

Research Design in Political Science

Department of Government, LSE

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Instructor

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GTA

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1 Introduction

The course will introduce students to the fundamentals of research design in political science. The course will cover a range of topics, starting from the formulation of research topics and research questions, the development of theory and empirically testable hypotheses, the design of data collection activities, and basic qualitative and quantitative data analysis techniques.

The course will address a variety of approaches to empirical political science research including experimental and quasi-experimental designs, large-n survey research, small-n case selection, and comparative/historical comparisons. As a result, topics covered in the course will be varied and span all areas of political science including political behaviour, institutions, comparative politics, international relations, and public administration.

Every week will involve a lecture (**Tuesday 14:00-15:00 in CLM.7.03**), followed by a class with the Graduate Teaching Assistant.

By the end of the course, students will be able to:

1. Identify interesting political science research questions and formulate theories and hypotheses that answer them
2. Describe and operationalize concepts from political science theories
3. Evaluate the strengths and weaknesses of different approaches to empirical research
4. Apply political science theories to the design of original research

2 Learning Assessment and Feedback

Students will be evaluated through (1) a 2-hour written exam covering the full breadth of course content and (2) a 3000-word written paper applying course material in the form of a research design proposal. The final mark will reflect an equal weighting of both forms of assessment.

The *written exam* covers the full breadth of material from the course and will test students' knowledge of course content, including concept definition, the appraisal of political science theories, the generation of hypotheses, and — most importantly — the appropriateness of different research designs for answering specific research questions. This will count for 50% of the final mark.

The *research design paper* should outline the basic elements of a novel research project, namely a research question, theoretical contribution, testable hypotheses, and a description of the proposed data collection and analysis. Unlike the written exam, this paper should focus narrowly on a topic of the student's choice and display a greater depth of understanding of a smaller set of ideas raised in the course. This will count for 50% of the final mark.

As formative work in preparation for both exam forms, students will complete short “problem set” assignments, approximately every other week (see course schedule for details), which allow them to apply material from the course to concrete political science examples (e.g., identifying design elements of a published research paper; proposing strategies for answering a given research question, etc.). While these formative assessments do not count toward the final mark, they provide an opportunity for peer and instructor feedback.

2.1 Problem Sets

The topic of each problem set and the due date for each are as follows:

Assignment	Due Date
Concepts and measurement	Tuesday Oct. 27
Theory and hypothesis generation	Tuesday Nov. 10
Case selection	Tuesday Nov. 24
Text analysis	Tuesday Dec. 15
Interviewing	Tuesday Jan. 26
Basic Statistics	Tuesday Feb. 23
Regression analysis	Tuesday Mar. 8
Experimentation	Tuesday Mar. 22

3 Reading Material

The following texts are **required** for the course:

1. – John Gerring. *Social Science Methodology: A Unified Framework*. Cambridge University Press, New York, 2012.
2. – Paul M. Kellstedt and Guy D. Whitten. *The Fundamentals of Political Science Research*. Cambridge University Press, Cambridge, UK, 2nd edition, 2013.

We will use the entire Kellstedt and Whitten text and most of the Gerring text as core readings for the course. Additional readings for each week are listed on the course schedule. Journal articles should be available online and selections from books are available as eBooks or via the library (links noted below). All readings should be completed *before* the scheduled course meeting.

Recommended readings for each course topic, which are not required to be read, are listed on the course schedule under the heading *See Also*. Students may also be interested in the following general texts on research design in the social sciences:

- Gary King, Robert O. Keohane, and Sidney Verba. *Designing Social Inquiry*. Princeton University Press, Princeton, NJ, 1994.
- William R. Shadish, Thomas D. Cook, and Donald T. Campbell. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Houghton-Mifflin, Boston, MA, 2001.
- Stephen L. Morgan and Christopher Winship. *Counterfactuals and Causal Inference: Methods and Principles for Social Research*. Cambridge University Press, New York, 2nd edition, 2015.
- Joshua D. Angrist and Jörn-Steffen Pischke. *Mostly Harmless Econometrics: An Empiricist's Companion*. Princeton University Press, Princeton, NJ, 2008.
- Paul R. Rosenbaum. *Design of Observational Studies*. Springer, New York, 2009.
- Alan S. Gerber and Donald P. Green. *Field Experiments: Design, Analysis, and Interpretation*. W.W. Norton, 2012.
- Guido W. Imbens and Donald B. Rubin. *Causal Inference in Statistics, Social, and Biomedical Sciences*. Cambridge University Press, 2015.

