

INTRODUCTION TO RESEARCH METHODS IN POLITICAL SCIENCE
The Ohio State University

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Department of Political Science
Course: PS 585
Course Number: 16643-8
Class Time: M, W; 7:30 AM to 9:18 AM
Location: Derby Hall, Room #0125
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I. Course Description and Objectives

This course will give you a broad overview of the nature of research in the social sciences. With this in mind, several things about this class are worth mentioning. First, I do ***NOT*** assume that my students are Statistics or Mathematics majors. This is a very important assumption to not make, and you will thank me for it later. Second, this class will focus mostly on *quantitative*, not *qualitative* research techniques (don't worry, by the end of the quarter, you will understand the difference between the two). Third, I designed this course for Political Science students, but I think it might prove useful for anyone interested in conducting empirical research. Fourth, while this class will introduce you to some of the statistical methods used by social scientists, I place more emphasis on the application of these methods rather than on their mathematical foundations. In other words, we will spend less time memorizing formulas and more time thinking about the problems of planning a research project, acquiring, collecting or preparing the data, analyzing those data, and writing up the results. Finally, research is something you learn by doing, so we will spend a fair amount of time working with "real" data and statistical software.

My goal for the class is simple. I want to teach you the some of the "tools of the trade" for doing successful research. This is a very broad goal, and you can interpret this goal in many ways. For those of you who are only here to satisfy the math requirements, consider this course "a necessary evil." For those of you who actually get a kick out of this stuff or plan to pursue it further, consider this an introduction to the world of social science research. For all of you, I hope that this course will lead you to think critically about the assumptions you bring to your research interests. Also, I hope this class will broaden your appreciation for the range of research tools available to you.

II. Required Materials

Textbooks: The following books are available at SBX Bookstore:

- Johnson, Janet Buttolph, Richard A. Joslyn, and H. T. Reynolds. 2001. *Political Science Research Methods*. 4th Ed. Washington, DC: CQ Press. (**Required**)
- Kranzler, John H. 2003. *Statistics for the Terrified*, 3rd Ed. Upper Saddle River, NJ: Prentice Hall. (**Required**)
- Gonick, Larry and Woolcott Smith. 1993. *The Cartoon Guide to Statistics*. New York, NY: HarperPerennial. (**Optional**)

The Johnson, Joslyn, and Reynolds book (henceforth called "Johnson et al.") will serve as the primary text on research design and John Kranzler's book (hereafter called "Kranzler") will serve as the primary text on statistics and data analysis. I recommend the Gonick and Smith book as a helpful and cute little supplement to learning statistics. Last time I checked, you could get the paperback version of the Johnson et al. book for about \$60.00. The paperback version of Kranzler's book will run you about \$35.00. The Gonick and Smith book goes for about \$15.00. If you shop around, you might find better deals. Please note that **I expect you to have the required readings completed BEFORE each class**. I will make additional readings available, if necessary. I will hand these additional readings out in class or you can download them

from my web page.

Computing Resources: Students should get access to a scientific calculator for their exams and homework assignments. In addition, we will use a statistical package called Microsoft Excel in this class. All of the computers in the classroom are equipped with this program, and these computers are available for your use during scheduled study hours (see the schedule on the door for details). There are also several computer labs around campus with computers containing the Excel program.

III. Course Requirements

You can think of the syllabus as a teacher-student contract. This contract loosely describes what students should expect from teachers and what teachers should expect from students. Here is what you can expect from your teacher: You can expect me to be dedicated to providing you with the necessary skills to do well in this course. Also, I am committed to making this course a worthwhile experience or each of you. Generally, I require that students have an open mind and be willing to learn. Specifically, I expect students to attend class faithfully and share in class discussion. The bulk of your grade will depend on your performance on exams and homework assignments. I describe each of the criteria upon which I base your grade below.

- **Attendance: 10 points**

I will take attendance each class period. You get attendance points for the days you are present for class, and you miss attendance points for the days you are absent. I permit students **three (3) EXCUSED absences** during the quarter. Although excused absences do include illness (must be accompanied by a doctor's note), I will not excuse routine appointments because such appointments should be scheduled outside of class time.

- **Homework Assignments: 10 Points Each (50 Points Total)**

I expect students to complete **five (5)** homework assignments based on the material we cover in the lecture and readings. I will hand out homework assignments roughly one week before the due date. This will ensure that you will have the previous homework back before the next one is due. Missed assignments will result in a grade of zero. You must turn in homework assignments during class time (or in my mailbox beforehand) unless I have specifically given you permission to do otherwise—and this will only happen in rare circumstances.

