

Centre for International Politics, Organization and Disarmament
 School of International Studies
 Jawaharlal Nehru University

Research Methodology (IO 612)
 Winter 2014

Course Instructors: Dr. Krishnendra Meena, Dr. J. Madhan Mohan, Prof. Rajesh Rajagopalan
 Class Time: Tuesdays and Thursdays: 11:30 am-1:30 pm
 Class Room: SIS Building, Room 211
 Office Hours: Will be announced by individual instructors in class

Course Description

This course will introduce you to the logic and method of conducting formal research in international politics. You will be required to apply these methods in your research project for completing your MPhil degree, and for your PhD thesis writing, if you decide to continue towards a PhD degree. You should pay particular attention to this course, because this will form the basis of the rest of your research career. We have attempted to structure this course in such manner as to give all of you both the philosophical roots of applying particular methods, as also some of the practical tools that you will require when conducting research. The schedule below sets out the broad outline of readings and assignment: we will try and stay as close to this schedule as possible.

Course Assessment

The final course assessment will be based on individual assessments for each section of the course. This will, in total, make up 75% of your course grade. You will also be required to write a research synopsis which is due at the end of the semester and this will account for the final 25% of your grade.

You will be informally allotted a research supervisor. You are required to submit a 1-page statement on what topic you plan to work on for your MPhil dissertation so that a research supervisor can be allotted. You must do this by **January 23**.

The assignments and grade proportions are as follows:

Philosophy of Science section:	In-class exam on February 20: 15%
Case Study Methods:	In-class exam on February 20: 15%
GIS Techniques:	20% (Practical examination in the cartographic laboratory, date TBA)
Quantitative methods	25% (assignments 10%/ mid-term exam 15%-date TBA)
Model Synopsis:	25%

Course Reading Schedule

All material assigned as course reading, if they are not available in the library, or not available for purchase, will be available as photocopies at Sanjay Photocopying shop, in the basement. Additional material may be prescribed in class by each instructor.

Week 1 & 2: Judging Theories: The Philosophy of Science debates (Rajagopalan)
Read: Kenneth N. Waltz, 'Laws and Theories' from *Theory of International Politics*; Kenneth N. Waltz, "Thoughts about Assaying Theories"; Colin Elman and Miriam Fendius Elman, "Appraising Progress in International Relations Theory" and "Lessons from Lakatos"; and Andrew Bennett, "A Lakatosian Reading of Lakatos: What Can We Salvage from the Hard Core?" all in Colin Elman and Miriam Fendius Elman (ed), *Progress in International Relations Theory: Appraising the Field* (Cambridge: MIT Press, 2003).

Week 3 & 4: Case Study Methods (Rajagopalan)

Read: Stephen Van Evera, 'What Are Case Studies? How Should They Be Performed?' in *Guide to Methods for Students of Political Science* (Ithaca: Cornell University Press, 1997), pp.49-88

Alexander L.George and Andrew Bennett, *Case-Studies and Theory Development in the Social Sciences* (Massachusetts: MIT Press, 2005)

John Gerring, 'What is a Case Study and What is it Good for?' *American Political Science Review*, Vol.98, No.2, May 2004, pp.341-354

Additional Recommended Reading

Robert H.Bates, 'From Case Studies to Social Science: A Strategy for Political Research' in Carles Boix and Susan C.Stokes ed. *The Oxford Handbook of Comparative Politics* (Oxford: Oxford University Press, 2007), pp.172-185

Steven Bernstein, Richard Ned Lebow, Janice Gross Stein & Steven Weber, 'Social Science as Case Based Diagnostics' in Richard Ned Lebow & Mark Irving Lichbach ed. *Theory and Evidence in Comparative Politics and International Relations* (Hampshire: Palgrave Macmillan, 2007), pp.229-260

Charles C.Ragin, 'Turning the Tables: How Case-Oriented Research Challenges Variable-Oriented Research' in Henry E.Brady and David Collier ed. *Rethinking Social Inquiry: Diverse Tools, Shared Standards* (Lanham: Rowman & Littlefield Publishers, 2004), pp.99-139

Gerardo L.Munck, 'Tools for Qualitative Research' in Henry E.Brady and David Collier ed. *Rethinking Social Inquiry: Diverse Tools, Shared Standards* (Lanham: Rowman & Littlefield Publishers, 2004), pp.105-122

For some fascinating intellectual autobiographies detailing diverse human motivations behind canonical case studies in the field of Politics, see Gerardo L.Munck and Richard Snyder's *Passion, Craft, and Method in Comparative Politics* (Baltimore: John Hopkins University Press, 2007).

John Gerring, *Case Study Research: Principles and Practice* (Cambridge: Cambridge University Press, 2007)

Gerring 'The Case Study: What it is and What it does' in Carles Boix and Susan C.Stokes ed. *The Oxford Handbook of Comparative Politics* (Oxford: Oxford University Press, 2007), pp.90-122

Week 5: Review and Mid-Term

Week 6-8: GIS Techniques (Meena)
After the introductory class, practical classes will be conducted in the Cartography Laboratory (Room No.318)

- i. Introduction to GIS
Definitions, Scope and Multidisciplinary Nature of GIS
- ii. Components of GIS
Hardware; Software; Spatial Data; Data Management and Analysis Procedures.
- iii. Principles of GIS

Spatial Data; Non-spatial Data; Digital Representation; Functional Issues; Display Issues; Operational Issues.

iv. Application

Readings

Agnew, John (1994), "The territorial trap: The geographical assumptions of international relations theory", *Review of International Political Economy*, 1: 53-80

Ethington, Philip J. and Jason A. Mc Daniel (2007), "Political Places and Institutional Spaces: The Intersection of Political Science and Political Geography", *Annual Review of Political Science*, 10:127-42

Burrough, P.A.(1991). *Principles of Geographic Information Systems*, Oxford: Oxford University Press.

Clarke, Keith C.(2001),*Getting Started with Geographic Information Systems*. New Jersey: Prentice Hall.

Demers, M.N.(2000), *Fundamentals of Geographic Information System*, New Mexico : New Mexico State University, John Wiley and Sons.

Heywood, Ian. ,Cornelius, S. and Carver, S. (2000), *An Introduction to Geographical Information System*, London: Longman.

Wright, Dawn J., Goodchild Michael F., Proctor James D., (1997), 'GIS: Tool or Science? Demystifying the Persistent Ambiguity of GIS as 'Tool' Versus 'Science'', *Annals of the Association of American Geographers*, Vol.87, No.2, pp.346-362.

Week 9: Introduction to Quantitative Techniques (Mohan):

Introducing statistics – descriptive and inferential; tabular and graphical description; mean, median, mode and other measures of central tendency; graphs and misleading ways of using simple statistics.

Measures of dispersion

Defining dispersion, determining measures of dispersion; the range; the mean deviation; the semi-interquartile range; the 10-90 percentile range; the standard deviation; the variance; short methods for computing the standard deviation; properties of the standard deviation; coefficient of variation.

Week 10:

Probability

Definition of probability; conditional probability: independent and dependent events; mutually exclusive events; probability distributions; mathematical expectation; relation between population, sample mean and variance; combinatorial analysis; the binomial, normal and poisson distributions.

Sampling

Sampling theory; simple random sampling; sampling distribution of means; problems of non-probability sampling; cluster and stratified sampling; the concept of sampling error

Week 11:

Statistical estimation theory and statistical decision theory :

Statistical estimation theory: Point estimates and interval estimates, confidence-interval estimates.

Statistical decision theory:

Statistical decisions, statistical hypotheses, tests of hypotheses and significance, type I and type II errors, level of significance, operating-characteristic curves.

Small sampling theory, Chi-square test and Curve fitting

Small samples, Student's t distribution, the Chi-square distribution, confidence intervals for χ^2 , the Chi-square test, relationship between variables, curve fitting, equations of approximating curves, freehand method of curve fitting, the straight line, the method of least squares, non-linear relationships, problems involving more than two variables.

Week 12: Correlation & Regression

Correlation

Simple correlation, correlation and regression, the two regression lines, correlation in multiple regression, multi-collinearity.

Regression

Simple regression, multiple regression, regression extensions.

Read:

Agesti, Alan and Barbara Finlay (1997), *Statistical Methods for the Social Sciences*, New Jersey: Prentice-Hall.

Blaikie, Norman (2003), *Analyzing Quantitative Data*, London: Sage.

Collier, David (1995), 'Translating Quantitative Methods for Qualitative Researchers: The Case of Selection Bias', *American Political Science Review*, 89(2): 461-467.

Freedman, David, Robert Pisani and Roger Purves (2009), *Statistics*, New Delhi: Viva Books.

King, Gary (1986), 'How Not to Lie with Statistics: Avoiding Common Mistakes in Quantitative Political Science', *American Journal of Political Science*, 30 (3): 666-687.

