



Introduction to Quantitative Political Analysis

PSC 693
Spring 2009

Professor:

Dr. Christine Mahoney

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Office Hours: M: 10AM -12 PM

Tu: 10:00-11:00 AM

Class: Monday 12:45-3:30PM -- Max 315

Description and Objectives

This class is an introduction to applied quantitative methods. The primary goal of this course is to provide you with the necessary skills to become a good user of statistical data in your own field. A good user is an informed, critical, cautious user of statistics. An informed user of statistical data understands the basic principles through which inferences about observable social and political phenomena are drawn, knows when to apply particular techniques and is aware of the potential flaws hidden behind apparently convincing figures. A critical user of statistics is able to assess how reliable the evidence backing a particular theoretical point or policy recommendation is. Finally, a cautious user of statistics is one that extracts as much information from the data as possible yet remains fully aware of the line after which a reasonable statement becomes a half-truth.

The course combines lectures and in-class labs and exercises. Lectures do not assume mathematical skills beyond high school algebra. This is not a statistical theory class but a course on applied statistics for political scientists. Hence lectures will be structured around real world examples and applications. Some lectures will be closer to the text-book than others, but the text-book readings are to be taken as a *required complement* to the lectures. In class we will work through some "labs" together for some hands-on practice of the principles and techniques explained during the lecture.

Books

The primary text for the course is David S. Moore (2006) *The Basic Practice of Statistics*, New York, Freeman and Company, 4th edition. The text is available for purchase at the SU Bookstore. We will also read selections from Jeffrey M. Wooldridge (2000) *Introductory Econometrics, A Modern Approach*. South-Western College Publishing, Thomson Learning, 1st edition, as well as, *Introduction to the Practice of Statistics* 6th edition, David S. Moore, George P. McCabe and Bruce A. Craig, New York, Freeman and Company.

Software

We will be using STATA primarily in this class, but we will also discuss how to make use of SPSS which is more user friendly for simpler statistical tasks. Packages of SPSS can also be downloaded to your laptops if you wish. If you are interested in this option you need to email webmaster@maxwell.syr.edu for further info and directions.

Datasets

It is always good to be exposed to several data sets while learning and implementing statistical principles. Examples used in lectures will be drawn from a variety of sources and topics, related to the substantive areas of American Politics, Public Policy, Comparative Politics, and International Relations.

In addition, we will be working with two different data sets:

- 1) In-class lab sessions will use the *American Public Opinion and US Foreign Policy, 2002 (ICPSR Study # 3673)*.
- 2) Many assignments will be based on the *Worldviews 2002: European Public Opinion on Foreign Policy (ICPSR Study # 3730)*.

Links to both datasets are available from my website: <http://faculty.maxwell.syr.edu/chmahone/>

Coursework and Grading

The final grade of the course will be a combination of the grades obtained in the different tasks students are asked to fulfill. These include:

- 1) FIVE short assignments. Assignments will be handed out in class and are due the following week at the beginning of class. For every day the assignment is late it will be marked down ten points. Essays should be written in a professional manner. Please do not hand in just the STATA output. Late assignments **will not** be accepted unless previously agreed with the professor. Assignments constitute 30% of the final grade.
- 2) Two midterm exams. Each of the midterms accounts for 20% of the final grade.
- 3) Participation. Hard work should always be rewarded and this portion of the grade speaks to that. Students are expected to attend every session of the course and actively participate. Random pop quizzes may be given from time to time to ensure students are doing the readings. Participation counts for 10% of the final grade.
- 4) Final paper. Final research paper accounts for 20% of the final grade. This will be a statistical research paper, 10 pages, the focus is on finding or building a dataset that interests you and running a range of analyses on that data. Findings of the research papers will be presented the last day of class (April 27th, 2009) and presentations will be part of the grade.

Each of the requirements of the course is graded on a 0-100 scale. Final grades will reflect the following scale:

A	94-100
A-	87-93
B+	80-86
B	75-79
B-	70-74
C	65-69
C-	60-64
F	<=59

Academic Integrity

Quantitative methods courses are always a fabulous opportunity to build connections with your cohort and working together is encouraged. However the assignments must be your own work, it will be clear if the assignments are replicas or your colleagues. Furthermore, if you rely on your fellow students to get through the assignments you will never pass the exams which you must complete on your own. So, work together to help each other LEARN; not to get the assignment done. Academic dishonesty will be dealt with according to the University's Academic Integrity Policy <http://academicintegrity.syr.edu>

Disability Services

Students who are in need of disability-related academic accommodations must register with the Office of Disability Services (ODS), 804 University Avenue, Room 309, 315-443-4498. Students with authorized disability-related accommodations should provide a current Accommodation Authorization Letter from ODS to the instructor and review those accommodations with the instructor. Accommodations, such as exam administration, are not provided retroactively; therefore, planning for accommodations as early as possible is necessary. For further information, see the ODS website: <http://disabilityservices.syr.edu>

Schedule

Jan 12: Introduction & Univariate Statistics: central tendency and dispersion (A1 out)

Reading: Moore (chapters 1, 2)

Jan 19: NO CLASSES!!! – Martin Luther King, Jr. Day

Jan 26: Normal Curves, Correlation, Simple Linear Regression & Two-way Tables (A1 due).
(A2 out).

Reading: Moore (chapters 3, 4, 5, 6)

Feb 2: Building blocks for inference: Data production & Probability (A2 due).

Reading: Moore (chapters 8, 9, 10) – Final Paper Topics discussed in class.

Feb 9: Building blocks for inference: Sampling Distributions & Binomial Distributions

Reading: Moore (chapters 11, 13; Note in Ch 11 you do not need to read the optional sections on Statistical process control; X-charts; or Thinking about process control.)

Feb 16: Midterm Exam I

Feb 23: Making Inferences: Confidence Intervals & Hypothesis testing (A3 out).

Reading: Moore (chapters 14, 15) - Description of dataset for final research paper.

March 2: Inference in Practice, Population Means & Two Sample Problems (A3 due/A4 out).

Reading: Moore (chapters 16, 18, 19)

March 9: NO CLASSES!!! - SPRING BREAK!!!

March 16: Population Proportions & Two proportions (A4 due).

Reading: Moore (chapters 20, 21)

March 23: Midterm Exam II

March 30: Inferences about relationships – Chi-square, ANOVA and Introduction to Regression (A5 out).

Reading: Moore (chapters 23, 25)

Reading: Wooldridge (chapter 2)

April 6: Multiple Regression (A5 due). (A6 out).

Reading: Wooldridge (chapters 3, 4, 5) – Presentation of preliminary analyses for final paper.

April 13: Binary/Dummy variables in Multiple Regression and Logistic Regression (A6 due)

Reading: Wooldridge (chapter 7) & Moore, McCabe and Craig (chapter 14)

April 27: Research presentations (Final papers due in hard copy).