- **Examinations: 15 Points for First Exam; 25 Points for Final (40 Points Total)**

Exams may include any of the following question types: multiple choice, fill-in-the-blank, True/false, short essay, and essay items. I will schedule the first exam (worth 15 points) for the 5th week of class, and it will cover everything we have studied up to that point. The final exam (worth 25 points) is cumulative, and it will be **Monday, March 14th 2005, from 7:30 AM to 9:18 AM**, as scheduled by the university. Please be sure to consult the university's examination schedule and make your travel plans accordingly.

IV. Grades and Evaluations

The assignments, exams, and attendance requirements are worth a total of 100 points. I evaluate students based on how many points they earn by the end of the quarter. I translate total points into letter grades using the following formula (please note that anything higher than 93 points is still an "A", and anything lower than 62 points is still an "E". Ohio State does not give A+, D-, E+, or E- grades):

Points	Grade
93 or higher	A
90-92	A-
87-89	B+
83-86	B
80-82	B-
77-79	C+
73-76	C
70-72	C-
67-69	D+
63-66	D
62 or lower	E

The grading logic is simple. The goals for this course are on the front page of the syllabus, and I measure how successful students are at fulfilling those goals based on how well they meet the course requirements. If you end up with 93 or more points, then you met all the goals. If you end up with between 80 and 89 points, you achieved all the major goals of the class but did not fulfill some minor requirements. If you earn between 70 and 79 points, then you met all the major goals but did not complete many of the minor requirements. Students with 63 to 69 points at the end of the quarter fulfilled only a few major goals. Students with 62 points or less did not achieve any of the major goals of the class.

V. Class Outline and Reading Schedule

I divide this class into five (5) major sections. Each section should take between 1 to 3 class sessions (depending on how much fun we are having). Below is an overview of the topics covered and the assigned readings. Please note that *I reserve the right to change the schedule as I feel necessary.*

SECTION I: HOUSEKEEPING

In this section, we will discuss topics related to the philosophy of social science: namely, what social science research is, how social scientists do it, and why social science research is important. Section I also deals with questions about “epistemology” (how social scientists know what they know) and the “scientific method” (how they go about conducting research). Below is an outline of the topics we will cover for this section:

- *Course Introduction and Overview and In-Class Exercise*
- *Some Topics of Interests in Political Science* (Johnson et al., chapter 1)
- *Science, Social Science, and Political Science Research* (Johnson et al., chapter 2)

Note: I strongly recommend that students skim the first 2 chapters of the Kranzler book (pp. 1-16). The author is kinda funny, and he offers some useful tips for studying statistics and dealing with math anxiety.

SECTION II: THE BUILDING BLOCKS OF SOCIAL SCIENCE RESEARCH

In this section, we will learn that one of the major goals of social science is to understand social phenomena (concepts). The goal of empirical research is to predict and control the value of variables. Understanding the relationships between variables and the concepts these variables represent is the key to doing social science research. Here is a list of topics we will cover:

- *Theories and Models* (Handout: Nachmias and Nachmias, pp. 35-46)
- *Concepts, Variables, and Hypotheses* (Johnson, et al., chapter 3)
- *Observation and Measurement* (Johnson, et al., chapter 4)

SECTION III: RESEARCH DESIGN

In this section, we will discuss various research designs. All research designs fall under two broad categories: experimental and non-experimental designs. Within these broad categories, research designs differ by how directly they allow researchers to observe social phenomena and how much control they allow researchers to have over the observations they make. Specifically, this section will deal with:

- *Experimental Research Designs* (Johnson, et al., chapter 5, pp. 111-133)
- *Non-Experimental Research Designs* (Johnson, et al., chapter 5, pp. 133-153)
 - Field Research (Johnson, et al., chapter 8)
 - Document Analysis (Johnson, et al., chapter 9)
 - Interviewing and Survey Research (Johnson et al., chapter 10)
- *Research Ethics*: (Video and Class Discussion)

Exam 1 (Tentatively Set for February 2nd)

SECTION IV: THE LOGIC OF STATISTICS

The goal of this section is to get students used to some of the main statistical procedures that we will use when we analyze data. Most textbooks neglect these ideas, assuming that students don't need to learn or that they already know the logic of statistics. Consider this my attempt to explain some of the "unsaid rules" of doing statistical research. Below are some of the things we will talk about:

- *What Is/Are Statistics?* (Kranzler, chapter 4; Gonick, chapter 1 [optional])
- *Probability* (Gonick, chapter 3 [optional])
- *The Normal Curve* (Johnson et al., 327-338; Kranzler, chapter 6; Gonick, chapter 5 [optional])
- *Sampling* (Johnson et al., chapter 7; Gonick, chapter 5 [optional])
- *Inferential Statistics*:
 - Confidence Intervals (Gonick, chapter 5 [optional])
 - Hypothesis Testing (Kranzler, chapter 10; Gonick, chapter 8 [optional])

Note: For those of you who have yet to do so, now is a good time to brush up on your basic math skills. There is a nice math review in chapter 3 of the Kranzler book (pp. 17-32).