4 Course Website

All material relevant to the course will be uploaded to the course Moodle site, which can be found at: <https://moodle.lse.ac.uk/course/view.php?id=4889>

5 Schedule

The general schedule for the course is as follows. Details on topics covered and the readings for each week are provided on the following pages. Sessions 1-10 meet during Michaelmas Term and Sessions 11-20 meet during Lent Term.

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- 5.1 Introduction (Sep. 28)**
 - 5.2 Causality: Explanation versus Prediction (Oct. 6)**
 - 5.3 Concepts: “I’ll know it when I see it” (Oct. 13)**
 - 5.4 Measurement: Concepts in Practice (Oct. 20)**
 - 5.5 Building Theories from Observations and Principles (Oct. 27)**
 - 5.6 Deriving Hypotheses from Theory (Nov. 3)**
 - 5.7 Case Studies (Nov. 10)**
 - 5.8 Case Comparisons over Time and Place (Nov. 17)**
 - 5.9 Causal Mechanisms and Process-Tracing (Nov. 24)**
 - 5.10 Translating Texts into Interpretations and Numbers (Dec. 1)**
 - 5.11 Interviewing, Structured and Unstructured (Jan. 12)**
 - 5.12 Actually Talking to People: Participant Observation (Jan. 19)**
 - 5.13 Tabulation and Visualization (Jan. 26)**
 - 5.14 Sampling and Representativeness (Feb. 2)**
 - 5.15 Statistical Inference (Feb. 9)**
 - 5.16 Getting to Regression: The Workhorse of Quantitative Political Analysis (Feb. 23)**
 - 5.17 Matching and Regression: Accounting for Rival Explanations (Mar. 1)**
 - 5.18 Experimental Design and the Search for Quasi-Experiments (Mar. 8)**
 - 5.19 Ethics and Research Integrity (Mar. 15)**
 - 5.20 Conclusion and Synthesis (Mar. 22)**
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Note that there will be no lecture or class during Lent Term reading week (Feb. 15–19).

5.1 Introduction (Sep. 28)

An overview of the course and an introduction to political science research.

- Ch. 2 from Gerring.

5.2 Causality: Explanation versus Prediction (Oct. 6)

Political science is generally concerned with questions of causality. To do that we need to learn to think counterfactually. How do we know that something causes something else? How do we separate “correlation” from “causation”?

- Ch. 3 from Kellstedt and Whitten.
- Paul W. Holland. Statistics and causal inference. *Journal of the American Statistical Association*, 81(396):945–960, 1986.

See also these recommended readings:

- Ch. 8 from Gerring.
- Brady, Henry. “Causation and Explanation in the Social Sciences” (Ch. 8; pp.217–270) from Janet M. Box-Steffensmeier, Henry E. Brady, and David Collier, editors. *The Oxford Handbook of Political Methodology*. Oxford University Press, Oxford, UK, 2008.

5.3 Concepts: “I’ll know it when I see it” (Oct. 13)

Before we can study something we need to know what that “something” is. This is concept definition. How do we define concepts and how do we separate different concepts from one another?

- Ch. 5–6 from Gerring.
- Jane J. Mansbridge. Rethinking representation. *American Political Science Review*, 97(04):515–528, December 2003.
- pp.1–16 (Ch. 1) from Robert A. Dahl. *Polyarchy*. University of Chicago Press, Chicago, 1971.

See also these recommended readings:

- Gary Goertz. *Social Science Concepts: A User’s Guide*. Princeton University Press, Princeton, NJ, 2005.

- Appendix on Etymology (pp.241–252) from Hanna Fenichel Pitkin. *The Concept of Representation*. University of California Press, Berkeley, CA, 1967.
- Giovanni Sartori. Concept misformation in comparative politics. *American Political Science Review*, 64(4):1033–1046, December 1970.

