The Pennsylvania State University
Department of Political Science
Political Science 501, Methods of Political Analysis

Professor Frank R. Baumgartner
Fall 2001, Wednesdays 1-4 PM, 107 Burrowes
Phone 863 8978, email Frankb@psu.edu
Office hours Mondays 2-4PM and by appointment

This course is designed for incoming graduate students. We will focus on three related issues: 1) how do authors in political science and in related fields convince their readers of the validity of their theories; 2) how can the reader distinguish between convincing and unconvincing research; 3) how can one design one's own research so that it is as convincing as possible? In this class, students should develop a taste for criticism: that is, not believing things written only because they have been published, but in evaluating the evidence presented; in being skeptical, yet fair. This last skill will be most appreciated when you begin to design your own research projects in this course and in later years. For now, much of the focus is on criticism and on developing the skills to distinguish convincing from unconvincing research projects. We will discuss some aspects of philosophy of science, notably questions of the nature of "proof" and evidence in science, but mostly we will learn by doing. In this case, doing means both criticizing existing research and, equally importantly, proposing improvements.

The readings for this course have been chosen to keep textbooks to a minimum, and to include a wide range of substantive readings. Each of these should be read with three questions in mind, questions to which we will return constantly in class, and which should be the topics of your papers: 1) What is the author's argument or theory, and how does it compare to alternative theories that might be proposed or have been proposed by others? 2) What evidence does the author provide, and how convincing is it? and 3) How could the research be improved? This last question on improvements will be central to all our discussions, since each criticism must generally be related to a possible way of fixing the problem noted. Also of particular interest will be the question of alternative theories: has the author of a given theory not only convinced you that her theory makes good sense, but also that rival explanations have been eliminated? This last point, we will see, implies that individual theories can rarely be treated in isolation; rather, all work must be considered as part of a literature in which contending explanations must be evaluated against each other. We will also note that question #2 above, on evidence, covers a great range of issues including research design, operationalization and measurement, sampling, index construction, data gathering, statistical analysis, and other related questions.

Assignments will be as follows: First, class participation is a must. There will be some lecturing in this class, but mostly we should have a discussion among all the students about the merits of the readings presented. On occasion, there will be some lectures to make sure we have a shared vocabulary or for other particular reasons, but mostly this seminar will be based on discussion. Note that asking questions where you do not understand is an important contribution to the discussion. Answering others' questions also helps. Graduate seminars cannot be run effectively without class participation, and students should get in the habit of contributing. Class

participation will involve normal questions and discussion as well as occasional presentations of assigned material.

Second, there will be a series of short papers throughout the term, assigned in such a way that several students will have assignments each week on a rotating basis. Each week's discussion, therefore, will benefit from a number of students who have been assigned to write papers on particular topics. These short papers should not be summaries of the readings. Rather, they should take issue with the author(s) on some particular question, discuss what potential problems arise from what the author(s) did, and propose an improvement. Since these papers will be short (3-5 pp., double-spaced), you should not spend time on generalities, but should go quickly into the particulars. After stating the general problem, spend some time discussing the particular mistake or unforeseen implication of what the author did, then discuss how to make improvements. Also discuss how this change might be related to any possible changes in the substantive conclusions of the article. In class discussion, you may be asked to summarize the reading and to begin the discussion on problems and improvements. These papers will therefore serve two purposes: First, they will allow you to show your understanding of the articles and to work on proposing improvements on assigned topics; second, they will constitute a way to ensure intelligent class discussion, since for each reading there will generally be at least one student assigned to write a paper and therefore particularly aware of the problems with the reading. Since it would be easy to write a brilliant paper after having sat in the class discussion, and since we will rely on paper-writers to lead off the class discussions, late papers will normally not be accepted for credit. So plan to have them in on time. Over the entire term, each student will write a total of about 8 to 10 short papers, depending on the number of students in the class. That means you should expect to write a paper at least every other week, probably more like two weeks out of every three. These papers will be due in my office or by email attachment 24 hours before the course. I'll return them in class the next day.

