

POLI 8010-001: Research Design and Analysis
Spring 2017 | M 6:30 PM - 9:00 PM | Haley 3346

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| Instructor: | Soren Jordan | Email: | scj0014@auburn.edu |
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| Office Hours: | TR 9:15 AM—10:30 AM; By appointment (email me) | | |

Overview, Objectives, and Outcomes

All of our knowledge of the social world is quite literally *produced*. No one tells us what we know about Congress, or conflict, or public administration; instead, we conduct social science research to uncover that knowledge and share it with others. To now, you have been a *consumer* of that research, or, more likely, you have been a consumer of what a professor or instructor *tells* you about that research. This course is designed to move you forward in two ways.

The first is to be a more critical *consumer* of political science research. You should learn what constitutes objectively *good* research, as well as objectively . . . not so good research. The quality of knowledge we produce hinges on our ability to use appropriate research designs, quality measures of concepts, to account for relevant explanations, all to provide evidence of causality in the social world. You will learn to evaluate how well existing research satisfies these criteria. You will also learn the problems (and opportunities!) created when researchers fail to satisfy these criteria.

The second is to become a quality *producer* of political science research. Knowing how to critique existing research is valuable, but your contribution to the discipline and the quality of knowledge you create are dependent on your own ability to recognize and apply appropriate research designs. You will learn the types of designs available, the strengths and weaknesses of those designs, how they have been applied in research, how to apply them yourself, and the fundamentals of evidence of causality in the social world.

Student Learning Outcomes: by the end of the course, you should feel comfortable *reading* and *evaluating* almost any political science research article. You should also feel comfortable *using* some basic research designs and methods. Moreover, you should be able to evaluate your own research “puzzle” and decide, as a researcher, the appropriate research design, measures, and methods to use. Through all, you should think critically and skeptically, as a scientist.

Official catalog description: Research Design and Analysis. (3). LEC. 3. Development and testing of causal models in political and social science. Students will develop a complex research design under the close supervision of the instructor.

Prerequisites

Graduate classification.

Expectations

Graduate courses, especially graduate courses for research design and methods, are intended to lay the foundation for your future as a researcher. Each one of you have elected to be here and to pursue a graduate degree, so it is to your benefit to attend class, do the outside readings, and, most importantly, *come to class prepared to discuss the material*. Graduate courses are built around an exchange of ideas, so come prepared with your ideas! I also expect that you make a reasonable effort to maintain classroom decorum by refraining from reading newspapers, doing crossword puzzles, sleeping, texting, or playing on Facebook (or whatever social network/game/trend that I'm oblivious to). Please silence all cell phones. These ideas are formally outlined in the Auburn University Classroom Behavior policy: see tinyurl.com/au-st-pol for more details. Consistent with Auburn University policy, I encourage class attendance from all students.

Text

There are four required books for this class.

Brady, Henry E. and David Collier. 2010. *Rethinking Social Inquiry: Second Edition*. Plymouth: Rowman & Littlefield Publishers, Inc.

Kellstedt, Paul M. and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. Cambridge: Cambridge University Press.

King, Gary, Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton: Princeton University Press.

Kuhn, Thomas S. 1962. *The Structure of Scientific Revolutions*. Chicago: The University of Chicago Press.

These books are available at the Auburn University Bookstore, as well as the internet. There are multiple versions of all four; the version only matters for one. For Kellstedt and Whitten, I would probably get the Second Edition. They fixed some errors between the two editions. There are other journal articles assigned each week. You should be able to find these with minimal effort, either by **googling** them or using the Auburn University Libraries. If you cannot find one of the articles, let me know, and I'll make it available on **Canvas** or email.

Lab Sessions

POLI 8010 and POLI 7000 cross-pollinate to a certain extent. What you may lack, though, in both of these courses is an introduction to some of the software commonly used in political science research. We will have extra lab sessions at various times to help provide an introduction to this software, specifically **L^AT_EX** (a free text editor to produce pretty academic documents) and **R** (a free, open-source analysis tool that you will initially hate but hopefully learn to love). Attendance at these sessions is completely optional, and there will be no grades. *But if your goal is an academic job, these sessions will help you develop skills that most employers want and expect you to have.*

Assignments

The course is divided into the following components:

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| Class participation | 20% |
| Midterm examination (take home) | 30% |
| Research design project | 20% |
| Annotated bibliography for research design | 20% |
| In class presentation of research design | 10% |
| <hr/> Total | <hr/> 100% |

In order, those components are . . .

Class participation: Do. The. Reading. It is literally that simple. Do the reading and come to class prepared to discuss that reading. To foster class discussion, you are also required to submit two “talking points” about that week’s reading to me by Sunday night at 10:00 PM. These “talking points” should be the most interesting questions or arguments that you have identified in the week’s readings. They should be a short paragraph outlining the question or argument.

