



Empirical Research Methods

INTA 6003

Instructor Info



David Muchlinski



Office Hrs: Tues & Thurs 1-2pm



Habersham 147



www.davidmuchlinski.com



david.muchlinski@inta.gatech.edu

Course Info



Prereq: INTA 2010 or Equivalent



Thursday



6:00p-8:45p



Habersham G17

Overview

This course is designed to introduce you to the fundamentals of empirical research in the study of international affairs and political science. In this seminar you will learn the basics of how to construct professional academic research papers, correctly criticize existing scholarly research, and conduct original research using quantitative and qualitative methods. Topics to be covered include:

- What is Grad School and What is My Role in it?
- Ontology & Epistemology
- What is Science & the Scientific Method
- Social Science Theory
- Research Design
- Probability Theory
- t-tests, analysis of variance, OLS regression
- Qualitative Research Methods
- Constructing a Research Paper
- Developing Critical Thought

This seminar meets weekly for 2.75 hours. Like other graduate seminars, there will be minimal lectures, with the exceptions of the modules covering probability theory and statistical tests. You must come to class having read all material assigned for that week ready to discuss in detail what you have gleaned from the reading. Discussion is expected to be critical and in depth. You are expected to go beyond the mere superficial *what* of the reading to a synthesis of *why, how, under what conditions, and so what*. This seminar is your introduction to the professional aspects of the discipline, I expect you to treat it in a manner commensurate with that respect.

Material

Required Texts

Chalmers, A. F. (2013). *What is this Thing Called Science?*. 4th Edition. Hackett Publishing.

King, G., Keohane, R. O., & Verba, S. (1994). *Designing Social Inquiry: Scientific Inference in Qualitative Research*. Princeton University Press.

Lewis-Beck, C., & Lewis-Beck, M. (2015). *Applied Regression: An Introduction*. Sage Publications.

Harris, S. R. (2014). *How to Critique Journal Articles in the Social Sciences*. Sage Publications.

Recommended Text

Agresti, A. (2018). *Statistical Methods for the Social Sciences*. Pearson. This is the statistics text I assign my undergraduates. It is very useful if you have forgotten your introductory statistical theory and/or need a refresher. It also has examples using the R programming language.

Fox, J., & Weisberg, S. (2018). *An R Companion to Applied Regression*, 3rd Edition. Sage Publications. A very good introduction to R programming. Helpful for anyone with no previous programming experience or anyone anxious about using R.

Other

Any required book chapters will be provided on Canvas. All other required reading can be found online.

FAQs

? What software will we be using for the seminar?

! We will use R exclusively. If you have experience with other programming languages like STATA or Python, you may feel free to use those programs if you have access to them. However, I will teach exclusively from R and R Studio. You can download R here <https://www.r-project.org/> and R Studio here: <https://www.rstudio.com/products/rstudio/download/>.

? I'm a qualitative researcher, why do I have to learn statistics?

! Political Science as a discipline, along with everything else more generally, is becoming more quantitatively orientated. This is not to say you can't use qualitative methods, or that such methods are not useful, far from it. But to succeed in the discipline and the public/private sector these days you must develop a solid working knowledge of statistical analysis.

? Why is there so much reading?

! Welcome to graduate school.

? What is the airspeed velocity of an unladen swallow?

! $U \approx 3fA$, where $f = 15$ beats/second, $A = 0.22$ m/beat, so $U \approx 3 * 15 * 0.22 \approx 9.9m/s$, for a European swallow.

Grading Scheme

20%	Research Paper
15%	Annotated Bibliography
10%	Weekly Criticism Papers
10%	Homework Assignments
20%	Midterm Exam
25%	Final Exam

Grades will follow the following scale: A = 90-100; B = 80-89; Failing = anything below 80.

Learning Objectives

- Become acquainted with the use of the scientific method in the study of international affairs and its underlying theoretical justifications.
- Grasp the fundamental building blocks of theory in the study of international affairs.
- Learn to construct a scholarly research paper and to write professionally.
- Gain the appropriate skills necessary to conduct elementary statistical analysis for the study of international affairs.
- Develop critical facilities to identify weaknesses in scholarly journals and books and to improve upon those weaknesses.

Midterm and Final Exam

Students will complete a take home midterm and final exam to be distributed by the professor. Exams will primarily test student's critical thinking skills and/or proficiency in statistical analysis. All exams when applicable are to be analyzed using the R programming language for statistical analysis and all code is to be submitted in R Markdown files. Students will have two weeks to complete each exam.

