POL 582: RESEARCH METHODOLOGY I

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POL 582 – Fall 2009: M-W: 11:00 – 12:15 pm Office Hours: Tuesday 1-4 pm

REQUIRED TEXTBOOKS


COURSE OVERVIEW
This course provides an introduction to the theory and practice of quantitative data analysis techniques. The purpose of this course is to establish the basic tools necessary to conduct and consume quantitative political science research. More advanced techniques cannot be mastered without a complete understanding of the material in this course.

Statistics courses tend to cause a non-trivial amount of trepidation for 1st year graduate students. You may be assured that no previous experience with statistics is necessary for this course. By far the most important skill needed is the ability to work hard. We will move quickly through a substantial amount of material, and you must be consistent with your effort in order to keep up with the pace. Because the material in this course is not something that will go away as you advance in your graduate studies, it is imperative that you are completely dedicated to understanding the ideas and techniques covered throughout the semester.

GRADING
35% Midterm Exam
35% Final Exam
30%: Final Assignment

Homework problems will be assigned weekly but will not be graded. You will be required to turn in your homework assignments on time, however. Collaborating with your colleagues on the homework is encouraged. Be warned that mastery of the material is contingent on your ability to understand and solve the types of problems in the homework assignments.

Exams will be administered in class, and will consist of a mix of problem solving and conceptual analysis.

The final assignment will consist of an extended applied problem set. You will be given a data set, and you will be required to conduct several sets of analyses. The assignment will
be distributed on December 2\textsuperscript{nd} and will be due on December 14\textsuperscript{th}. Collaboration on this assignment will not be permitted.

The final grades will reflect a conventional understanding of graduate work.

A hopefully unnecessary note about academic honesty: It is your responsibility to be completely and fully aware of the relevant university/departmental policies. I have zero tolerance regarding such issues.

\textbf{COURSE SCHEDULE}

August 24 – Introduction/Describing Data – L & M Ch. 1


August 26 – Introduction to Correlation & Regression


August 31 – Introduction to Measurement


September 2 – No Class

September 7 – No Class – Labor Day

September 9 –Probability Theory – L & M Ch. 2, Gill Ch. 7


September 14 – Probability Theory: L & M Ch. 2, Gill Ch. 7

September 16 – Random Variables – L & M Ch 3, Gill Ch. 8

September 21 – Random Variables – L & M Ch 3, Gill Ch. 8

September 23 – Random Variables – L & M Ch 3, Gill Ch. 8

September 28 – Special Distributions – L & M Ch 4


September 30 – Special Distributions – L & M Ch 4


October 5 – Estimation – L & M Ch 5

October 7 – Estimation – L & M Ch 5, Kennedy Ch 2

October 12 – Estimation – L & M Ch 5, Kennedy Ch 2

October 14 – Catch Up/Review

October 19 – Midterm

October 21 – Hypothesis Testing: H & L Ch 6


October 26 – Hypothesis Testing: H & L Ch 6


October 28 – Hypothesis Testing/Normal Distribution: H & L Ch 6-7

November 2 – Hypothesis Testing/Normal Distribution: H & L Ch 6-7, Ch 9


November 4 – Two-Sample Problems: H & L Ch 9


November 9 – Regression Redux: H & L Ch 11, Kennedy Ch 3-4


November 11 – No Class – Veteran’s Day

November 16 – Regression – Specification: H & L Ch 11, Kennedy Ch 5-8


November 18 – Regression – Qualitative IVs/Interactions: Kennedy Ch 14


November 23 – Regression – Violating Assumptions: Kennedy Ch 9-10


November 25 – Regression – Violating Assumptions: Kennedy Ch 11-12

November 30 – Regression – Classical vs Bayesian Approaches: Kennedy Ch 15


December 2 – ANOVA: H & L Ch 12


December 7 – Nonparametric Methods – H & L Ch 14


December 9 – Catch Up/Review

December 11 – Final (11-1)