

POLS 201 (CRN 20206)
Spring 2014
University of Illinois at Chicago

Dr. Ryan C. Maness
Lecture BSB 367, MW
Lab BSB 4133, F

Political Data Analysis

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, chi-squared tests, linear regression, multivariate relationships, multiple regression, and analysis of variance (ANOVA). All of these methods will be taught in lectures and practiced in labs.

Course Format

This course will consist of two weekly lectures on Mondays and Wednesdays (and occasional Fridays) in BSB 367 and one weekly lab on (most) Fridays in BSB 4133. The course requires a basic knowledge of mathematics, therefore the prerequisites for this class are MATH 090, MATH, 094, or MATH 118. A teaching assistant, Ms. Rita Nassar, will be available throughout the semester to assist with course material. Please make us aware of any special accommodations or needs.

Instructors' Office Hours and Contact Info

Dr. Maness's Office: 1122C BSB
Phone: 773-655-4885 (Try email first)
Office Hours: 10-11am MW, or by appointment
Email: rmaness@uic.edu, ryan.maness75@gmail.com
Webpage: www.drryanmaness.wix.com/irprof

Rita Nassar's Office: 1113A BSB
Phone: 312-890-7609
Office Hours: Th 2:30-3:30
Email: rnassa2@uic.edu

Required Books

Agresti, Alan and Barbara Findlay (2009). *Statistical Methods for the Social Sciences*, 4th Edition, (Upper Saddle River, NJ: Pearson/Prentice Hall) ISBN: 9780130272959

Salkind, Neil J. and Samuel Green (2011). *SPSS Quickstarts* (Upper Saddle River, NJ: Prentice Hall) ISBN: 9780205735778

All Datasets for the Labs are posted on Blackboard

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

Course Requirements

Grading Scale

A 90% and above B 80-89% C 70-79% D 60-69% F 59% and below
Midterm 30%
Final 30%
Original Data Analysis Paper 30%
Attendance/Participation 10%

Exams: There will be two non-cumulative exams, a midterm and a final, each worth 30 percent. These exams will cover the concepts covered in lecture. It is expected that you do the suggested homework problems listed in the course schedule below for each week to prepare for these exams. These homework assignments are not required, however, I highly recommend that you do these to prepare yourself for the exam and know what to expect. Please come to me or Rita 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 consist of two parts: a 7+ page, double spaced, 12 point font paper, complete with an introduction, literature review, research design, data analysis, and concluding section; and an end of semester short presentation to the class on your findings. **Presentations will be held the final two weeks of class.** It is important as political scientists that we share our knowledge!

The paper is due on May 2.

Attendance/Participation: I do take attendance for your own good. If you miss significant amounts of days you will be penalized severely, not only with this portion of the grade, but also because missing class 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.

Disclaimers

Writing Deficiency Policy - Students who exhibit writing deficiencies will be required to seek help from the Writing Center and provide documentation that they have done so. You may seek help from the Writing Center if you think it would help you even if I do not refer you.

Plagiarism: When you write, you must do your own work and use a system of footnotes and references. If you do not do this, or if you copy material from the internet or other sources without attribution, you may be committing plagiarism. The UIC Student Code of Conduct defines plagiarism as “Appropriation or imitation of the language, ideas, and thoughts of another author and representation of them as one’s original work. This includes (1) paraphrasing another’s ideas or conclusions without acknowledgement; (2) lifting of entire paragraphs, chapters, etc. from another’s work; and (3) submission as one’s own work, any work prepared by another person or agency.” Plagiarism is SERIOUS. Punishments include a failing grade on the paper or exam, or a failing grade in the course. Students can also be referred to the Dean of Students for a hearing to decide additional punishments. Plagiarism is also easy to avoid. If you find a paper or article that says exactly what you wanted to say, then use it, but cite it. We will discuss this again when the first paper assignment is distributed.

Acts of Misconduct: A student is subject to University discipline for participating or conspiring in the following acts of misconduct. Academic misconduct is an offense against the University. Acts of academic misconduct include but are not limited to:

1. **Cheating.** Use or attempted use of any unauthorized assistance in taking an exam, test, quiz, or other assignment.
2. **Encouraging Academic Dishonesty.** Intentionally or knowingly helping or attempting to persuade and/or influence another to violate the University’s rules, policies, and regulations governing academic integrity.
3. **Fabrication.** Deliberate falsification or design of any material or excerpt in an academic assignment or exercise.
4. **Plagiarism.** Appropriation or imitation of the language, ideas, and thoughts of another author and representation of them as one’s original work. This includes (1) paraphrasing another’s ideas or conclusions without acknowledgement; (2) lifting of entire paragraphs, chapters, etc. from another’s work; and (3) submission as one’s own work, any work prepared by another person or agency.

If the student’s observed conduct or apparent behavior is such as to lead to suspicion of academic misconduct, the faculty member in whose course the alleged infraction occurred may adjust the grade downward (including F - failure) for the test, paper, or course, or other course related activity in question. In such instances the faculty member shall notify the student, the Department/Unit Head, the Dean of the College and the Office of the Dean of Students of the reason for such action in writing.

