

POLS 2400 (CRN 16505)
Fall 2015
Northeastern University

Dr. Ryan C. Maness
Lecture MWTh West Village 108
1:35-2:40 pm

Quantitative Techniques

This course is tailored toward political science majors interested in knowing statistical concepts involving political and social phenomena. Essentially, this course introduces students to the “science” part of political science. This is an introductory course and basic descriptive and inferential statistical concepts will be covered, along with an understanding of how to analyze the data presented in class and in the labs. The labs will introduce you how to use the statistical program of this course, SPSS (Statistical Package for the Social Sciences), which is essential for your paper.

It is the hope of the instructor that students are able to understand when, how, where, and why to use statistical analyses in their studies as well as everyday life. Basic knowledge of statistics and probability is becoming more and more important in our field, especially with the growth of “Big Data” and the growing accuracy in the predictions of political phenomena such as elections. Quantitative methods, therefore, are essential to the understanding of political phenomena.

Among the topics covered in this course will be descriptive and inferential statistics, sampling and measurement, probability theory and distributions, statistical inference (estimation and significance tests), comparison of two groups, correlation, linear regression, categorical data analysis, multivariate relationships, multiple regression, and logistic regression. All of these methods will be taught in lectures and practiced in labs.

Course Format

This course will consist of weekly lectures, and the power points are posted under Course Documents in Blackboard, in 108 West Village and about 10 lab sessions to learn the SPSS computer program. The course requires a basic knowledge of mathematics; therefore the prerequisites for this class are MATH 1213, MATH 1215, MATH 1231, MATH 1241, MATH 1251, or MATH 1341 or high school equivalent.

Instructors’ Office Hours and Contact Info

Office hour visits are essential if you want to do well in this class.
Dr. Maness’s Office: 914 Renaissance Park
Phone: 773-655-4885 (Try email first)
Office Hours: 12-1pm, MWTh, or by appointment
Email: r.maness@neu.edu,
Webpage: www.drryanmaness.wix.com/irprof

Required Books, Websites, and Software

Field, Andy 2013. *Discovering Statistics Using IBM SPSS Statistics 4th Edition*, London: SAGE Publications. ISBN: 9781446249185

Companion Website: www.uk.sagepub.com/field4e

All Datasets for the Labs are posted on Blackboard under Course Material and are also on the companion website. There are a plethora of student resources here to help you learn so I highly recommend you take advantage of it!

Project dataset access: www.statlabonline.com.

Temporary IBM SPSS Version 22 Grad Pack access for the semester, around \$40 from most vendors and you can download straight to your laptop! This is required so that you can learn the program in class as well as on your own time. <http://www-03.ibm.com/software/products/en/spss-stats-gradpack>

A basic calculator is also required (most of you I assume have smartphones with calculators and this is good enough).

Several articles will also be handed out or posted on Blackboard by the instructor.

Course Requirements

Grading Scale

A 94% and above, A- 90-93%, B 84-89% , B- 80-83%, C 74-79%, C- 70-73%,
D 64-69%, D- 60-63%, F 59% and below

Midterm 25%

Final 25%

Original Data Analysis Paper 25%

Homework 25%

Exams: There will be two non-cumulative exams, a midterm and a final, each worth 25 percent. These exams will cover the concepts covered in lecture. It is expected that you do the homework problems which will be made available on Blackboard, and listed in the course schedule below for each week to prepare for these exams. I highly recommend that use these assignments to prepare yourselves for the exams and know what to expect. Please come to me if you have any issues with figuring out these problems.

Original Data Analysis Paper: Here you will do your own data collection and analysis. This project is why you attend the labs. You may use data from existing academic datasets, but some part of your analysis **MUST** be original. This includes using a new statistical method, adding a variable, or retooling a previous analysis with a new idea or hypothesis. I am being vague right now as it is the beginning of the semester, and more details will be handed out and discussed as you learn the material throughout the term. This paper will be 7+ pages, double spaced, 12 point font paper, complete with an introduction, literature review, research design, data analysis with tables and graphs, and concluding section. Datasets are provided through STATLAB which is an accompanying website for this course: www.statlabonline.com. Other ready-made datasets are also available from the GSS survey website: <http://www3.norc.og/GSS+Website/>, as well as the election survey website ANES: <http://www.electionstudies.org/>. There are plenty more based on the topic you choose, just come see me and we will locate data that you wish to use.

The paper is due on December 11 on Blackboard Tunitin.

Homework: You will have 11 homework assignments worth 25 percent of your final grade. The purpose of these assignments is to make sure that you are grasping the weekly concepts and they serve as a great asset for studying for the midterm and final. Each homework assignment is due **by SUNDAY at 11:59pm** of every week that a chapter is assigned. The last few weeks of the semester are devoted to you completing your final data analysis paper; this is why there are only 11. Homework assignments are available on the Blackboard sites through Web Assign. To access the Web Assign forum click on “Tools” and it will be the first link you see. Homework for each week will become available the Monday at the beginning of the week of the Sunday that they are due.