Annotated Bibliography

Students must email to me by start of class during Week 5 a research question for which they will work on over the course of the semester. As part of this research paper, students must submit to me by Week 12 a completed annotated bibliography as evidence of their work towards this research paper. The bibliography will serve as a kind of "rough draft" that I will read through and for which I will provide feedback before the research paper is due. Students are expected to incorporate suggestions or criticism of the bibliography into their final research project. There is no set number of sources the bibliography must contain, but a good floor to consider would be 20 articles, books, or chapters. These sources must not be mentioned as required reading in this syllabus. For guidance in developing an annotated bibliography, see this: <https://guides.library.cornell.edu/annotatedbibliography>.

Weekly Criticism Papers

“Those who know that they are profound strive for clarity. Those who would like to seem profound to the crowd strive for obscurity. For the crowd believes that if it cannot see to the bottom of something it must be profound.” – Nietzsche

One of the most important skills you will cultivate as a graduate student is to write in a clear and understandable manner. To facilitate this skill, one of you will be required to write a no more than 3 page response to a required reading each week. This paper should critically engage with the reading in a way which demonstrates not simply your understanding of the material, but your ability to critically engage with it, by, for example, demonstrating logical inconsistencies, empirical inconsistencies (i.e. examples which disprove the author’s point/theory), methodological shortcomings, and other problems. When it is your week to write such a paper you will distribute it no later than 12:00 noon the day of the seminar to give the professor and your fellow students sufficient time to read and evaluate your response to the reading. This process will repeat until everyone has presented a paper, after which the process will begin (in a random order) again.

Homework Assignments

There will be five homework assignments to be completed during the semester. Students will have one week to complete each homework assignment. Directions for each assignment will be distributed during the seminar and are summarized in the syllabus below. All homework is to be completed individually.

Research Paper

Students are expected to write an article-length (~ 8,000-10,000 words) research paper on a topic of their choosing. Students must schedule a time to meet with me by week 5 to discuss their research topic. This research paper must follow the standard academic template for articles written in political science. For those seeking a reference regarding the style and formatting of this paper, please consult the APSA style guide at <https://connect.apsanet.org/stylemanual/>. Students must present results from an original analysis of a new or existing dataset. All R Markdown code must be submitted along with the final report.

Make-up Policy

Make-up exams or assignments will only be allowed in exceptional circumstances, and only with notice *in advance* of any planned absence. Late assignments will not be accepted unless professionally documented.

Diversity and Inclusivity Statement

The Institute does not discriminate against individuals on the basis of race, color, religion, sex, national origin, age, disability, sexual orientation, gender identity, or veteran status in the administration of admissions policies, educational policies, employment policies, or any other Institute governed programs and activities. The Institute’s equal opportunity and non-discrimination policy applies to every member of the Institute community. The Institute’s affirmative action program, Title IX program, and related policies are developed in compliance with applicable law. Pursuant to Title IX, the Institute does not discriminate on the basis of sex in its education programs and activities. As such, the Institute does not tolerate any kind of gender-based discrimination or harassment, which includes sexual violence, sexual harassment, and gender-based harassment. Inquiries concerning the Institute’s application of or compliance with Title IX may be directed to the Title IX Coordinator, Burns Newsome, burnsnewsome@gatech.edu, 404-385-5151. Additionally, inquiries concerning the application of applicable federal laws, statutes, and regulations (such as Title VI, Title IX, and Section 504) may be directed to the U.S. Department of Education’s Office of Civil Rights at www2.ed.gov/ocr.

Accommodations for Students with Disabilities

Reasonable accommodations will be made for students with verifiable disabilities. In order to take advantage of available accommodations, students must register with the Office of Disability Services at Suite 123, Smithgall Student Services Building, 353 Ferst Drive, 404-894-2563 (Voice); 404-894-1664 (TDD). For more information on Georgia Tech’s policy on working with students with disabilities, please see review the Office of Disability Service’s web page at <https://policies.ncsu.edu/regulation/reg-02-20-01/>. The Office of Disability Services collaborates with students, faculty, and staff to create a campus environment that is usable, equitable, sustainable and inclusive of all members of the Georgia Tech community. Disability as an aspect of diversity that is integral to society and Georgia Tech. If students encounter academic, physical, technological, or other barriers on campus, the Disability Services team is available to collaboratively find creative solutions and implement reasonable accommodations.