5.4 Measurement: Concepts in Practice (Oct. 20)

To study something, we need to be able to observe and measure it. How do we *operationalize* concepts so that we can study political phenomena? What are challenges of measuring concepts? How do we assign quantitative values to observations?

- Ch. 5 (through p.109) from Kellstedt and Whitten.
- Ch. 7 from Gerring.

See also these recommended readings:

- Robert Adcock and David Collier. Measurement validity: A shared standard for qualitative and quantitative research. *American Political Science Review*, 95(3):529–546, 2001.
- Pamela Paxton. Women’s suffrage in the measurement of democracy: Problems of operationalization. *Studies in Comparative International Development*, 35(3):92–111, September 2000.
- Gerardo L. Munck and Jay Verkuilen. Measuring democracy: Evaluating alternative indices. *Comparative Political Studies*, 35(1):5–34, February 2002.

5.5 Building Theories from Observations and Principles (Oct. 27)

How do we create social science theories based on past evidence and novel observation? What roles do induction and deduction play in contemporary political science?

- Ch. 1–2 from Kellstedt and Whitten.
- Ch. 3 from Gerring.

5.6 Deriving Hypotheses from Theory (Nov. 3)

Hypotheses are the observable implications of theories. How do we derive hypotheses from theories? How do we overcome “observational equivalence” wherein multiple the-

ories yield similar expectations about the world? What does it mean to test a hypothesis?

- James D. Fearon. Counterfactuals and hypothesis testing in political science. *World Pol*, 43(2):169–195, January 1991.
- Nina Tannenwald. The nuclear taboo: The united states and the normative basis of nuclear non-use. *International Organization*, 53(3):433–468, Summer 1999.

See also these recommended readings:

- Morris P. Fiorina. Formal models in political science. *American Journal of Political Science*, 19(1):133–159, February 1975.

5.7 Case Studies (Nov. 10)

Case studies are in-depth examinations of a single manifestation of a political phenomenon and are one of the most common methods of inquiry in political science. What can we do with case studies? How do they help us to understand politics?

- John Gerring. What is and a case and study and what and is it and good for. *American Political Science Review*, 98(2):341–354, May 2004.
- Ch. 12 (only up to p.342) from Gerring.

See also these recommended readings:

- James Mahoney and Gary Goertz. The possibility principle: Choosing negative cases in comparative research. *American Political Science Review*, 98:653–669, 2004.
- David J. Harding, Cybelle Fox, and Jal D. Mehta. Studying rare events through qualitative case studies: Lessons from a study of rampage school shootings. *Sociological Research & Methods*, 31(2):174–217, 2002.

5.8 Case Comparisons over Time and Place (Nov. 17)

How do comparisons between cases help us to make inferences about causality? How do we select cases so that comparisons between them are informative about theories and hypotheses?

- Jean Dreze and Amartya Sen. *Hunger and Public Action*, chapter China and India, pages 204–225. Clarendon Press, Oxford, 1989.
- Richard F. Doner, Bryan K. Ritchie, and Dan Slater. Systemic vulnerability and the

origins of developmental states: Northeast and southeast asia in comparative perspective. *International Organization*, 59:327–361, Spring 2005.

See also these recommended readings:

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- Arend Lijphart. Comparative politics and the comparative method. *American Political Science Review*, 65(3):682–693, September 1971.
- James Mahoney. Nominal, ordinal, and narrative appraisal in macrocausal analysis. *American Journal of Sociology*, 104(4):1154–1169, January 1999.
- Barbara Geddes. A game theoretic model of reform in Latin American democracies. *American Political Science Review*, 85(2):371–392, 1991.

5.9 Causal Mechanisms and Process-Tracing (Nov. 24)

Aside from knowing that one thing (X) caused another thing (Y), we often want to know how that causal process worked. This is the study of “causal mechanisms”. How do we study causal mechanisms to gain a deeper understanding of causal relationships in politics? How do we study the process by which a causal effect plays out?

