PA 8180: Research Methods and Inquiry in Public Affairs I

Fall 2009

SYLLABUS

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Meeting time: Wednesdays, 3:00 to 5:30 pm
Middlebush 211

Office hours: Mondays, 2:00-4:00 pm
Other times by appointment

Course website: http://blackboard.missouri.edu

Course Overview

Typically, when we think of the words *research* and *scientific inquiry*, our minds go straightaway to words like *beaker*, *lab coat*, *alpha particles*, *thermal oxidation*, *polynomial approximation schemes*, and *home alone on Saturday nights*. Fortunately for you (and me), none of these concepts have much at all to do with the *social* sciences. The social sciences—which include economics, sociology, political science, psychology and so forth—are concerned with the study of humans and their interactions, topics that are endlessly fascinating if you have the right tools with which to delve into them. This course is a first step in acquiring some of those tools.

The emphasis of the course—and of the research methods sequence more generally—is quantitative methodology. As is probably obvious from the name, quantitative methods rely heavily on mathematics, and statistics in particular, to help us arrive at systematic observations about populations based on data. Sadly, few words strike the same level of fear in the hearts of most students as *statistics* does, and one of my goals in this class is to help relieve you of any such fear. Statistical inference is one of the most powerful tools we have for understanding most social processes and is essential for the public affairs practitioner because of its centrality to program evaluation and the assessment of public and organizational policy outcomes. In today's world, the ability to command, analyze and interpret data—and perhaps more importantly, the ability to evaluate critically other people's analyses of data—is fundamental to the practice of public affairs. In short, it is imperative that you leave the Truman School with a firm grasp on the concepts we will cover in the methods sequence.

My goals for you in Methods I are three-fold. At the end of this course I expect you:

1. To demonstrate proficiency with the fundamental concepts underlying statistical description and inference (and thus to be prepared for the more advanced techniques covered in Methods II)
2. To demonstrate familiarity with the social science research process and to be able to be appropriately critical of various research designs

3. To be able to perform basic descriptive and inferential analyses with statistical computing software, namely Stata

This course is designed to help you meet these three goals. I will not pretend that this class is not quite a bit of work. It is. I have high expectations for what you will learn, and meeting those expectations will take substantial effort on both of our parts. Students typically come into this course will wildly variable levels of statistical preparation, and I am sensitive to that. A lesser degree of prior familiarity with statistics and quantitative research methods will make the class more of a challenge, but it is one that I fully expect can be overcome with the appropriate degree of diligence and effort (both yours and mine).

Required Materials

1. Agresti, A. & Finlay, B. (1997). *Statistical Methods for the Social Sciences* (3rd edition).
2. Pollock, P. (2005). *The Essentials of Political Analysis* (2nd edition).
3. **Stata** (version 10 or 11)
    - Stata is the leading statistical software used in the social sciences. A major goal of the Methods sequence will be for you to gain a sufficient level of proficiency with this software. The program is available in computer labs around campus, including the one in the basement of Middlebush. You may also buy Stata 11 at drastically reduced rates using the GradPlan option on the Stata web site (see http://www.stata.com/order/new/edu/gradplan.html). GradPlan requires you to pay on the web site and then pick up the disk at the medical school (bring your ID). You should purchase Stata 11/IC with a perpetual license. Under no circumstances should you purchase Small Stata. As you think about whether or not to purchase the software license, consider that Stata will also be used in Methods II, Program Evaluation, and Policy Analysis, and may also be a component of other classes during your time at TSPA.

Recommended Materials

Rabe-Hesketh, S. & Everitt, B. (2007). *A Handbook of Statistical Analyses Using Stata* (4th edition). Available online at the Stata Bookstore (www.stata.com) and elsewhere.

Course Requirements and Grading

Students are expected to do all class readings in advance of class meetings. You will have a much easier time following my lectures if you have familiarized yourself with the material beforehand.

Grades will be computed as the weighted average of five components:

1. **Written homework assignments (40%).** There will be weekly written assignments. I will distribute the coming week's assignment in class on Wednesday, and it will be due the following Monday by 5 pm. You should leave the assignments in my box or drop them by my office. I will use only your top eight problem set scores in computing grades; each will be weighted equally.
2. **Midterm exam (15%).** The midterm exam will be taken in-class and will cover the material from the first half of the semester.
3. **Final exam (30%).** The final exam will be taken in-class and will be cumulative, though it will emphasize material covered since the midterm exam.
4. **Critical summary assignment (10%)**
5. **Class preparation and participation (5%)**

Critical Summary Assignment
Once during the semester you will be required to read and evaluate an article from an academic journal that employs methods used in the course. You will prepare a short write-up that summarizes the article's methods and its main points. You will also come to class prepared to give a five-minute presentation about the article. A guide sheet for this assignment can be found on the course web site. I will have you sign up for articles during the second class period.

Late Assignments
You are expected to complete all assignments by the dates on which they are due. I turn your assignments around quickly so that their usefulness as learning tools is maximized. Late assignments disrupt my ability to grade everyone's work quickly and make it available. Thus, **no late assignments will be accepted.** Please begin assignments well ahead of the due date to avoid the kinds of computer problems that always seem to rear their ugly heads the night before an assignment is due.

