

POS 6737: Political Data Analysis

Section #0291

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Course Description

This course introduces Political Science graduate students to the theory and practice of statistical data analysis techniques to answer critical social science research questions. The course emphasizes proper pairing of analysis techniques to data types; application and interpretation of statistical analysis; and, implementation of data analysis using computer software. The primary focus for this course is building a foundation of basic statistical skills to allow students to both engage in their own research and understand, interpret, and apply the published research of others.

Course Objectives

Upon successful completion of this course, students should be able to:

1. Propose testable questions for analysis that are pertinent to contemporary Political Science and the broader study of social issues.
2. Formulate a step-by-step approach for analyzing these research questions.
3. Identify the most appropriate methodological techniques for analyzing research questions and available data.
4. Conduct statistical data analyses using the techniques covered in the course.
5. Properly interpret the results of these statistical analyses.

Course Materials

- Agresti, Alan and Barbara Finlay (2009). *Statistical Methods for the Social Sciences, 4th Edition*. Upper Saddle River, NJ: Pearson-Prentice Hall.
- Aldrich, James O. and James B. