POLS 6669-03: Independent Problems
Survey of Methodology
Spring 2015

Department of Political Science
Idaho State University

1   Instructor Information

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2   Course Description and Purpose

This independent study course is designed to overview large topics in methodology and research design. It is not, in and of itself, enough to give you an intimate understanding of how a particular method works- but it will give you a general working knowledge of several methods as a starting point for future courses in a PhD program or serve as a starting point for future methods you might teach yourself (e.g. the basics of each method, who the big names are in each method).

3   Course Format

This course is largely self-directed, and the "week" format is merely a convenient way of organizing information. Please, feel free to work at your own pace. The "weeks" do not add up to a full semester. My expectation is some topics might take longer and/or you will spend some weeks working on your replication/research paper. I fully expect that your research paper will be your thesis- you'll just need to add some extra methods discussion (which may or may not be in the final thesis).

4   Requirements

Text

There are several required books. I encourage you to use Inter-Library Loan for the majority of the books. Of course, if one of the books covers a topic you are particularly interested in, you should consider purchasing the book.

Given that this is an independent study, none of these books will be ordered to the campus book store. Most methods courses would only have three or four of these books assigned, but since the goal here is to cover a bit of everything, I have to do a few chapters from a dozen books. **You can borrow any of these books from me.**

1. Angrist, Joshua D. and Jeorn-Steffen Pischke. 2009. *Mostly Harmless Econometrics.* Princeton University Press: Princeton, NJ.[1]
   ISBN-13: 9780691120355

2. Box-Steffensmeier, Janet and Bradford S. Jones. 2004. *Event History Modeling: A Guide for Social Scientists.* Cambridge University Press: New York.
   ISBN-13: 978-0-521-54673-7

3. Box-Steffensmeier, Janet, John R. Freeman, Matthew P. Hitt, and Jon C.W. Pevenhouse. *Time Series Analysis for the Social Sciences.* Cambridge University Press: New York (PDF available from me).
   ISBN-13: 978-0521691550

4. Brady, Henry E. and David Collier. 2004. *Rethinking Social Inquiry: Diverse Tools, Shared Standards.* Rowman & Littlefield: New York.[2]
   ISBN-13: 978-0-7425-1126-2

5. Gelman, Andrew and Jennifer Hill. 2007. *Data Analysis Using Regression and Multi-level/Hierarchical Models.* Cambridge University Press: New York.[3]
   ISBN-13: 978-0-521-68689-1

6. Gerring, John. 2001. *Social Science Methodology: A Criterial Framework.* Cambridge University Press: New York.[4]
   ISBN-13: 0-521-80513-9

7. Gerring, John. 2007. *Case Study Research: Principles and Practices.* Cambridge University Press: New York.[5]
   ISBN-13: 978-0521676564

   Gujarati, Damodar N. 2003. *Basic Econometrics.* McGraw Hill: New York.[6]
   ISBN-13:978-0-07-233542-2

8. Kennedy, Peter. 2003. *A Guide to Econometrics.* MIT Press: Cambridge, MA.[7]
   ISBN-13: 0-262-61183-X

9. King, Gary, and Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry: Scientific Inference in Qualitative Research.* Princeton University Press: Princeton, NJ.
   ISBN: 0-691-0347-1-0

10. Malici, Akan and Elizabeth S. Smith. 2013. *Political Science Research in Practice.* Routledge: New York.**ISBN-13:** 978-0-415-88773-1

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[1]Heavy on the math, but the explanations are great. Only using about 30 pages, I'll supply a PDF of those pages.

[2]In general, a great source on interpretive methods- and how they relate to positivist methods.

[3]Heavy on the R code. However, the code is clunky. The Bristol tutorial is better for the code, Gelman and Hill are better on the logic.

[4]There is an updated 2012 edition called *Social Science Methodology: A Unified Framework.* I assigned the 2001 edition, because that is the one I am most familiar with.

[5]This book isn't actually assigned. It is the "expanded" version of the 2004 APSR article required below. Given your interest in comparative/IR, it is probably a good idea to read the book in the future.

[6]This is a "mathy" econometrics book, whereas Kennedy (2003) is more text based. In the future- it is good to read the two together to get the best picture of how econometrics works. There are several newer editions of this book, math doesn't change much- so use the old one. No need to buy, we're just using one chapter here.

[7]There is a more recent 2008 edition. Take your pick as to which you'd like... just make sure the chapters line up.

11. Van Evra, Stephen. 1997. *Guide to Methods for Students of Political Science.* Cornell University Press: Ithaca, NY.
    ISBN-13: 978-0801484575

Assessment

This course is worth 100 points which are broken up over several different items

- Replication Paper: 25 points

- Research Paper: 50 points

- Summary Notes: 25 points

1. **Replication Paper (25 points)**—Find a paper published within the past 10 years or so (the more recent the better) and obtain the data and replication script from either the journal, a data archive, or the author. Your first order is to replicate the author's main findings. Subsequently, test the data for statistical errors and report what you did/find. Finally, make a methodological change (however tiny– control for something, correct for some error etc) to the paper and report the changes. This paper should be short... your literature review/theory should be no more than a brief one paragraph summary of what the author did. The methods section should provide a somewhat in-depth explanation of the method and testing. All told, the actual text should be no more than five pages (tables may increase the length). For an example, see my replication paper from Tobin Grant's class at SIU. Please feel free to use something related to your research paper.

2. **Research Paper (50 points)**—Produce a research paper which uses one of the methods on the syllabus. This paper can be an extension of something you have written previously, or even your thesis. Please note, you need the permission of the professor you wrote the paper for initially to use it again here (in the case of the thesis- Donna and Trina both need to agree). Given the methodological focus of this course, you can go a little thin on the theory and delve into the methods and assumptions therein.

3. **Summary Notes (25 points)**— Produce an approximately two page summary of each "week's" readings. These notes should be thought of as a quick reference on the topic when you need to know about it in future years.

Assessment Scale

A: 93-100	A-: 90-92	B+: 87-89	B: 83-86	B-: 80-82	C+: 77-79
C: 73-76	C-: 70-72	D+: 67-69	D: 63-66	D-: 60-62	F: <60

5   Course Policies

Meetings

We can meet as frequently or as infrequently as you like. I encourage you to set up a somewhat regular schedule of coming by to discuss the readings, particularly if you are struggling with one of the topics (and methods by definition are usually tough).

Due Dates

Due dates in this course are all flexible; though everything is due by finals week. I would encourage you to turn in notes weekly or as close to weekly as possible. This will allow me to read over your notes and correct any errors I see in your summary.

Academic Honor Code

Academic integrity is the expected norm for all academic activity at ISU, and all members of the ISU community are expected to act in accordance with this principle. Academic integrity is the pursuit of scholarly activity in an open, honest, and responsible manner. Consistent with this expectation is an ISU code of conduct that all students should act with personal integrity, respect other students dignity, rights and property, and help create and maintain an environment in which all can succeed through the fruits of their efforts. Academic integrity includes a commitment not to engage in or tolerate acts of deception, falsification, or misrepresentation. Such acts of dishonesty violate the fundamental ethical principles of the University community and compromise the worth of the work completed by others.

Plagiarism is an act of academic dishonesty and shall be dealt with according to ISU policy. Plagiarism is any misrepresentation of anothers work as your own. For example, copying portions of articles, papers, web pages, etc, or using portions of another persons work (either word for word or paraphrasing) without proper citations. If you have questions about plagiarism, please come talk to me, or refer to Plagiarism Statement written by the ISU Department of English and Philosophy: (`http://www.isu.edu/english/DeptDocs/PlagiarismStatement.pdf`).

I adhere to the University policy regarding academic misconduct and expect academic integrity. Academic misconduct will result in an "F" for the assignment, a possible "F" for the course, and the filing of charges with the University against the student involved. Academic misconduct includes, but is not limited to, taking credit for work done by others, cheating, and helping others to cheat. I encourage students to study together and exchange ideas and information, but you must do your own work when taking exams and completing writing assignments. If you are unclear on this topic, please let me know. I am happy to discuss it further.

