Introduction to Research Design and Methods

Instructor: Laura D. Young   Office Hours: MWF 1:00 – 2:15
Email: ldyoung@purdue.edu   Office location: BRNG 2231

Course Description:

This course begins your apprenticeship as a professional political scientist. Most of you have spent your academic careers as consumers of the work produced by other scholars, but you are about to shift gears! You are beginning the process of becoming a critic of and contributor to the body of social science knowledge; that requires some different skills and ways of thinking.

The discipline takes the word 'science' and the label 'political science' seriously. Our fundamental interests lie in the world of politics, but science provides us with a means of exploring that world systematically and sharing our findings and conclusions with others under a common, if loosely defined, set of standards. Thus, we begin with a broadly based discussion of science and the scientific method as applied to the study of politics. Following the broad contours of the scientific approach leaves lots of room for multiple methods and perspectives, but it also creates some boundaries in terms of what constitutes social science research. We discuss these boundaries; clarifying them in some places while dispelling myths in others.

Next, we turn our discussion to a series of more pragmatic issues involved in research design generally. These include the most basic tasks such as selecting a topic, conducting research, structuring a research design, and constructing a theory to more advanced topics such as building hypotheses, writing a literature review, as well as emphasis on building, testing, and presenting models. Not only will you learn how to actively engage in the research process, but you will learn skills as a skeptic that help you identify potential problems not only in your own work, but in others as well. You will also learn how to avoid and minimize these dangers.

Finally, you will experience first-hand what it takes to survive the rigors of the publication process. This includes learning how to decide on the right place to submit your manuscript as well as the appropriate way to respond to reviewers. By the end of this course you will have the skills necessary to go forth on your own and become productive contributors to the knowledge in political science.

Required Texts/Readings/Materials:

- Shively, W. Phillips. 2004. *The Craft of Political Research,* 6th ed Upper Saddle, NJ: Prentice Hall.

- King, Gary, Robert O. Keohane, and Sidney Verba. 1994. *Designing Social Inquiry.* Princeton: Princeton University Press.

- Raymondo, James C. 1999. *Statistical Analysis in the Behavioral Sciences.* McGraw-Hill College.

- Katznelson, Ira and Helen V. Milner, eds. 2002. "American Political Science: The Discipline's State and the State of the Discipline," in *Political Science State of the Discipline.* American Political Science Association.

- Farr, James and Ramond Seidelman, eds. 1993. *Discipline and History: Political Science in The United States:* Ann Arbor: University of Michigan Press.

- All other reading material is available for download on the course website.

- You will need a basic scientific calculator to do the in-class and homework exercises that are part of this course. A graphing calculator is NOT necessary.

Grades and Policies

Evaluation:

100 – 90 A	74 – 70 C+	49 (and below) F
89 – 85 B+	69 – 65 C	
84 – 80 B	64 – 60 C-	
79 – 75 B-	59 – 50 D	

Class attendance and Participation:	5%
Discussion Leader	5%
Homework Assignments:	20%
Final Exam:	20%
Research Paper:	50%

Annotated Bibliography	*5%*
Literature Review	*10%*
Rough Draft	*10%*
Peer-feedback	*5%*
Final Draft	*20%*

Grades: It is a violation of FIRPA to discuss grades via email. As a result, UNDER NO CIRCUMSTANCE WILL I DISCUSS GRADES OTHER THAN BY APPOINTMENT. All emails asking about grades will be referred to this syllabus.

***Please note: Your grades are your responsibility, not mine. If you are doing poorly I am always available to help you outside of class. It is your responsibility, however, to seek help as soon as you know your grades are not as good as you would like. **DO NOT wait until the end of the semester to ask how you can improve your grade.** By that point there will be little you or I can do to help improve the situation.

Extra credit: I periodically offer extra credit, though this is NOT guaranteed. If you are concerned about your grade you should take these opportunities if offered. **Under no circumstance will I offer extra credit at the end of the semester just for you because you are unhappy with your grade.** All requests for extra credit will be referred to this syllabus.

Make-up Policy: I do not give make-up exams, quizzes, or assignments unless you have a verified absence by the Dean of Students. In such cases it is **your responsibility** to contact me to arrange a time to make-up the missed assignment. At my discretion make-up assignments, quizzes, and/or exams may be different than that given in class, but will be of equal difficulty level.

Special Needs: If you are an individual with a disability and require accommodations for this class, please notify the instructor immediately.

Student Requirements: Students are expected to come prepared for and to participate in class discussions. You are expected to follow the University Class Attendance and Absence Reporting Policy, meaning that you are required to attend all lectures and events. **Absences will be excused only for documented physical or mental illness, accident, or emergency as determined by the Dean of Students. (See above regarding make-up policy for excused absences.)**

1. Class Attendance and Participation: This course covers a lot of material at a rapid pace. It is important students attend every lecture if possible. In addition, students are expected to meaningfully contribute during class discussions. This requires students read all required material before coming to class.

2. Discussion Leader:

3. Homework Assignments: Because it is difficult to understand methods without understanding the math behind it, students are expected to complete multiple homework assignments from the *Statistical Analysis in the Behavioral Sciences* textbook. Although every student is expected to turn in his or her own work, I encourage students to form study groups when completing the assignments. The best format for these groups is to meet in the computer lab at a designated time to work on the homework. As each of you work individually you will come across problems and things you do not understand. You and your group should discuss the issue and work through the solution. No member of the group should simply give you the answer, but should teach you how to reach the answer on your own. This collaborative environment, when done properly, significantly improves overall comprehension as well as retention of the material.

4. Final Exam: The final exam is cumulative and consists of several multiple choice, short answer, and essay questions. You will also solve a series of mathematical problems and will input data, generate results using the proper model, and interpret findings using STATA.