Effective Participation
The key to effective classroom participation is *engagement*. I expect you to engage the material, your classmates, me and your abilities *with vigor*. The quality of your participation is more important than the quantity, but frankly, both have a significant role. I have little patience for passivity and even less for disengagement. Come to class ready to be called on.

You are expected to attend and to be well prepared for every class session. That means that you should have both reviewed the previous session's material *and* thoroughly read and thought about the current session's material. If you must miss a class, as a courtesy I would appreciate being notified in advance.

Academic Honesty
I take academic honesty very seriously, as do my colleagues in the Truman School and the rest of the University. The Provost puts it this way:

> *Academic integrity is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards breaches of the academic integrity rules as extremely serious matters. Sanctions for such a breach may include academic sanctions from the instructor, including failing the course for any violation, to disciplinary sanctions ranging from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, collaboration, or any other form of cheating, consult the course instructor.*

I put it like this: Your work should be your own. Most of human life is defined by subtlety, nuance and shades of gray. This is not one of those areas. **Any** cases of plagiarism, presenting another's work as your own, or cheating on any assignment will be pursued vigorously via both grade penalties and the University's disciplinary process.

Note, however, that I do not mean to imply that you cannot work together on problem sets. You can, and I encourage it. Two caveats apply: (1) Each person must turn in his or her own completed work, representing his or her own understanding of the questions I have posed, and (2) you may not, under any circumstances, share code. You may work together on the coding to

a particular problem, but the work you turn in must consist of your own code that passed through your own fingertips. Copying and pasting code from someone else is not allowed.

Electronic Devices

Every student has the right to listen to the lecture undistracted by others' use of electronic devices. I love my cell phone and iPod as much as the next guy, but I won't be using them during lecture and neither will you. Please turn off these devices and others like them before entering class.

I also discourage you from using laptops during lecture. While some people like using them for note-taking purposes, most of the note-taking you will do in this class is better suited to traditional pen and paper. Besides, having a laptop open in front of you may tempt you to use web surfing, email and text messaging programs that are inappropriate during class and distracting to you, your classmates and me.

Email

I encourage you to email me with questions, suggestions and points of clarification. I will respond promptly but not necessarily instantaneously, so be prepared for there to be the occasional delay. I also encourage you to come by my office with questions, many of which are much easier to answer in person than electronically.

Disability Accommodations

If you need accommodations because of a disability, if you have emergency medical information to share with me, or if you need special arrangements in case the building must be evacuated, please inform me immediately. Please see me privately after class, or at my office. To request academic accommodations (for example, a note-taker), students must also register with the Office of Disability Services (S5 Memorial Union, 882-4696). For MU resources for students with disabilities, click on *Disability Resources* on the MU homepage.

Course Plan and Calendar

Mtg	Date	Topic and Assignment
1	8/26	Introduction Initial assessment **Assignment:** Introductory Essay Write a two-page statement that addresses the following: 1. A brief history of your existence prior to coming to the Truman School 2. The areas of public affairs that interest you most and why 3. What your future aspirations are 4. Anything I need to know that will help me teach you better Due to me via email by Sunday (8/30) at 5 pm.
2	9/2	Introduction to Stata *Note:* Class meets in Middlebush 7 (computer lab) **Reading:** Agresti & Finlay, Chapter 1; Introduction to Stata handout
3	9/9	Sampling, Measurement and Research Design **Reading:** Agresti & Finlay, Chapter 2; Pollock, Chapter 1 and pp. 102-109 **Assignment:** Problem Set #1 due

4	9/16	Descriptive Statistics **Reading:** Agresti & Finlay, Chapter 3; Pollock, pp. 51-61 **Assignment:** Problem Set #2 due
5	9/23	Probability Distributions **Reading:** Agresti & Finlay, Chapter 4 **Assignment:** Problem Set #3 due
6	9/30	Probability Theory and Midterm Review **Reading:** Review Agresti & Finlay, Chapter 4 **Assignment:** Problem Set #4 due
7	10/7	MIDTERM EXAM
8	10/14	Estimation Generating Hypotheses **Reading:** Agresti & Finlay, Chapter 5; Pollock, Chapter 2
9	10/21	Tests of Significance **Reading:** Agresti & Finlay, Chapter 6; Pollock, pp. 116-128, 130-144 **Assignment:** Problem Set #5 due
10	10/28	Intergroup Comparisons **Reading:** Agresti & Finlay, Chapter 7; Pollock, pp. 61-74 **Assignment:** Problem Set #6 due
	11/4	NO CLASS
11	11/11	Testing Associations Between Categorical Variables **Reading:** Agresti & Finlay, Chapters 7 and 8 **Assignment:** Problem Set #7 due
12	11/18	Correlation and Simple Regression **Reading:** Agresti & Finlay, Chapter 9; Pollock, pp. 154-165 **Assignment:** Problem Set #8 due
	11/25	THANKSGIVING—NO CLASS
13	12/2	Course review **Assignment:** Problem Set #9 due
14	12/9	FINAL EXAM