Academic Integrity

Academic dishonesty in the form of cheating or plagiarism will not be tolerated. In brief, plagiarism is defined, for the purposes of this class, as: copying, borrowing, or appropriating another person's work and presenting it as your own in a paper or oral presentation, deliberately or by accident. Acts of plagiarism will be reported in accordance with the Honor Code. In order to avoid being charged with plagiarism, if you use the words, ideas, phrasing, charts, graphs, or data of another person or from published material, then you must either: 1) use quotation marks around the words and cite the source, or 2) paraphrase or summarize acceptably using your own words and cite the source. The plagiarism policy is not restricted to books, but also applies to video and audio content, websites, blogs, wiki's, and podcasts. Plagiarism includes putting your name on a group project to which you have minimally contributed. For information on Georgia Tech's Academic Honor Code, please visit <http://www.catalog.gatech.edu/policies/honor-code/> or <http://www.catalog.gatech.edu/rules/18/>. Any student suspected of cheating or plagiarizing on a assignment will be reported to the Office of Student Integrity, who will investigate the incident and identify the appropriate penalty for violations. The student will also receive a grade of zero on the assignment at the professor's discretion.

Class Schedule

MODULE 1: Social and Science: Introducing the Study of International Affairs

Week 1 Toto, We're not in Undergrad Anymore...

DesJardins, M. (1994). How to Succeed in Graduate School: a Guide for Students and Advisors: Part I of II. *XRDS: Crossroads, The ACM Magazine for Students*, 1(2), 3-9.

Wuffle, A. (1989). Uncle Wuffle's Advice to the Advanced Graduate Student. *PS: Political Science & Politics*, 22(4), 838-839.

McGregor, J. P. (1978). Government Job-Hunting in Washington. *PS: Political Science & Politics*, 11(4), 492-498.

Duck of Minerva. The Tradeoffs of Getting to Graduate School in Political Science

Schwartz, M. A. (2008). The Importance of Stupidity in Scientific Research. *Journal of Cell Science*, 121(11), 1771-1771.

Pennycook, G., Cheyne, J. A., Barr, N., Koehler, D. J., & Fugelsang, J. A. (2015). On the Reception and Detection of Pseudo-Profound Bullshit. *Judgment and Decision Making*, 10(6), 549-563.

Sagan, C. (2007). The Fine Art of Baloney Detection. *Paranormal Claims: A Critical Analysis*, Ch 1.

Dawkins, R. (1998). Postmodernism Disrobed. *Nature*, 394(6689), 141.

Harris Ch. 1

Chalmers Ch. 14-15

Homework: Download a dataset of interest to you and present two stylized facts from that dataset in the form of scatter plots. Provide a one page (total) description of these plots, including what the independent and dependent variables are, the relationship between them, and a possible reason why this relationship exists. Turn in all work and R Markdown code to Canvas before the next seminar.

Week 2 Philosophy of Science

Chalmers Chs. 1-4

Wired (2015). The Science of Why no one Agrees on the Color of this Dress.

Time (2018). The Definition of a Kilogram Just Changed. That's a Major Milestone in the Grand History of the Metric System

MIT Technology Review (2019). A Quantum Experiment Suggests there's no such thing as Objective Reality.

Weinberg, Justin (2019). Philosophers On a Physics Experiment that "Suggests There's No Such Thing As Objective Reality".

Harris Chs. 3 & 5

Week 3 Theory of International Affairs I: Building Blocks

Chalmers Chs. 5-7

Sutton, R. I., & Staw, B. M. (1995). What Theory is Not. *Administrative Science Quarterly*, 371-384.

Healy, K. (2017). Fuck Nuance. *Sociological Theory*, 35(2), 118-127.

Ward, M. D. (2016). Can we Predict Politics? Toward what End?. *Journal of Global Security Studies*, 1(1), 80-91.

Clarke, K. A., & Primo, D. M. (2012). A Model Discipline: Political Science and the Logic of Representations. Oxford University Press. Chs. 1-3. [Canvas](#)

Harris Ch. 4

ADDITIONAL OPTIONAL READING

Lichbach and Zuckerman Chs. 4-6

Week 4 Theory of International Affairs II: Paradigms

Chalmers Ch. 8-10

Gurr, T. R. (2015). Why Men Rebel. Routledge. Chs. 1-2. [Canvas](#)

Fearon, J. D., & Laitin, D. D. (2003). Ethnicity, Insurgency, and Civil War. *American Political Science Review*, 97(1), 75-90.

Collier, P., & Hoeffler, A. (2004). Greed and Grievance in Civil War. *Oxford Economic Papers*, 56(4), 563-595.