Students with Disabilities

ISU is committed to providing equal opportunity in education for all students. If you have a diagnosed disability or if you believe you have a disability physical, learning, hearing, vision, psychiatric etc.) that might require reasonable accommodation in this course, please contact the Disability Services Center, Rendezvous Building, Room 125 (282-3599) or on the web at `http://www.isu.edu/ada4isu`. It is the responsibility of students to contact instructors during the first week of each semester to discuss appropriate accommodations. Of course any communication with me about disabilities remains strictly confidential.

Syllabus Change Policy

This syllabus is a guide for the course and can be negotiated to add to or take away from.

6   *Tentative* Course Schedule

A few notes about reading the course schedule:

- At various points, I have footnoted suggested readings. Use it only for future reference or if you are particularly interested in the topic.

- Generally, you should read in order of publication (unless otherwise noted).

- You can skim most of these- you're reading for big ideas here.

- By no means is this exhaustive. We could spend an entire semester on each topic.

Basics of Research Design

1– Basics of Methodology

- *Focus on:* What are the different schools of theoretical thought in political science methodology?
- KKV[8] ch. 1
- Gerring ch 3 & 5.
- Grant, J. Tobin. 2005. 'What Divides Us? The Image and Organization of Political Science." *PS: Political Science and Politics.* 28: 379-386.
- Collier & Brady, ch. 2 & 3
- Wedeen, Lisa. 2004. "Concepts and Commitments in the Study of Democracy." in *Problems and methods in the Study of Politics*, edited by Ian Shapiro, Rogers M. Smith, and Tarek E. Masoud. Cambridge University Press: New York (see zip file- skim as an example).

2– Causality

- *Focus on:* What are the different definitions of causality?
- Gerring (2001)– 6 & 7.
- KKV ch. 3
- Baumgartner, Michael. 2009. "Inferring Causal Complexity." *Sociological Methods & Research.* 38:71-101.[9]

3– Setting up Research

- Gerring ch 8-10.
- Gerring, John. 2004. "What is a Case Study and What is it Good for?" *American Political Science Review.* 98:341-354.
- Lave Charles A. and James A. March. 1975. *An Introduction to Models in the Social Sciences.* Harper Row: New York. (ch. 2 & 3, see the zip file).
- Van Evra, ch. 1 & 2.[10]

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[8] "KKV" is the standard abbreviation for King et al (1994).

[9] It is likely worth your while to read the chapter on causal complexity from Ragin's (1987/2000) book as well.

[10] This reading is likely the more "basic" version of the others... read this one first, likely with heavy skimming.

Statistics

3/4– Regression & Its Assumptions

- *Focus on:* What happens if you violate the assumptions of OLS?
- Kennedy, ch. 3-11 (focus on big ideas... do not get bogged down in the details of the math)

4.5: Regression Essentials: The Interaction Term

Focus on: How do you properly specify an interaction term? Why is this important?
- Brambor, Thomas, William Roberts Clark, and Matt Golder. 2006. "Understanding Interaction Models: Improving Empirical Analysis." *Political Analysis.* 14:63-82.[11]
- Hamman, John A., Shane A. Gleason, and Charles DiSteffano. 2014. "Incumbent Vulnerability and Entry in Gubernatorial Elections: The Case of Former Governors." *Social Science Journal.* 51:212-218. (read first).
- *For examples (No need to do them now):* Grinter (Stata) from `http://myweb.uiowa.edu/fboehmke/methods.html` and Josh Gubler's R code at: `http://scholar.byu.edu/jgubler/book/r-code`. You can see Gubler's code applied in the replication file for my piece with John on my website.

Temporal Models

5– Time Series Cross Sectional Data

- *Focus on:* What special considerations come into play with cross-sectional (panel) data? Is there a "best" way to proceed?
- Kennedy, ch. 17
- Gujarati ch. 16 (PDF in zip file, skim/skip the equations.)
- Bell, Andrew and Kelvyn Jones. 2015. "Explaining Fixed Effects: Random Effects Modeling of Time-Series Cross-Sectional and Panel Data." *Political Science Research and Methods.* 3:133-153.
- Clark, Tom S. and Drew A. Linzer. 2014/5. "Should I Use Fixed or Random Effects?" *Political Science Research and Methods.* XX:1-10.