Third, there is a term paper, due on the last day of class, with a preliminary draft due approximately one month before. This paper will be a large version of the short papers. In it, you need to: 1) choose a limited area of research that interests you; 2) identify some empirical studies that have been done on that topic, using contrasting methodological approaches; 3) evaluate these studies and their methodologies, discussing the strong and weak points of each approach, and linking these to the theory being tested; and 4) propose a theory, a research design, and a set of measurements that would be the best possible way to answer your question. You should go into detail on the proposed theory, the research design, measurements, availability of evidence, and any other important points. The topic may be anything from political science that interests you (you may want to choose a topic that interests you enough to follow up on, for example in your other statistics, methods, or substantive courses this or next semester). The literature review does not have to be all-inclusive; rather the important point is that it include examples of different approaches (case study, longitudinal design, cross-sectional comparison, experimental study, for example), so that you can discuss the strong and weak points of each approach.f Your discussion of the literature should show what problems have plagued researchers in the past, and your proposal obviously should do away with those problems. You should be able to do this in about 25 pages or so.

You are advised to get an early start on the research design paper. Since the criticism of existing literature is an important part of the paper, you will need to locate a number of articles or books for criticism before you can even start writing the paper. You should discuss your topic with me before the mid-point of the semester so that I can help you avoid topics where too few studies have been done, or help you define your topic in the most appropriate way. The first three parts of this paper are due in class during week 11 of the following syllabus. This should include your evaluation of existing literature, but need not include your own proposal for further research. I will read and comment on those within one week, with suggestions for the research design. Then, your final paper should include any improvements on the first draft, including solving any problems that I might point out in my comments, and then propose your research design. Only the grade that you receive on the final version of the paper counts. This final version of the paper is due in class during the last meeting of the semester.

Grades will be calculated according to the following formula:

40%	Total combined for short papers
40	Term paper
20	Class participation. Note that this is enough to make the difference between an A and a C in your final grade.
100%	Total

The following books are available for purchase:

Axelrod, Robert. 1984. *The Evolution of Cooperation.* New York: Basic Books.

Campbell, Donald T. and Julian C. Stanley. 1963. *Experimental and Quasi-Experimental Designs for Research.* Chicago: Rand McNally.

Frankfort-Nachmias, Chava and David Nachmias. 1999. *Research Methods in the Social Sciences* Sixth Edition. New York: St. Martin's. NOTE: Older editions are also acceptable and may be available used.

Gates, Scott and Brian D. Humes. 1997. *Games, Information, and Politics: Applying Game Theoretic Models to Political Science.* Ann Arbor: University of Michigan Press.

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

Kingdon, John W. 1995. *Agendas, Alternatives, and Public Policies.* Second edition. New York: HarperCollins.

Putnam, Robert D. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.

Please note the following announcements concerning University policies.

Academic Dishonesty[1]

The Department of Political Science, along with the College of the Liberal Arts and the University, takes violations of academic dishonesty seriously. Observing basic honesty in one's work, words, ideas, and actions is a principle to which all members of the community are required to subscribe.

All course work by students is to be done on an individual basis unless an instructor clearly states that an alternative is acceptable. Any reference materials used in the preparation of any assignment must be explicitly cited. In an examination setting, unless the instructor gives explicit prior instructions to the contrary, whether the examination is in-class or take-home, violations of academic integrity shall consist of any attempt to receive assistance from written or printed aids, or from any person or papers or electronic devices, or of any attempt to give assistance, whether the one so doing has completed his or her own work or not.

Other violations include, but are not limited to, any attempt to gain an unfair advantage in regard to an examination, such as tampering with a graded exam or claiming another's work to be one's own. Violations shall also consist of obtaining or attempting to obtain, previous to any examinations, copies of the examination papers or the questions to appear thereon, or to obtain any illegal knowledge of these questions. Lying to the instructor or purposely misleading any Penn State administrator shall also constitute a violation of academic integrity.

In cases of a violation of academic integrity it is the policy of the Department of Political Science to impose appropriate penalties that are consistent with University guidelines.

Disabilities

The Pennsylvania State University encourages qualified people with disabilities to participate in its programs and activities and is committed to the policy that all people shall have equal access to programs, facilities, and admissions without regard to personal characteristics not related to ability, performance, or qualifications as determined by University policy or by state or federal authorities. If you anticipate needing any type of accommodation in this course or have questions about physical access, please tell the instructor as soon as possible. Reasonable accommodations will be made for all students with disabilities, but it is the student's responsibility to inform the instructor early in the term. Do not wait until just before an exam to decide you want to inform the instructor of a learning disability; any accommodations for disabilities must be arranged well in advance.

[1] Much of the text above has been directly obtained from the sections of the Princeton University website hftp://www.princeton.edu/pr/pub/rrr/99/pages/Ol.htm) concerning academic integrity (Rights, Rules, Responsibilities introductory text as well as pages 55-69) as well as from the website of the Department of Economics at The Pennsylvania State University.