Cederman, L. E., Wimmer, A., & Min, B. (2010). Why do Ethnic Groups Rebel? New Data and Analysis. *World Politics*, 62(1), 87-119.

Cederman, L. E., Weidmann, N. B., & Gleditsch, K. S. (2011). Horizontal Inequalities and Ethnonationalist Civil War: A Global Comparison. *American Political Science Review*, 105(3), 478-495.

Homework: Discuss in a 1 page document the assumptions and arguments needed to logically extend the “greed” argument against the newer evidence presented by Cederman et al. to demonstrate that “grievances” are not sufficient causes of sub-national conflict.

Week 5 Scale and Causal Relations

Schelling, T. (1978). Micromotives and Macrobehavior. New York: WW Norton, Ch. 1. [Canvas](#)

Coleman, J (1994). Metatheory: Explanation in Social Science. In *Foundations of Social Theory* Ch.1 [Canvas](#)

Collins, R. (1988). The Micro Contribution to Macro Sociology. *Sociological Theory*, 6(2), 242-253.

Snyder, R. (2001). Scaling Down: The Subnational Comparative Method. *Studies in Comparative International Development*, 36(1), 93-110.

Holland, P. W. (1986). Statistics and Causal Inference. *Journal of the American Statistical Association*, 81(396), 945-960.

Harris Chs. 5-7

Week 6 Evaluating Theories

King, Keohane, and Verba Chs. 1-3

Clarke and Primo Chs. 4-6 **Canvas**

Riker, W. H. (1990). Political Science and Rational Choice. Perspectives on Positive Political Economy, 163-81.

Freedman, D. A. (1991). Statistical Models and Shoe Leather. *Sociological Methodology*, 291-313.

Hangartner, D., Dinas, E., Marbach, M., Matakos, K., & Xefteris, D. (2019). Does Exposure to the Refugee Crisis Make Natives More Hostile?. *American Political Science Review*, 113(2), 442-455.

Week 7 Research Design I: A Naive Model

King, Keohane, and Verba Ch. 4

Park, H. S. (1987). Correlates of Human Rights: Global Tendencies. *Human Rights Quarterly*, 9, 405.

Heldt, B. (2018). Atrocity Crimes as a Disease: A Statistical Approach to Early Detection.

Rummel, R. J. (1983). Libertarianism and International Violence. *Journal of Conflict Resolution*, 27(1), 27-71.

Weede, E. (1984). Democracy and War Involvement. *Journal of Conflict Resolution*, 28(4), 649-664.

Intro to Probability Theory

Gill, J. (2006). Essential Mathematics for Political and Social Research Ch.7 "Probability Theory" **Canvas**

Agresti, A. (2018). Statistical Methods for the Social Sciences. Chs. 1-4 **Canvas** If you find Gill difficult, this reading covers the same material, but is more immediately accessible.

MIDTERM EXAM

Take home exam. To be submitted to Canvas.

MODULE 2: Empirical Research in International Affairs

Week 8 Research Design II: Reducing Threats to Inference

King, Keohane, and Verba Ch. 5-6

Ruths, M. B. (2009). The Lesson of John Snow and the Broad Street Pump. *AMA Journal of Ethics*, 11(6), 470-472.

Dunning, T. (2008). Improving Causal Inference: Strengths and Limitations of Natural Experiments. *Political Research Quarterly*, 61(2), 282-293.

Copas, J. B., & Li, H. G. (1997). Inference for Non-random Samples. *Journal of the Royal Statistical Society: Series B (Statistical Methodology)*, 59(1), 55-95.

Titunik, R. (2015). Can Big Data Solve the Fundamental Problem of Causal Inference?. *PS: Political Science & Politics*, 48(1), 75-79.

Week 9 Research Design III: Robust Inference

Dinas, E., Matakos, K., Xefteris, D., & Hangartner, D. (2019). Waking up the Golden Dawn: Does Exposure to the Refugee Crisis Increase Support for Extreme-Right Parties?. *Political Analysis*, 27(2), 244-254.

Agresti, A. (2018). *Statistical Methods for the Social Sciences*. Chs. 5-7, followed by 12, then 9-11. **Canvas**

Achen, C. H. (2002). Toward a New Political Methodology: Microfoundations and ART. *Annual Review of Political Science*, 5(1), 423-450.

