DUE Saturday 04/30 @ 11:59PM MST (must be uploaded to Canvas as a word document or pdf)

5 CU Boulder Syllabus Statements

Classroom Behavior

Both students and faculty are responsible for maintaining an appropriate learning environment in all instructional settings, whether in person, remote or online. Those who fail to adhere to such behavioral standards may be subject to discipline. Professional courtesy and sensitivity are especially important with respect to individuals and topics dealing with race, color, national origin, sex, pregnancy, age, disability, creed, religion, sexual orientation, gender identity, gender expression, veteran status, political affiliation or political philosophy. For more information, see the policies on classroom behavior and the Student Conduct & Conflict Resolution policies.

Requirements for COVID-19

As a matter of public health and safety due to the pandemic, all members of the CU Boulder community and all visitors to campus must follow university, department and building requirements and all public health orders in place to reduce the risk of spreading infectious disease. Students who fail to adhere to these requirements will be asked to leave class, and students who do not leave class when asked or who refuse to comply with these requirements will be referred to Student Conduct and Conflict Resolution. For more information, see the policy on classroom behavior and the Student Code of Conduct. If you require accommodation because a disability prevents you from fulfilling these safety measures, please follow the steps in the '1Accommodation for Disabilities" statement on this syllabus.

As of Aug. 13, 2021, CU Boulder has returned to requiring masks in classrooms and laboratories regardless of vaccination status. This requirement is a temporary precaution during the delta surge to supplement CU Boulder?s COVID-19 vaccine requirement. Exemptions include individuals who cannot medically tolerate a face covering, as well as those who are hearing-impaired or otherwise disabled or who are communicating with someone who is hearing-impaired or otherwise disabled and where the ability to see the mouth is essential to communication. If you qualify for a mask-related accommodation, please follow the steps in the "Accommodation for Disabilities" statement on this syllabus. In addition, vaccinated instructional faculty who are engaged in an indoor instructional activity and are separated by at least 6 feet from the nearest person are exempt from wearing masks if they so choose.

Students who have tested positive for COVID-19, have symptoms of COVID-19, or have had close contact with someone who has tested positive for or had symptoms of COVID-19 must stay home. In this class, if you are sick or quarantined, please let you TA know before the next class, and accommodations can be made.

Accommodation for Disabilities

If you qualify for accommodations because of a disability, please submit your accommodation letter from Disability Services to your faculty member in a timely manner so that your needs can be addressed. Disability Services determines accommodations based on documented disabilities in the academic environment. Information on requesting accommodations is located on the Disability

Services website. Contact Disability Services at 303-492-8671 or dsinfo@colorado.edu for further assistance. If you have a temporary medical condition, see Temporary Medical Conditions on the Disability Services website.

Preferred Student Names and Pronouns

CU Boulder recognizes that students' legal information doesn't always align with how they identify. Students may update their preferred names and pronouns via the student portal; those preferred names and pronouns are listed on instructors' class rosters. In the absence of such updates, the name that appears on the class roster is the student's legal name.

Honor Code

All students enrolled in a University of Colorado Boulder course are responsible for knowing and adhering to the Honor Code academic integrity policy. Violations of the Honor Code may include, but are not limited to: plagiarism, cheating, fabrication, lying, bribery, threat, unauthorized access to academic materials, clicker fraud, submitting the same or similar work in more than one course without permission from all course instructors involved, and aiding academic dishonesty. All incidents of academic misconduct will be reported to the Honor Code (honor@colorado.edu); 303-492-5550). Students found responsible for violating the academic integrity policy will be subject to nonacademic sanctions from the Honor Code as well as academic sanctions from the faculty member. Additional information regarding the Honor Code academic integrity policy can be found on the Honor Code website.

Sexual Misconduct, Discrimination, Harassment and/or Related Retaliation

The University of Colorado Boulder (CU Boulder) is committed to fostering an inclusive and welcoming learning, working, and living environment. CU Boulder will not tolerate acts of sexual misconduct (harassment, exploitation, and assault), intimate partner violence (dating or domestic violence), stalking, or protected-class discrimination or harassment by or against members of our community. Individuals who believe they have been subject to misconduct or retaliatory actions for reporting a concern should contact the Office of Institutional Equity and Compliance (OIEC) at 303-492-2127 or email cureport@colorado.edu. Information about OIEC, university policies, reporting options, and the campus resources can be found on the OIEC website.

Please know that faculty and graduate instructors have a responsibility to inform OIEC when made aware of incidents of sexual misconduct, dating and domestic violence, stalking, discrimination, harassment and/or related retaliation, to ensure that individuals impacted receive information about their rights, support resources, and reporting options.

Religious Holidays

Campus policy regarding religious observances requires that faculty make every effort to deal reasonably and fairly with all students who, because of religious obligations, have conflicts with scheduled exams, assignments or required attendance. In this class, please let your TA know in advance so we can make arrangements. See the campus policy regarding religious observances for full details.