Kritzer, Herbert M. (1996), 'The Data Puzzle: The Nature of Interpretation in Quantitative Research', *American Journal of Political Science*, 40 (1): 1-32.

Neuman, Lawrence (2006), *Social Research Methods: Qualitative and Quantitative Approaches*, New Delhi: Pearson.

Pillai, R.S.N. and Bagavathi (2007) *Statistics: Theory and Practice*, New Delhi: S.Chand and Co.

Spiegel, Murray R and Larry J. Stephens (2000), *Schaum's Outline of Theory and Problems of Statistics*, New Delhi: Tata McGraw-Hill.

Wonnacott, Thomas H. and Ronald J. Wonnacott (1990), *Introductory Statistics*, New York: John Wiley.

Additional Recommended Reading:

Adcock, Robert, and David Collier (2001), 'Measurement Validity: A Shared Standard for Qualitative and Quantitative Research', *American Political Science Review*, 95(3): 529-546.

Allison, Paul D (1999), *Multiple Regression: A Primer*, London: Pine Forge Press.

- Beck, Nathaniel, Gary King, and Langche Zeng (2000), 'Improving Quantitative Studies of International Conflict: A Conjecture', *American Political Science Review*, 94:21-36.
- Brady, Henry, David Collier and Jason Seawright (2004), *Rethinking Social Inquiry: Diverse Tools, Shared Standards*, Lanham: Rowman-Littlefield.
- Bryman, Alan and Duncan Cramer (1990), *Quantitative Data Analysis for Social Scientists*, London: Routledge.
- Bueno de Mesquita, Bruce (1985), 'Toward a Scientific Understanding of International Conflict: A Personal View', *International Studies Quarterly* 29:121-54.
- Frankfort-Nachmias, Chava and David Nachmias (1996), *Research Methods in the Social Sciences*, New York: St. Martin's Press.
- Gleditsch, Nils Petter, Peter Wallensteen, Mikael Eriksson, Margareta Sollenberg, and Håvard Strand (2002), 'Armed Conflict 1946-2001: A New Dataset', *Journal of Peace Research*, 39: 615-37.
- Huff, D. (1991), *How to Lie with Statistics*, London: Penguin.
- Johnson, Janet Buttolph, Richard A. Joslyn and H.T. Reynolds (2007), *Political Science Research Methods*, Washington D.C.: CQ Press.
- Jones, Daniel M., Stuart A. Bremer, and J. David Singer (1996), 'Militarized Interstate Disputes, 1816-1992: Rationale, Coding Rules, and Empirical Applications', *Conflict Management and Peace Science*, 15:163-213.
- King, Garry (1991), 'On political methodology', *Political Analysis*, 2: 1-30.
- King, Garry, M. Tomz and J. Wittenberg (2000), 'Making the Most of Statistical Analyses: Improving Interpretation and Presentation', *American Journal of Political Science*, 44: 347-361.
- King, Gary C., Robert Keohane and Sidney Verba (1994), *Designing Social Inquiry: Scientific Inference in Qualitative Research*, Princeton: Princeton University Press.
- Levin, Jack, and James Alan Fox (1997), *Elementary Statistics in Social Research*, Boston: Allyn and Bacon.
- Mendenhall, William, Robert J. Beaver and Barbara J. Beaver (2007), *Introduction to Probability and Statistics*, Delhi: Thomson.
- Ragin, Charles C. (2008), *Redesigning Social Inquiry: Fuzzy Sets and Beyond*, Chicago and London: University of Chicago Press.
- Signorino, Curtis (1999), 'Strategic Interaction and the Statistical Analysis of International Conflict', *American Political Science Review*, 93: 279-98.
- Somekh, Bridget and Cathy Lewin, (eds.) (2005), *Research Methods in the Social Sciences*, New Delhi: Vistaar.

Spiegel, Murray R., John J. Schiller, R. Alu Srinivasan (2000), *Schaum's Outline of Probability and Statistics*, New Delhi: Tata McGraw-Hill.

Vasquez, John A. (1996), 'Distinguishing Rivals that Go to War from Those That Do Not: A Quantitative Comparative Case Study of the Two Paths to War', *International Studies Quarterly*, 40:531-558.

- Week 13: Review and Mid-Term
- Week 14: Research Synopsis: Background/Review of Literature/Rationale and Scope sections (Rajagopalan)
- Week 15: Research Synopsis: Hypothesis/Methods (Rajagopalan/Mohan)
- Week 16: Research Synopsis: Chapterization/Biblio (Rajagopalan/Mohan)
- Week 17: Review