Lewis-Beck. *Regression*. WHOLE BOOK

Homework: Using the dataset provided, prove that regression is equivalent to a two-sample t-test when a single independent variable is dichotomous, and that regression is equivalent to ANOVA when the independent variable is categorical.

Week 10 Research Design IV: Triangulation

Laitin, D. D. (1995). The Civic Culture at 30. *American Political Science Review*, 89(1).

Mahoney, J., & Goertz, G. (2006). A Tale of Two Cultures: Contrasting Quantitative and Qualitative Research. *Political Analysis*, 14(3), 227-249.

Tarrow, S. (1995). Bridging the Quantitative-Qualitative Divide in Political Science. *American Political Science Review*, 89(2), 471-474.

Mahoney, J., & Rueschemeyer, D. (Eds.). (2003). *Comparative Historical Analysis in the Social Sciences*. Cambridge University Press. Chs. 9-11 **Canvas**

Week 11 Research Design V: Formal Modeling

Powell, R. (1999). The Modeling Enterprise and Security Studies. *International Security*, 24(2), 97-106.

Kim, W., & Morrow, J. D. (1992). When do Power Shifts Lead to War?. *American Journal of Political Science*, 896-922.

Dal Bó, E., Dal Bó, P., & Di Tella, R. (2006). "Plata O Plomo?": Bribe and Punishment in a Theory of Political Influence. *American Political Science Review*, 100 (1), 41-53.

Fearon, J. D., & Laitin, D. D. (1996). Explaining Interethnic Cooperation. *American Political Science Review*, 90(4), 715-735.

Walt, S. M. (1999). Rigor or Rigor Mortis? Rational Choice and Security Studies. *International Security*, 23(4), 5-48.

Niou, E. M., & Ordeshook, P. C. (1999). Return of the Luddites. *International Security*, 24(2), 84-96.

Homework: Draft a 1 page research design proposing how you would empirically test any of the equilibria discovered by Kim & Morrow, Dal Bó et al., or Fearon and Laitin.

Week 12	Measurement I	<p>Van Evera, S. (1998). Offense, Defense, and the Causes of War. <i>International Security</i>, 22(4), 5-43.</p> <p>Glaser, C. L., & Kaufmann, C. (1998). What is the Offense-Defense Balance and how can we Measure it?. <i>International Security</i>, 22(4), 44-82.</p> <p>Munck, G. L., & Verkuilen, J. (2002). Conceptualizing and Measuring Democracy: Evaluating Alternative Indices. <i>Comparative Political Studies</i>, 35(1), 5-34</p> <p>Sovey, A. J., & Green, D. P. (2011). Instrumental Variables Estimation in Political Science: A Readers' Guide. <i>American Journal of Political Science</i>, 55(1), 188-200.</p>
ANNOTATED BIBLIOGRAPHY DUE THIS WEEK		
Week 13	Measurement II	<p>Trochim, W. M., & Donnelly, J. P. (2001). Research Methods Knowledge Base (Vol. 2). Cincinnati, OH: Atomic Dog Publishing.</p> <p>Trochim "Levels of Measurement"</p> <p>Trochim "Construct Validity"</p> <p>Trochim "Reliability"</p> <p>Trochim "Scaliling"</p> <p>Homework: Find an article which studies the offense-defence balance. Propose two new ways to measure the offence-defense balance other than the ways described in the paper. Discuss internal and external validity of your new measurements, as well as the feasibility of this new measure. Note any changes to research design necessitated by your measure from the original study.</p>
Week 14	Bridging the Academic-Policy Divide	<p>Guest Lecturer Meagan Cain, Health Scientist with the CDC's Gender & Youth HIV Prevention Team.</p> <p>Avey, P. C., & Desch, M. C. (2014). What do Policymakers Want from us? Results of a Survey of Current and Former Senior National Security Decision Makers. <i>International Studies Quarterly</i>, 58(2), 227-246.</p> <p>Ungar, L., Mellers, B., Satopää, V., Tetlock, P., & Baron, J. (2012). The Good Judgment Project: A Large Scale Test of Different Methods of Combining Expert Predictions. In <i>2012 AAAI Fall Symposium Series</i>.</p> <p>Harff, B. (2009). How to use Risk Assessment and Early Warning in the Prevention and De-escalation of Genocide and other Mass Atrocities. <i>Global Resp. Protect</i>, 1, 506.</p> <p>Ulfelder, J. (2012). "How Makers of Foreign Policy Use Statistical Forecasts: They Don't, Really". Dart-Throwing Chimp.</p>
Week 15	Thanksgiving Break	No Class