Weekly Assignments and Topics

Part One: Introduction and Review

August 22. Introduction and overview of the course.

August 29 (meet on Monday or Tuesday this week; time to be arranged). The Scientific Approach. The importance of being wrong; the nature of scientific explanation; the nature of evidence; what is convincing to a scientist; how evidence accumulates; what is "proof." We will return to some of the philosophical questions of this approach during the last week of the term. For now, the focus will be on developing a shared vocabulary and an understanding of the process. Note how these ideas apply to quantitative and to qualitative research projects.

- Nachmias, Ch. 1-4.
- KKV Ch. 1-3.
- Stinchcombe, Arthur L. 1968. *Constructing Social Theories.* Chicago: University of Chicago Press, 1968. Ch. 2: The Logic Of Scientific Inference Pp. 15-56.

September 5 (class cancelled). You may want to read the work for the last week of the semester; you won't want to do it when the time comes.

September 12. Review of statistical concepts and terminology

Topics to review include: measures of central tendency and of dispersion; Z-scores; bivariate measures of association. We'll go into some detail about Proportional Reduction in Error, a concept that comes up again and again during the term. We will return constantly to questions of covariance throughout the term, so you need a good understanding of both the underlying statistics and the conceptual ideas behind them. Finally, we'll discuss some basics of sampling vocabulary including the concept of "statistical significance." Obviously, all this material cannot be covered in a single discussion, so emphasis here will be on creating a list of things you should already know or pick up during the term.

- Nachmias, Ch. 15, 16, and skim ch. 17.
- King, Gary. 1989. *Unifying Political Methodology*. New York: Cambridge University Press. Chapter 1: Introduction.

Part Two: Research Design Questions

September 19. Experiments and Quasi-experimental designs. This week focuses on designing a research project so that covariance, time-order, and spuriousness can be controlled or demonstrated. Time-series, cross-sectional designs, experimental designs, and a wide variety of other techniques are described. Note especially the numerous generic threats to

validity that Campbell and Stanley lay out. KKV explain how these relate to qualitative as well as to quantitative designs. Nachmias makes it easier to understand.

- Nachmias, Ch. 5, 6.
- KKV Ch. 4-6.
- Campbell, Donald T. and Julian C. Stanley. 1963. *Experimental and Quasi-Experimental Designs for Research.* Chicago: Rand McNally.

September 26. Quasi-experiments and other examples from the literature. Consider the strength of these designs, and discuss whether the authors could have reached similar conclusions if they had chosen different designs.

- Campbell, Donald T. and H. Laurence Ross. 1970. The Connecticut Crackdown on Speeding. In Edward R. Tufte, ed. *The Quantitative Analysis of Social Problems.* Reading, Mass.: Addison-Wessley. Pp 110-125.
- Campbell, Donald T. 1975. Degrees of Freedom and the Case Study. *Comparative Political Studies* 8: 179-93.
- Lijphart, Arend. 1979. Religious vs. Linguistic vs. Class Voting: The Crucial Experiment of Comparing Belgium, Canada, South Africa, and Switzerland. *American Political Science Review* 73: 442-51.
- Jennings, M. Kent and Gregory B. Markus. 1977. The Effect of Military Service on Political Attitudes: A Panel Study. *American Political Science Review* 71 (1): 131-47.
- Lewis-Beck Michael S. and John R. Alford. 1980. Can Government Regulate Safety? The Coal Mine Example. *American Political Science Review* 74: 745-56.
- B. Dan Wood, Richard W. Waterman. 1991. The Dynamics of Political Control of the Bureaucracy. *American Political Science Review* 85 (3): 801-28.

October 3. Game Theoretical Approaches. Gates and Humes provide an overview and some detailed examples of the uses of game theory in political science.

- Gates, Scott and Brian D. Humes. 1997. *Games, Information, and Politics: Applying Game Theoretic Models to Political Science.* Ann Arbor: University of Michigan Press.

Part Three: Measurement Issues

October 10. Measurement terminology; tests for reliability and validity; basics of designing good measures that tap the concepts they are supposed to tap; how to recognize measures that do not measure what they say they measure; systematic versus random measurement error and their consequences; building indices combining multiple measures into a single scale.