SECTION V: DATA ANALYSIS

The fifth section begins the data analysis portion of the class, and we will start by looking at one variable at a time (univariate analysis). We will then move from single-variable to two-variable relationships (bivariate analyses) and the notion of causality. Finally, we will look at the relationships between two or more variables (multivariate analysis). Here is how we will proceed:

- *Univariate Data Analysis*:
 - Descriptive Statistics (Johnson, et al., chapter 11, pp. 307-327)
 - Measures of Central Tendencies (Kranzler, chapter 5, pp. 49-54)
 - Measures of variability (Kranzler, chapter 5, pp. 55-65)
- *Bivariate Data Analysis*:
 - Correlation (Kranzler, chapter 8)
 - Means Difference Tests (Kranzler, chapter 11)
 - ANalysis Of Variance (ANOVA) [Kranzler, chapter 12]
 - Bivariate Regression (Kranzler, chapter 9)
- *Multivariate Data Analysis*:
 - Partial Correlations (Handout: Levin and Fox, chapter 10, pp. 332-337)
 - Two-Way ANOVA (Johnson, et al., chapter 13, pp. 402-405; Handout: Field, chapter 4, pp. 116-127)
 - Multivariate Regression (Johnson, et al. pp. 405-411)

Note: The bad news is that we will spend the most time in this section. The good news is that the topics overlap. This means that learning univariate analysis will help you understand bivariate analysis. Likewise, mastering bivariate analysis paves the way for you to learn multivariate analysis.

Exam Review/Teacher Evaluations

Final Exam: As Scheduled by the University (Monday, March 14, 2005, from 7:30 AM to 9:18 AM)

VI. The Fine Print

Course Policies: I will penalize late assignments one (1) point for each day they are late. I will not accept assignments that are more than a week late. Failure to take exams at the scheduled time will result in a grade of zero (0) with no exceptions. Students with legitimate reasons (*i.e.* documented medical emergencies, etc.) for missing an assignment deadline must notify me in advance so that we can arrange an extension. Please note that students must provide me with appropriate documentation before I will extend the deadline for an assignment. Students will be penalized points unless they can demonstrate (to my satisfaction) that it was impossible to complete the assignment at the scheduled time. Since I grade the “extended” assignment harder than I grade the original assignment, students are strongly encouraged to take exams at the scheduled time.

Extra Credit: Students can earn extra credit by participating in the political science department’s Human Subjects Pool. Usually, these opportunities entail filling out surveys or participating in research projects in the Political Science Department; however, they may also involve additional assignments related to the course material. I will make five 3 extra credit opportunities available during the quarter at my discretion. Extra credit is worth 1 point apiece, so you can earn a total of 3 points. There may also be opportunities for extra credit on the exams and homework assignments throughout the quarter. Extra credit can improve your final grade (for example, from a C- to C or from a B+ to A-). However, students with excessive absences will get lower grades regardless of how many extra credit points they earn.

Academic Honesty: I expect all of the work you do in this course to be your own. Absolutely no cheating or plagiarism (using someone else’s words or ideas without proper documentation) will be tolerated. Any cases of cheating or plagiarism will be handled according to university policy, and, when appropriate, reported to the University Committee on Academic Misconduct.

Disability: Students with disabilities that have been certified by the Office for Disabilities will be appropriately accommodated, and should inform the instructor of their needs during the first week of the quarter. Students may also contact the department’s coordinator, Mr. Wayne DeYoung (292-2880) for more information about specific services.

Office Hours: Office hours are times for you to come visit the instructor outside of class to discuss readings, lectures, discussions, presentations, papers, exams, assignments, etc. I strongly encourage students to meet with me throughout the quarter. Office visits do **not** replace class attendance, but they do allow students to interact with the instructor in a more relaxed environment. Most importantly, office hours help me to remember students’ names. If the office hours on the syllabus are not good for you, please call or e-mail me to arrange an appointment.