Midterm examination: this will be a take-home exam, assigned Wednesday, March 1 and due Wednesday, March 8 (before Spring Break). It will be an open-book exam. The only limitation is that you are not allowed to consult with your classmates on the exam.

Research design project: this is your opportunity to apply the skills and concepts learned in class to a research question that you are interested in. The final proposal should emulate a research paper up to the “Results” section. Specifically, you should provide an Introduction to your research question, you should outline Previous Literature on the research question, your Theory for how the question should be answered, and the Data and Methods that you *would* use to answer the question. *You do not have to execute any analysis.* You should have a rough draft of this assignment by Week 10. The final draft is due on the last day of class. *You will be graded on your writing.*

Annotated bibliography for research design: it is essential to learn how to synthesize and report data and findings. You are going to practice that skill through an annotated bibliography. Broadly, this means finding the most relevant *political science* articles on a research question and summarizing the articles individually. A bibliography is a list of sources and articles that are relevant to a question. An annotated bibliography expands on this by providing a short summary of each individual source. Specifically, I want your summary to include:

- A one sentence summary of the most important findings from the article,
- A brief statement of the research design,
- Any specific hypotheses from the article,
- The data used in the article,
- Major findings from the article, and
- A one sentence summary how these findings relate to your research question.

If it isn't obvious: you must read the article to be able to write the summary. I am aware that research articles usually begin with an abstract that summarizes the article. Note that I want a more in-depth summary of the article than the abstract provides. *If you plagiarize any portion of any abstract, you will receive a zero on the entire assignment.* Your annotated bibliography must include at least twelve sources. This assignment is due on April 3 (Week 12).

In class presentation of research design: on the last day of class, we are going to have a "mini conference" to present your research designs. You'll also have the opportunity to practice giving academic research presentations *as well as* providing critical feedback on others' presentations. You will make a ten-minute research presentation (as a presenter), and you will critique a classmate's research design (as a discussant). You will share your research design ahead of time with your scheduled discussant so that s/he can provide feedback.

Makeups and Grades

Makeup assignments/examinations will only be offered to those with a University excused absence, which can be found at tinyurl.com/au-st-pol. It is your responsibility to ensure that your absence is covered by the University, and it is your responsibility to comply with all policies. These policies require that you notify me of your absence prior to the date of absence if such notification is feasible, but within one week from the missed class. Your makeup examination must be scheduled within two weeks of this notification (though I recommend much, much earlier). If I need additional information on your absence (doctor's notes, for instance), you must provide this additional documentation within one week of the last date of the absence. Note that this policy also allows for makeup examinations for reasons deemed appropriate by the instructor. If you do not have a University excused absence, and you are going to miss an examination, it is much easier for me to work with you if you notify me promptly, especially if you can provide some sort of documentation.

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|-------------|---|
| 89.5-100: | A |
| 79.5-89.49: | B |
| 69.5-79.49: | C |
| 59.5-69.49: | D |
| 59.49↓: | F |

I use the standard Auburn University grading scale. To maintain fairness, I do not change grades under any circumstances except when I make a mathematical error in computing your grade. There is no extra credit. All grades will be posted to Canvas.

Contacting Me

I'm in Haley every day, but especially during my listed office hours. I check my email very, very regularly. If you want to get in touch with me through email, I ask that follow three guidelines when attempting to contact me. First: include the course number and section number [8010-001] in the subject of your email. Your email will almost certainly get lost in the abyss if it missing this information. Second: wait at least 48 hours, not including weekends, to send a second email. I promise I will get to it, but it may not be immediate. Third: email me only from your Auburn

University official email address. In the event that I need to contact you, it will almost certainly be at your @auburn.edu email address. You should check this email often!

Student Academic Honesty

Auburn University is a institution committed to integrity and honor. It is your job as a University citizen to uphold those values. I will not tolerate any cheating or plagiarism, broadly defined as using unauthorized aids during examinations or attempting to represent someone else's work as your own. You are not as sly as you think you are. With hundreds of heads facing forward, it is extremely easy to tell who is working alone and who is not. Be aware that academic dishonesty can lead directly to failing the course and being referred to the Academic Honesty Committee. Penalties include expulsion from Auburn, as per Chapter 1202 of Title XII. For additional information visit tinyurl.com/au-st-pol.

Emergency Contingency

If normal class is disrupted due to illness, emergency, or crisis situation, the syllabus and other course plans and assignments may be modified to allow completion of the course. If this occurs, an addendum to your syllabus and/or course assignments will replace the original materials.