- Nachmias, Ch. 7, 11, 12, 18, skim ch. 9

October 17. Sampling; Survey design. Many measurement issues are here, specific to surveys this week, but also apparent in other types of research. Also sampling procedures and the importance of sampling error as opposed to other types of error in most work that involves sampling, such as surveys. Note the differences and similarities between mass

surveys, elite surveys, and mail questionnaires, and pay attention to how one creates a sampling frame and ensures a high response rate.
- Nachmias, Ch. 8, 10
- Baumgartner, Frank R. and Jack L. Walker. 1988. Survey Research and Membership in Voluntary Associations. *American Journal of Political Science* 32: 908-28.
- Read the codebook for the 2000 National Election Study available under **codebook introduction** at: http://www.umich.edu/~nes/studyres/nes2000/nes2000.htm. Pay attention to the introductory materials describing sampling procedures, personal v. phone interviews, response rates, survey administration, question wording experiments, and other elements of survey administration.
- Read the description of sampling procedures and the survey instrument at http://lobby.la.psu.edu.
- Hojnacki, Marie and David C. Kimball. 1998. Organized Interests and the Decision of Whom to Lobby in Congress. *American Political Science Review* 92 (4): 775-90.

October 24. Cross-Level Inferences, Ecological Analysis; summary and review of material covered so far.
- Robinson, W. S. 1950. Ecological Correlations and the Behavior of Individuals. *American Sociological Review* 15: 351-7.
- Naroll, Raoul. 1973. Galton's Problem. In: *A Handbook of Methods in Cultural Anthropology*. New York: Columbia University Press, pp. 974-89.
- Achen, Christopher H. and W. Phillips Shively. 1995. *Cross-Level Inference*. Chicago: University of Chicago Press. Chapter 1: Cross-Level Inference.
- King, Gary. 1997. *A Solution to the Ecological Inference Problem*. (Princeton: Princeton University Press), chapter 1, "Qualitative Overview."
- Examples of manuscript reviews from faculty files (anonymous; to be distributed).

Part Four: Evaluating Prominent Research Projects

In this section of the course you will apply the various critical skills you've acquired to evaluating a series of prominent and influential works in the literature. Your papers and class discussion will focus on exactly what the authors did, how they designed their project, how they measured relevant variables, how they considered rival hypotheses as well as their own, how they gathered their data, and all other elements of the research project. In addition to pointing out the consequences of the choices that scholars made, in each paper you should suggest alternative ways to design a research project on the same topic and discuss the relative merits of the various approaches.

October 31. Experiments in political science.
- Robinson, Michael J. 1976. Public Affairs Television and the Growth of Political Malaise. *American Political Science Review* 70: 409-432.
- Quattrone, G., and Amos Tversky. 1988. Contrasting Rational and Psychological Analyses of Political Choice. *American Political Science Review* 83: 719-36.
- Chin, Michelle, Jon R. Bond, and Nehemia Geva. 2000. A Foot in the Door: An Experimental Study of PAC and Constituency Effects on Access. *Journal of Politics* 62 (2): 534-49.

- Iyengar, Shanto. 2000. Experimental Designs for Political Communication Research: From Shopping Malls to the Internet. Paper presented at the Workshop in Experimental Methods, Harvard University, May 5-6, 2000. Available at: http://pcl.stanford.edu/research/papers/hwshop/index.html
- Play the Whack-a-Pol game at http://pcl.stanford.edu/exp/whack/pol/index.html and tell me what we learn from that. What theory is being tested? Should that be apparent to the participant?

First Draft of Term Papers Due Today October 31.

November 7. Axelrod's influential book in international relations.

- Axelrod, Robert. 1984. *The Evolution of Cooperation.* New York: Basic Books.

November 14. Putnam in comparative politics.

- Putnam, Robert D. 1993. *Making Democracy Work: Civic Traditions in Modern Italy*. Princeton: Princeton University Press.

November 21 (class cancelled)

November 28. Kingdon in American politics.

- Kingdon, John W. 1995. *Agendas, Alternatives, and Public Policies.* Second edition. New York: HarperCollins.

Part Five: Paradigms, Approaches, and Professional Controversies

December 5. Kuhn's theory of the nature of scientific progress; some current disputes in the discipline.

- Kuhn, Thomas S. 1970. *The Structure of Scientific Revolutions*. Chicago: University of Chicago Press. Ch. 1,2,6,7,9.
- Almond Gabriel A. and Stephen J. Genco. 1977. Clouds, Clocks, and the Study of Politics. *World Politics* 29 (4): 489-522.

Term Papers Due in class today December 5.