Attendance/Participation: I do not take attendance in this class for one simple reason. If you miss significant amounts of days you will be penalized severely, because missing class and not coming to see me for one-on-one office hours will make you fall behind and miss key concepts, and each class you miss increases the probability that you will receive a poor grade for the course. This class can move at a fast pace for some and anything you do not understand can be better explained with me in my office.

DEPARTMENT OF POLITICAL SCIENCE POLICY ON ACADEMIC HONESTY FOR UNDERGRADUATES

“The Department of Political Science takes very seriously the issue of academic honesty. Any student who cheats on an exam or in the preparation and writing of a course assignment at minimum will fail the assignment in question, and may fail the course. Further, the Department can recommend that the student be put on academic probation (as outlined in the University’s Code of Conduct). Individual faculty, with the support of the Department, can impose harsher penalties as they deem necessary.

Cheating includes plagiarism, which is defined broadly as taking ideas, concepts or actual words of another person or author and passing them off as your own work. This includes, but is not limited to “cut and paste” construction of a paper, buying a term paper, pulling a paper off of the Internet, or using materials without acknowledging the source. A paper written by you (or anyone else) for another course is not acceptable for fulfilling the paper requirements of this course.”

Course Schedule

September

W 9: Introductions, Go over syllabus

Th 10: Chapter 1 (Read): Why is my evil professor forcing me to learn statistics?

M 14: Chapter 1, Cont.

W 16: Chapter 1, Cont.

Th 17: Chapter 2 (Read): Everything you never wanted to know about statistics

Sun 20: **Chapter 1 HW due on Web Assign (Blackboard)**

M 21: Chapter 2, Cont.

W 23: Chapter 2, Cont.

Th 24: Chapter 3 and 4, Using SPSS and Creating Graphs

Sun 27: **Chapter 2 HW due on Web Assign (Blackboard)**

M 28: Probability Distributions, Read Handout on BB

W 30: Probability Distributions, Cont.

October

Th 1: Chapter 7 (Read): Correlation

Sun 4: **Probability Distributions and Chapter 3 HW due on Web Assign (Blackboard)**

M 5: Chapter 7, Correlation Cont. : **Bring Computers for SPSS**

W 7: Chapter 8 Part 1, Linear Regression (Read pp. 293-320)

Th 8: Chapter 8 Linear Regression, Cont.

Sun 11: **Chapter 4 & 7 HW due on Web Assign (Blackboard)**

M 12: **Columbus Day, No Class**

W 14: Chapter 8 Linear Regression, Cont.

Th 15: Chapter 8 Part 2, Multiple Regression (Read pp. 321-356)

Sun 18: **Chapter 8 Part 1 due on Web Assign (Blackboard)**

M 19: **Midterm Examination in Class (Up to Chapter 8 Part 1)**

W 21: Chapter 8 Multiple Regression, Cont.

Th 22: Chapter 8 Multiple Regression, Cont. **Bring Computers for SPSS**

Sun 25: **Chapter 8 Part 2 HW due on Web Assign (Blackboard)**

M 26: Chapter 9 (Read): Comparing Two Means

W 28: Chapter 9, Cont. **Bring Computers for SPSS**

Th 29: Chapter 18 (Read): Categorical Data

November

Sun 1: **Chapter 9 HW due on Web Assign (Blackboard)**

M 2: Chapter 18, Cont. **Bring Computers for SPSS**

W 4: Chapter 10 (Read): Moderation, Mediation, and More Regression

Th 5: Chapter 10, Cont. **Bring Computers for SPSS**

Sun 8: **Chapter 18 HW due on Web Assign (Blackboard)**

M 9: Chapter 19 (Read): Logistic Regression

W 11: **Veteran's Day, No Class**

Th 12: Chapter 19, Cont.

Sun 15: **Chapter 10 HW due on Web Assign (Blackboard)**

M 16: Chapter 19, Cont. **Bring Computers for SPSS**

W 18: Chapter 5 (Read), The Beast of Bias

Th 19: Chapter 5, Cont.

Sun 22: **Chapter 19 HW due on Web Assign (Blackboard)**

M 23: Catch-up/Makeup Day, In Class Project Work

W 25: **Thanksgiving Break, No Class**

Th 26: **Thanksgiving Break, No Class**

M 30: Catch-up/Makeup Day, In Class Project Work

December

W 2: In-Class Project Work

Th 3: In Class Project Work

Sun 6: **Chapter 5 HW due on Web Assign (Blackboard)**

M 7: **No Class, Project Work and Instructor Office Hours**

W 9: **No Class, Project Work and Instructor Office Hours**

Th 10: **No Class, Project Work and Instructor Office Hours**

F 11: **Final Projects Due on Blackboard Turnitin**

Thursday December 17: Final (Ch. 8 Part 2, 9, 18, 10, 19, 5) TBA