Students with Disabilities

The Americans with Disabilities Act (ADA) is a federal anti-discrimination statute that provides comprehensive civil rights protection for persons with disabilities. Among other things, this legislation requires that all students with disabilities be guaranteed a learning environment that provides for reasonable accommodation of their disabilities. If you believe you have a disability requiring an accommodation, please electronically submit your approved accommodations through AU Access and make an individual appointment with the me during the first week of classes (or as soon as possible if accommodations are needed immediately). If you have not established accommodations through the Office of Accessibility, but need accommodations, make an appointment with the Office of Accessibility, 1228 Haley Center, 844-2096 (V/TT).

Any requests or arrangements made with the instructor in person must be followed up with an official email request for documentation. If you believe you may need an accommodation, it is your responsibility to secure it before the first exam.

Copyrighted Materials

The lectures, presentations (including slides), readings, and exams for this course are copyrighted, so you do not have the right to copy and distribute them. This includes recording class lectures.

Course Outline

PART I: Being a Researcher and Contributing to Scientific Knowledge

Week 1 (January 16): No Class (Martin Luther King Jr. Day)

Week 2 (January 23): Science and Scientific Thinking

- Hill, Kim Quaile. 2004. “Myths About the Physical Sciences and Their Implications for Teaching Political Science.” *PS: Political Science and Politics* 37(3 July): 467-471.
- Kellstedt, Paul M. and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. Cambridge: Cambridge University Press. Chapters 1 and 12.
- Kuhn, Thomas S. 1962. *The Structure of Scientific Revolutions*. Chicago: The University of Chicago Press.
- <http://tinyurl.com/kuhn-popper-lakatos>

Week 3 (January 30): Models, Theories, Hypotheses, and the Logic of Inference

- Gelman, Andrew and Hal Stern. 2006. “The Difference Between ‘Significant’ and ‘Not Significant’ is not Itself Statistically Significant.” *The American Statistician* 60(4 November): 328-331.
- Granato, Jim and Frank Scioli. 2004. “Puzzles, Proverbs, and Omega Matrices: The Scientific and Social Significance of Empirical Implications of Theoretical Models (EITM).” *Perspectives on Politics* 2(2 June): 313-323.
- Kellstedt, Paul M. and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. Cambridge: Cambridge University Press. Chapters 6 and 7.
- King, Gary, Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton: Princeton University Press. Chapter 2.

Week 4 (February 6): Conceptualization and Measurement

- Adcock, Robert and David Collier. 2001. “Measurement Validity: A Shared Standard for Qualitative and Quantitative Research.” *American Political Science Review* 95(3 September): 529-546.
- Kellstedt, Paul M. and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. Cambridge: Cambridge University Press. Chapters 5.
- King, Gary, Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton: Princeton University Press. Chapter 5.

Lab Session: Using L^AT_EX for academic research papers.

Week 5 (February 13): Survey Responses and Data

- Ansolabehere, Stephen, Jonathan Rodden, and James M. Snyder, Jr. 2008. “The Strength of Issues: Using Multiple Measures to Gauge Preference Stability, Ideological Constraint, and Issue Voting.” *American Political Science Review* 102(2 May): 215-232.
- Converse, Philip E. 1964. “The Nature of Belief Systems in Mass Publics.” In *Ideology and Its Discontents*, ed. David E. Apter. New York: The Free Press of Glencoe. (This is also available in a 2006 volume *Critical Review*.)
- King, Gary, Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton: Princeton University Press. Chapter 4.
- Zaller, John and Stanley Feldman. 1988. “A Simple Theory of the Survey Response: Answering Questions Versus Revealing Preferences.” *American Journal of Political Science* 36(3): 579-616.
- **Strongly recommended!** Zaller, John. 1992. *The Nature and Origins of Mass Opinion*. New York: Cambridge University Press.

Lab Session: Using BibTeX with L^AT_EX.

Week 6 (February 20): Causality

- Brady, Henry E. and David Collier. 2010. *Rethinking Social Inquiry: Second Edition*. Plymouth: Rowman & Littlefield Publishers, Inc. Chapters 9, 13-14.
- Kellstedt, Paul M. and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. Cambridge: Cambridge University Press. Chapters 3 and 4.
- King, Gary, Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton: Princeton University Press. Chapter 3.
- Skovron, Christopher and Rocio Titiunik. 2015. “A Practical Guide to Regression Discontinuity Designs in Political Science.”

PART II: Research Methods and Strategies

Week 7 (February 27): Let’s Talk About . . . Experiments and Quasi-Experiments

- Broockman, David and Joshua Kalla. 2015. “Irregularities in LaCour (2014).”
- Druckman, James N., Donald P. Green, James H. Kuklinski, and Arthur Lupia. 2006. “The Growth and Development of Experimental Research in Political Science.” *American Political Science Review* 100(4 November): 627-635.
- Imai, Kosuke. 2005. “Do Get-Out-the-Vote Calls Reduce Turnout? The Importance of Statistical Methods for Field Experiments.” *American Political Science Review* 99(2): 283-300.
- LaCour, Michael J. and Donald P. Green. 2014. “When Contact Changes Minds: An Experiment on Transmission of Support for Gay Equality.” *Science* 346(6125): 1366-1369.