Course Schedule

January

M 13: Introductions

W 15: Introduction to Statistical Methodology, Read Agresti Chapter 1
Homework: pp. 7-9, 1.1-1.10 All

F 17: **No Lab this Friday**, Sampling and Measurement, Read Agresti Chapter 2
Homework pp. 25-27, 2.1-2.21 Odds

M 20: **No Class, MLK Holiday**

W 22: Descriptive Statistics, Read Agresti Chapter 3
Homework pp. 61-65, 3.1-3.25 Odds

F 24: **Lab in BSB 4133**, Introduction to SPSS, Read Salkind pp. 1-23

M 27: Descriptive Statistics (Cont.)
Homework pp. 65-68, 3.33-3.53 (Except 3.37) Odds

W 29: Probability Theory and Distributions, Read Agresti Chapter 4
Homework pp. 99-101, 4.1-4.15 All

F 31: **Lab in BSB 4133**, Working with an SPSS Data File, Read Salkind pp. 24-41

February

M 3: Probability Distributions (Cont.)
Homework pp. 101-102, 4.16-4.30 All

W 5: Probability Distributions (Cont.)
Homework pp. 102-103, 4.31-4.40 All

F 7: **Lab in BSB 4133**, Graphs and Tables, Descriptive Statistics, Read Salkind pp. 42-65

M 10: Statistical Inference: Estimation, Read Agresti Chapter 5
Homework pp. 133-135, 5.1-5.27 (Except 5.23) Odds

W 12: Statistical Inference: Estimation (Cont.)
Homework pp. 136-137, 5.29-5.43, Odds

F 14: **No Lab this Friday**, Statistical Inference: Significance Tests, Read Agresti Chapter 6
Homework pp. 175-177, 6.1-6.15, Odds

M 17: Statistical Inference, Significance Tests (Cont.)
Homework pp. 177-179, 6.17-6.35 (Except 6.31) Odds

W 19: Comparison of Two Groups, Read Agresti Chapter 7
Homework pp. 209-211, 7.1-7.13, Odds

F 21: **Lab in BSB 4133**, Evaluating Means, Read Salkind pp. 66-75, Binomial Test, Read Salkind pp. 122-125

M 24: Comparison of Two Groups (Cont.)
Homework pp. 211-213, 7.17-7.27, Odds

W 26: Analyzing Association between Categorical Variables, Read Agresti Chapter 8
Homework pp. 247-248, 8.1-8.13 Odds

F 28: **Lab in BSB 4133**, Nonparametric Statistics, Read Salkind pp. 122-135

March

M 3: Analyzing Association between Categorical Variables (Cont.)
Homework pp. 249-250, 8.15-8.27, Odds

W 5: Midterm Review (Chapters 1-6 Only!)

F 7: **Midterm: Chapters 1-6 Only!**

M 10: Linear Regression and Correlation, Read Agresti Chapter 9
Homework pp. 289-290, 9.1-9.10, All

W 12: Linear Regression and Correlation (Cont.)
Homework pp. 291-292, 9.11-9.22, All

F 14: **Lab in BSB 4133**, Correlation and Regression, Read Salkind pp. 92-103

M 17: Linear Regression and Correlation, (Cont.)
Homework pp. 292-295, 9.23-9.33, All

W 19: Introduction to Multivariate Relationships, Read Agresti Chapter 10
Homework pp. 315-318, 10.1-10.23, Odds

F 21: **Lab in BSB 4133**, Correlation and Regression, Review Salkind pp. 92-103

24-28: **No Class, Spring Break**

M 31: Multiple Regression and Correlation, Read Agresti Chapter 11
Homework pp. 356-359, 11.1-11.15, Odds

April

W 2: Multiple Regression and Correlation (Cont.)

Homework pp. 359-362, pp. 11.17-11.29, Odds

F 4: **Lab in BSB 4133**, Multiple Linear Regression, Read Salkind pp. 104-107

M 7: Comparing Groups: Analysis of Variance (ANOVA) Methods, Read Agresti Chapter 12

Homework pp. 403-404, 12.1-12.10, All

W 9: Comparing Groups: Analysis of Variance (ANOVA) Methods, (Cont.)

Homework pp. 405-407, 12.11-12.29, Odds

F 11: **Lab in BSB 4133**, ANOVA, Read Salkind pp. 76-91

M 14: Model Building with Multiple Regression, Read Agresti Chapter 14

W 16: Logistic Regression: Modeling Categorical Responses, Read Agresti Chapter 15

F 18: **Lab in BSB 4133, Open lab day to work on projects and ask us questions!**

M 21: Presentations

W 23: Presentations

F 25: Presentations

M 28: Presentations

W 30: Presentations

May

F 2: Presentations, **Papers Due in Class!**

Final May 5-9, TBA, Chapters 7-12 Only!