- Ch. 10 (pp.325–353) from Stephen L. Morgan and Christopher Winship. *Counterfactuals and Causal Inference: Methods and Principles for Social Research*. Cambridge University Press, New York, 2nd edition, 2015.
- Henry E. Brady. Data-set observations versus causal-process observations: The 2000 u.s. presidential election. In Henry E. Brady and David Collier, editors, *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, pages 267–271. Rowman and Littlefield, Lanham, 2004.

See also these recommended readings:

- Dietrich Rueschemeyer and John D. Stephens. Comparing historical sequences — a powerful tool for causal analysis. *Comparative Social Research*, 17:55–72, 1997.

5.10 Translating Texts into Interpretations and Numbers (Dec. 1)

Primary and secondary source documents provide a written record of politically relevant events and processes. Texts can be used in a number of ways in political science research. How do we draw meaning from texts in qualitative and quantitative ways? How does textual information become useful data for making political inferences?

- Ruth Finnegan. Using documents. In Roger Sapsford and Richard Jupp, editors, *Data Collection and Analysis*, pages 138–152. SAGE Publications, Thousand Oaks, CA, 1996.
- Ian Lustick. History, historiography, and political science: Multiple historical records and the problem of selection bias. *American Political Science Review*, pages 605–618, 1996.
- Lori Young and Stuart Soroka. Affective news: The automated coding of sentiment in political texts. *Political Communication*, 29(2):205–231, April 2012.

See also these recommended readings:

- Justin Grimmer and Brandon M. Stewart. Text as data: The promise and pitfalls of automatic content analysis methods for political texts. *Political Analysis*, 21:267–297, January 2013.

5.11 Interviewing, Structured and Unstructured (Jan. 12)

Interviewing is an integral part of political science research. Whether it is interviewing elite political actors as part of a case study or survey interviewing as part of an election poll, interviews are often how concepts are operationalized and insights obtained. How do we conduct interviews? What roles do different kinds of interviews play in political science research?

- Nora Cate Schaeffer and Stanley Presser. The science of asking questions. *Annual Review of Sociology*, 29:65–88, 2003.
- Robert L. Peabody. Interviewing political elites. *PS: Political Science & Politics*, 23:451–455, 1990.

See also these recommended readings:

- pp. 217–257 (Ch. 7 especially section 7.3 to end) from Robert M. Groves, Floyd J. Fowler, Mick P. Couper, James M. Lepkowski, Eleanor Singer, and Roger Tourangeau. *Survey Methodology*. Wiley-Interscience, second edition, 2009.
- Herbert J. Rubin and Irene S. Rubin. *Qualitative Interviewing: The Art of Hearing Data*. SAGE Publications, Thousand Oaks, CA, 2005.
- Beth L. Leech. Symposium on interview methods in political science. *PS: Political Science & Politics*, 23(3):663–688, 2002.

5.12 Actually Talking to People: Participant Observation (Jan. 19)

Collecting political science data often requires actually talking to human beings about their knowledge, thoughts, feelings, opinions, and actions. Some of this is done one-on-one (as we talked about in the previous week), but much of these conversations also take place in group settings. How do we talk to people in groups in a way that helps us draw inferences about politics?

– Richard F. Fenno, Jr. U.S. house members in their constituencies: An exploration. *American Political Science Review*, 71(3):883–917, September 1977.

See also these recommended readings:

– Dennis Chong. How people think, reason, and feel about rights and liberties. *American Journal of Political Science*, 37(3):867, August 1993.

– Lisa Wedeen. Ethnographic work in political science. *Annual Review of Political Science*, May 2010.

– Pamela Johnston Conover, Ivor Crewe, and Donald D. Searing. The nature of citizenship in the united states and great britain: Empirical comments on theoretical themes. *Journal of Politics*, 53(3):800–832, August 1991.

5.13 Tabulation and Visualization (Jan. 26)

How do we summarize our observations using tables and graphs? How do we communicate our research to technical and non-technical audiences in clear and meaningful ways?

– Ch. 5 (pp.109 to end) from Kellstedt and Whitten.

– Jonathan P. Kastellec and Eduardo L. Leoni. Using graphs instead of tables in political science. *Perspectives on Politics*, 5(4):755–771, 2007.