5. Research Paper: Not only because this is the first time many of you have written a research paper, but also, as those of you who have written one know, because it is a daunting process, the total grade for the research paper is made up of several smaller grades. These grades come from assignments designed to help decrease the overwhelming feeling students feel when sitting down to complete their first paper. Specific instructions will be provided throughout the semester for each of these assignments.

For all work, the University Student Code of Conduct is in effect. Every assignment, quiz, and exam must be your own work. Students who cheat or copy will fail the course and be turned into the Dean of Students.

Note: This syllabus is a living, organic creation, and it may change over the course of the semester in response to changing classroom and campus conditions. More specifically, in the event of a major campus emergency course requirements, deadlines, and grading percentages are subject to changes that may be necessitated by a revised semester calendar or other circumstances. Though all changes will be announced, you should also refer to the Blackboard Learn web page to keep track of the most recent version of the syllabus.

Course Schedule

Part I – Introduction to the Discipline

Week 1   **Introductions, Syllabus, Reading Strategies**

Goals: To get to know each other, familiarize ourselves with the course and course policies, and learn valuable reading strategies to help with comprehension and maximization of time.

Readings: Daley, Anthony. 1995. "On Reading: Strategies for Students." *PS: Political Science & Politiics.*28: 89-100.

Week 2   **History and State of the Discipline**

Goals: To learn about the history and state of the discipline. ****You will be assigned to a group whose responsibility will be to lead class discussion on assigned sections of the below readings.**

Readings: Katznelson, Ira and Helen V. Milner. 2002. "American Political Science: The Discipline's State and the State of the Discipline," in *Political Science State of the Discipline,* eds. Katznelson and Milner, American Political Science Association – Parts I and II.

Farr, James and Ramond Seidelman, eds. 1993. *Discipline and History: Political Science in The United States:* Ann Arbor: University of Michigan Press.

Week 3   **Introduction to Philosophy of Science and Epistemological Issues: Karl Popper vs. Thomas Kuhn's view of science; Topic selection Workshop** ****You will be assigned to a group whose responsibility will be to lead class discussion on assigned sections of the below readings.**

Readings: Popper, Karl. *The Logic of Scientific Discovery, p 27-92*

Kuhn, Thomas S. "Logic of Discovery or Psychology of Research, in *Criticism and the Growth of Knowledge,* eds. Lakatos and Musgrave, p 1-23.

Popper, Karl. "Normal Science and its Dangers," in *Criticism and the Growth of Knowledge,* eds. Lakatos and Musgrave, p 1-23.

Part II – Setting up a Research Design

Week 4   **Research Design, Theory Building, and Methods**

Goals: To learn how to think scientifically about a research design. This includes learning about theory building and deriving hypothesizes, setting up a research design, and determining dependent and independent variables.

Readings: Shively, *The Craft of Political Research,* Chapters 1, 2, 5, 6.

King, Gary, Robert Keohane, and Sidney Verba. 1994. "The Science in Social Science," in *Designing Social Inquiry,* eds. King, Keohane, and Verba. p 1-33.

**Topics Due

Week 5   How to Conduct Research, Find Data, and Write a Literature Review

Goals: To spend time learning the best approaches to conducting research and writing a literature review utilizing hands-on experience.

Readings: Knopf, Jeffrey W. 2006. "Doing a Literature Review." *PS: Political Science & Politics.* 39(1): 127-132.

Shively, *The Craft of Political Research,* Chapters 7.

Part III – Methods

Week 6   Introduction to Statistics

Goals: To learn basic issues in statistics, what is sampling and why it is necessary

Readings: Raymondo – Chapters 1 – 2; Homework: Answer questions on page 22 and 43.

Shively, *The Craft of Political Research,* Chapters 8 – 9.

Week 7   Central Tendency, Variation, Probability, and the Normal Distribution

Goals: To learn how to compute measures of central tendency, variation, probability, as well as learn the difference between normal and non-normal distributions.

Readings: Raymondo – Chapters 3 – 7; Homework: Answer questions on page 77, 94, 120, 158, 180.

**Annotated Bibliography Due

Week 8   Hypothesis Testing, Correlation, Linear Regression

Goals: To learn how to test hypotheses using differential and inferential statistics.

Readings: Raymondo – Chapters 8-10 ; Homework: Answer questions on page 206, 244, 272

Shively, *The Craft of Political Research,* Chapters 10.

Week 9   **Probit/Logit, Mlogit, Poisson, NBreg, Time Series, and Panel Data**

Goals: To learn various options for testing hypotheses and when to use them

Readings: None

Week 10   **No Class – Spring Break**

Week 11   **STATA – Lab**

Goals: To practice statistical skills using STATA utilizing a series of pre-selected datasets and problems.

** Literature Review Due

Week 12   **Measurement Errors, Goodness of Fit Tests**

Goals: To learn common errors, how to avoid them,and various techniques for testing the accuracy of model specification

Readings: King, Gary, Robert O. Keohane, and Sidney Verba. 1994. Designing Social Inquiry. Princeton: Princeton University Press. Chapters 4 – 6.

Week 13   **Review – LAB**

Goals: To review important concepts and go over any issues that need clarification regarding any topic covered this semester.

Week 14   **Peer Feedback Workshop**

** Rough Drafts Due

Week 15   **The Publication Process**

Goals: To learn the ins and outs of the publication process, including how to choose the right journal and how to respond to reviewers' comments.

Readings: Giles, Michael and James C. Garand. 2007. "Ranking Political Science Journals: Reputational and Citational Approaches." PS: Political Science & Politics. 40(4): 741-751.

Week 16   **No Class- Research Papers**

Week 17   **** Final Papers Due**