6– Time Series — Introductions & Univariate Models

- *Focus on:* What is the logic of time series analysis? What unique challenges do we face in time series?
- Box-Steffensmeier et al ch. 1, 2, & 5 (focus on big ideas— not the particulars)
- Work through my examples from Tobin Grant's time series class in the zip file.

7– Time Series II:– VAR/ECM

- *Focus on:* What are the relative merits and limits of ECM and VAR?
- Box-Steffensmeier et al ch. 3, 4, & 6 (focus on big ideas— not the particulars)[12]
- Work through my examples from Tobin Grant's time series class in the zip file.

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[11]There is a 2012 follow-up in *JOP*. The 2006 piece is fine for our purposes here; but in the future if you use interaction terms you should read/cite the 2012 piece too.

[12]In article form one of the most important pieces on time series is DeBoef & Keele (2008), "Taking Time Seriously" in *AJPS*.

8 – Event History Modelling

> *Focus on:* What is the general logic of event history models? What challenges do these models face? - Box-Steffensmeier and Jones ch. 1-8, 10.
> - Work through my examples from Tobin Grant's event history class in the zip file.

Connected Data

9 –Nested Data: Hierarchical Models

> - *Focus on:* What are the advantages and drawbacks to hierarchical models?
> - Gelman and Hill, ch. 12-13 (don't focus on the R code, read it for the big ideas).
> - Steenbergen, Marco and Bradford S. Jones. 2002. "Modeling Multilevel Data Structures. *American Journal of Political Science.* 46:218-237.
> - Hierarchical Model tutorial at University of Bristol's Centre for Multilevel Modelling `http://www.bristol.ac.uk/cmm/learning/online-course/index.html` (pick whichever software you like (I reccomend R, HLM in Stata is a bit wonky) and work/read through enough to get a *basic* idea of how the method works).

10– Exponential Random Graphs and Extensions

> - *Focus on:* What is the logic and future of ERGMs?
> - Statnet tutorial in *Journal of Statistical Software* at `http://www.jstatsoft.org/v24/` (Skip: *latentcluster, RSoNIA, networksis*).
> - Desmarais, Bruce A. and Skyler J. Cranmer. 2012. "Statistical Inference for Valued-Edge Networks: The Generalized Exponential Random Graph Model." *PLOS One.* 7:1-12.
> - Neal, Zachary. 2014. "The Backbone of Bipartite projections: Inferring Relationships from Co-authorship, Coattedance and Other Co-behaviors." *Social Networks.* 39:84-97.

"New" Ways of Dealing with Data

11 – Textual Analysis

> *Focus on:* What can we learn from quantitative textual analysis?
> - Feinerer, Ingo. 2008. "An Introduction to Text Mining in R." *R News.* 8:19-22. (read first).
> - Corley, Pamela C. 2008. "The Supreme Court and Opinion Content." *Political Research Quarterly.* 61:468-478.
> - Black, Ryan C. and Justin Wedeking. 2011. "Justices and Legal Clarity: Analyzing the Complexity of U.S. Supreme Court Opinions." *Law & Society Review.* 45:1027-1061.
> - Rice, Douglas. 2012. "Measuring the Issue Content of Supreme Court Opinions through Probabilistic Topic Models." *Paper Presented at the Annual Meeting of the Midwest Political Science Association: Chicago, IL.* (get paper from the zip file).

12– Matching

> *Focus on:* What are the uses of matching? Does it have any drawbacks?
> - Angrist & Pischke ch 3. (just 69-94... PDF in zip file)
> - Gleason, Shane A. and Christopher T. Stout. 2014. "Is There Really Any Change? Exploring the Causal Relationship Between Descriptive Representation and Black Empowerment." *The Journal of Black Studies.* 45:635-659. (Read first).
> - Henderson, John and Sara Chatfield. 2011. "Who Matches? Propensity Scores and Bias in the Causal Effects of Education on Participation." *Journal of Politics.* 73:646-658.

Interpretive Approaches to Data

13– Qualitative Methods In Brief[13]

> *Focus on:* How do qualitative/interpretive methods differ from positivist methods? How are they similar?
> - Brady & Collier ch 7-10.
> - Malici & Smith, ch 4 & 5.

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[13]I emphasize "brief." We could dedicate an entire semester to the topic.