See also these recommended readings:

– Especially Ch. 5 (“Chartjunk”) from Edward Tufte. *The Visual Display of Quantitative Information*. Graphics Press, 1983.

5.14 Sampling and Representativeness (Feb. 2)

In quantitative political science research, sampling is the basis of both claims about “representativeness” (i.e., the extent to which findings from a study apply to some well-

defined population) and statistical inference (i.e., claims about whether some observation is “statistically significant”). What is sampling? How do we sample from populations? How does sampling allow us to make inferences about populations?

- “External Validity,” pp.83–95 from William R. Shadish, Thomas D. Cook, and Donald T. Campbell. *Experimental and Quasi-Experimental Designs for Generalized Causal Inference*. Houghton-Mifflin, Boston, MA, 2001.
- Ch. 6 from Kellstedt and Whitten.

See also these recommended readings:

- “Increasing the number of observations” (pp. 208–230) from Gary King, Robert O. Keohane, and Sidney Verba. *Designing Social Inquiry*. Princeton University Press, Princeton, NJ, 1994.

5.15 Statistical Inference (Feb. 9)

Random sampling allows us to quantitatively test hypotheses about empirical regularities. This allows us to make claims about “statistical significance” (such as whether two groups differ from one another or whether a feature of a group differs from an expectation dictated by theory). How do we use statistical significance testing in political science? How do we interpret statistical significance tests?

- Ch. 7 from Kellstedt and Whitten.

See also these recommended readings:

- W.S. Robinson. Ecological correlations and the behavior of individuals. *American Sociological Review*, 15(3):351–357, 1950.

Reading Week – No Lecture or Class (Feb. 15–19)

5.16 Getting to Regression: The Workhorse of Quantitative Political Analysis (Feb. 23)

By far the most commonly used method of quantitative analysis in political science is “regression.” What is regression? How do we use it? How do we interpret the results of regression analyses?

- Ch.8 from Kellstedt and Whitten.
- “Babel or babble? The evolution of language.” *The Economist*, April 14, 2011.

5.17 Matching and Regression: Accounting for Rival Explanations (Mar. 1)

How do we use regression analysis to make causal inferences? How do we account for the fact that an outcome we are interested in might be caused by multiple events, features, or attributes of cases?

- Ch.9–10 from Kellstedt and Whitten.
- Thomas R. Cusack, Torben Iversen, and David Soskice. Economic interests and the origins of electoral systems. *American Political Science Review*, 101(03):373, July 2007.

5.18 Experimental Design and the Search for Quasi-Experiments (Mar. 8)

The clearest path to causal inference is through experimentation. How does experimentation differ from observational research? Why does experimentation provide a uniquely powerful design for making causal inferences? In lieu of experimentation, how can design research around real-world variation that has quasi-experimental properties?

- Alan S. Gerber and Donald P. Green. Field experiments and natural experiments. In Janet M. Box-Steffensmeier, Henry E. Brady, and David Collier, editors, *Oxford Handbook of Political Methodology*, chapter 15. Oxford University Press, Oxford, UK, 2008.
- Rikhil R Bhavnani. Do electoral quotas work after they are withdrawn? evidence from a natural experiment in India. *American Political Science Review*, 103(1):23–35, 2009.
- Donald T. Campbell and H. Laurence Ross. The Connecticut crackdown on speeding: Time-series data in quasi-experimental analysis. *Law & Society Review*, 3(1):33–54, 1968.

5.19 Ethics and Research Integrity (Mar. 15)

The practice of political science research evokes numerous ethical considerations. By observing the world, political scientists potentially obtain data that is confidential or private. By intervening in the world, political scientists potentially affect real-world politics in expected and unexpected ways. How do we think about and address these and other ethical challenges of conducting research?

- The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research. The Belmont report: Ethical principles and guidelines for the protection of human subjects of research. Technical report, The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research, 1978.
- Spiros Simitis. From the market to the polis: The EU directive on the protection of personal data. *Iowa Law Review*, 80(445):445–469, 1994–95.

5.20 Conclusion and Synthesis (Mar. 22)

Where have we been? What have we learned? Where do we go from here?

- No required reading