- Kellstedt, Paul M. and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. Cambridge: Cambridge University Press. Chapters 3 and 4.

Lab Session: What is R? How does R think about data? How do I tell R what to do? Bivariate methods in R.

Midterm examination assigned on March 1.

Week 8 (March 6): Let's Talk About ... Qualitative Research Strategies

- Brady, Henry E. and David Collier. 2010. *Rethinking Social Inquiry: Second Edition*. Plymouth: Rowman & Littlefield Publishers, Inc. Chapters 10-12.
- Gerring, John. 2004. "What Is a Case Study and What Is It Good For?" *American Political Science Review* 98(2 May): 341-354.

Midterm examination due on March 8.

Week 9 (March 13): No Class (Spring Break)

Week 10 (March 20): Let's Talk About ... Rational Choice

- Abelson, Robert P. 1995. "The Secret Existence of Expressive Behavior." *Critical Review* 9(1-2 Winter/Spring): 25-36.
- Aldrich, John H. 1993. "Rational Choice and Turnout." *American Journal of Political Science* 37(1 February): 246-278.
- Feddersen, Timothy J. 2004. "Rational Choice Theory and the Paradox of Not Voting." *The Journal of Economic Perspectives* 18(1 Winter): 99-112.
- Huckfeldt, Robert. 1990. "Structure, Indeterminacy, and Chaos: A Case for Sociological Law." *Journal of Theoretical Politics* 2(4): 413-433.

Rough draft of research design due on March 20.

Week 11 (March 27): Let's Talk About ... Ordinary Least Squares (OLS)

- Achen, Christopher H. 2002. "Toward a New Political Methodology: Microfoundations and ART." *Annual Review of Political Science* 5: 423-450.
- Kellstedt, Paul M. and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. Cambridge: Cambridge University Press. Chapters 8-10.
- Want to know more? (These are classic econometrics reference texts.)
 - Gujarati, Damodar N. and Dawn C. Porter. 2009. *Basic Econometrics: Fifth Edition*. New York: McGraw-Hill/Irwin.
 - **Warning: math!** Greene, William H. 2011. *Econometric Analysis: Seventh Edition*. Upper Saddle River: Pearson Prentice Hall.

Lab Session: OLS in R.

Week 12 (April 3): Let's Talk About ... Time Series

- Beck, Nathaniel. 1991. "The Illusion of Cycles in International Relations." *International Studies Quarterly* 35(4 December): 455-476.
- Kellstedt, Paul M. and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. Cambridge: Cambridge University Press. Chapter 11.
- Want to know more?
 - Enders, Walter. 2014. *Applied Econometric Time Series: Fourth Edition*. Hoboken: John Wiley & Sons.
 - McCleary, Richard and Richard A. Hay, Jr. 1980. *Applied Time Series Analysis for the Social Sciences*. Beverly Hills: Sage.

Annotated bibliography due on April 3.Week 13 (April 10): Let's Talk About ... Maximum Likelihood Estimation (MLE)

- Kellstedt, Paul M. and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*. Cambridge: Cambridge University Press. Chapter 11.
- Rainey, Carlisle. 2016. "Compression and Conditional Effects: A Product Term Is Essential When Using Logistic Regression to Test for Interaction." *Political Science Research and Methods* 4(3 September): 621-639.
- Want to know more?
 - Forbes, Catherine, Merran Evans, Nicholas Hastings, and Brian Peacock. 2010. *Statistical Distributions: Fourth Edition*. Hoboken: John Wiley & Sons.
 - Long, J. Scott. 1997. *Regression Models for Categorical and Limited Dependent Variables*. Thousand Oaks: Sage.
 - **Warning: math!** Pawitan, Yudi. 2013. *In All Likelihood: Statistical Modeling and Inference Using Likelihood*. Oxford: Oxford University Press.

Lab Session: Thinking like a computer: `for` and `if` in R.

Week 14 (April 17): Let's Talk About ... Bayesian Estimation

- Hare, Christopher, David A. Armstrong II, Ryan Bakker, Royce Carroll, and Keith T. Poole. 2015. "Using Bayesian Aldrich-McKelvey Scaling to Study Citizens' Ideological Preferences and Perceptions." *American Journal of Political Science* 59(3 July): 759-774.
- Want to know more?
 - Gill, Jeff. 2014. *Bayesian Methods: A Social and Behavioral Sciences Approach*. Boca Raton: Chapman & Hall/CRC.

Lab Session: Pretty pictures in R.

Week 15 (April 24): Research Design Mini-Conference

Final draft of research design due on April 24.