Political Science 501
Introductory Statistics for Public Policy
Spring 2012
M 6-9pm, Earth & Space Building 69
Instructor: Benjamin Newman
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Office Hours: Mondays 2-4

Course Description
This is the first methodology course in the Political Science Department’s M.A. in Public Policy Program. The main purpose of this course is to teach student to understand the basics steps in the research process. The course will begin with an explanation of research design so that students can see how a research question may be answered. Once the framework for research is established, students will be introduced to basic statistical concepts and tools, such as scale construction, hypothesis testing, and regression analysis. The core statistical tools learned will aid students in describing variables and the relationships between variables. The concepts and tools learned in this course will provide the foundation for the second statistics course in the program (POL 502).

Course Goals
It is my hope and goal that everyone in this class will learn to be very comfortable using and analyzing statistics. Statistics are all around us, and a solid understanding of statistical probability will give students a powerful tool to try to make sense of the world. Without a doubt the concepts presented in this course will make you a better practitioner of public policy. Although it may seem doubtful, learning and doing statistics can be fun and interesting, and I hope many of you find this is so by the end of the semester.

I also want to minimize/eliminate people’s fear of and uncomfortable feelings in dealing with math. You may not be or ever become a math whizz, but you can do this. It is not above anybody’s head!

By the end of the semester, the goal is for students to understand the basic concepts and techniques for empirical research using statistical analysis. Students should be prepared to either conduct their own basic quantitative social science research or critically read and assess quantitative analyses, making their own educated judgments as to the credibility and quality of public policy research papers. At a minimum, students should be well prepared for POL 502.

Course Overview
Student will need to be able to tolerate and recall some basic algebra. Students needing a “refresher” of basic algebraic concepts will likely wish to tackle this sooner rather than later. A decent book for this purpose is Barbara Lee’s Forgotten Algebra.

Attendance in this class is mandatory and essential for imparting and reinforcing the course material; Grades may be lowered at the instructor’s discretion for students with excessive absences. Some students may find that they are able to ace the assignments and exam and
fundamentally understand all concepts with ease; this, however, does not excuse these students from attending class. Of the students who find themselves struggling with the course material, I will be much less willing to give my own extra time to help you make it through if you have poor class attendance. In a class like statistics, where the material is cumulative in nature, waiting until the last minute to try to grasp the concepts is a surefire recipe for failure. Therefore, students are expected to complete the assigned readings AHEAD of class meetings, and I also strongly encourage you to re-read assignments after class meetings to help fortify your comprehension of any material you feel less confident about. Students who complete the assigned readings before class WILL GET substantially more from our class meetings than those who do not completed the reading.

I will try to make as extensive use of the online Blackboard system as possible. You can access class information on-line at: http://blackboard.stonybrook.edu. All class emails will be sent through Blackboard. After the first class I will send an email out on Blackboard; students who do not receive this email should take immediate steps to rectify this problem, as I will not accept as an excuse that you did not receive my emails through Blackboard at any time.

For help or more information or help, see: http://www.sinc.sunysb.edu/helpdesk/docs/blackboard/bbstudent.php
For problems logging in, go to the helpdesk in the Main Library SINC Site or the Union SINC Site, you can also call: 631-632-9602 or e-mail: helpme@ic.sunysb.edu

Assignments, lectures, data sets, and power point presentations will be available at the site. Also, check for messages regarding class news such as possible snow days or other last minute changes or cancellations.

**Computer Work**
A lot of the work in this class will focus on graphical and statistical use of data using Stata – a relatively easy but powerful software package. Using Stata is not an optional part of the course and copies will be made available to the students for use off campus. Students are encouraged to work together on homework and assignments that use Stata but each assignment that is handed in must be unique.

**Course Requirements and Grading**
5 graded problem sets, 10% each.
1st is due February 20th.
2nd is due March 5th.
3rd is due April 9th.
4th is due April 23rd.
5th is due April 30th.

Students are encouraged to help each other with assignments but each assignment must be an individual effort. Students handing in assignments that are too similar to each other will receive grades of 0. No Late Assignments will be accepted.
Mid-term examination: 25%. IN CLASS MARCH 19th.
Final Exam: 25%. IN CLASS MAY 7th.

Assignments are to be handed in at the beginning of the class session for which they are due. Details will be discussed in class.

**Disability Policy**
If you have a physical, psychological, medical or learning disability that may impact your course work, please contact Disability Support Services, ECC (Educational Communications Center) Building, room 128, (631)632-6748. They will determine with you what accommodations are necessary and appropriate. All information and documentation is confidential. Students requiring emergency evacuation are encouraged to discuss their needs with their professors and Disability Support Services. For procedures and information, go to the following web site: http://www.ehs.sunysb.edu/fire/disabilities/asp

**Required Texts**
There are two required textbooks for this course:


Additional readings from political science journals and online resources may be assigned through the course of the term.

**Class Schedule**
*I reserve the right/ability to change the reading schedule as necessary, but any changes will be announced at least one week in advance.

**Week 1 Monday January 23.**
Introduction to Course

**Week 2 Monday January 30.**
Topic: Introduction to the Scientific Method and Research Questions
Reading: Johnson and Reynolds (J&R), Chapters 1&2.

**Week 3 Monday February 6.**
Topic: Hypotheses, Theories & Models
Reading: J&R Chapter 3&4.

**Week 4 Monday February 13.**
Topic: Measurement, Concepts, Variables & Levels of Analysis
Reading: J&R Chapter 5.

**Week 5 Monday February 20.**
*First Problem Set is due.*
Topic: Sampling & Introduction to Stata  
Readings: J&R Chapter 7.

**Week 6 Monday February 27.**  
Topic: Making Observations & Data Management in Stata  
Reading: J&R Chapter 8.

**Week 7 Monday March 5.**  
*Second Problem Set is due.*  
Topic: Graphs, Measures of Central Tendency and Dispersion  
Reading: J&R Chapter 11

**Week 8 Monday March 12.**  
Topic: Contingency Tables and Hypothesis Testing  
Reading: J&R Chapter 11 & 12.

**Week 9 Monday March 19.**  
*Midterm Exam*

**Week 10 Monday March 26.**  
Topic: Hypothesis Testing, Statistical Inference and Significance Tests  
Reading: J&R Chapter 12.

**Week 11 Monday April 2.**  
NO CLASS—SPRING BREAK

**Week 12 Monday April 9**  
Topic: Relationships between Variables: Introduction  
Reading: J&R Chapter 13

**Week 13 Monday April 16.**  
*Third Problem Set is due.*  
Topic: Relationships between Variables: Correlations & Difference Tests  
Reading: J&R Chapter 13

**Week 14 Monday April 23.**  
*Fourth Problem Set is due.*  
Topic: Relationships between Variables: Basic Regression Analysis  
Reading: J&R Chapter 13

**Week 15 Monday April 30.**  
*Fifth Problem set is due.*  
Topic: Relationships between Variables: Multivariate Analysis  
Reading: J&R Chapter 14

**Week 16 Monday May 7.**  
*Final Exam.*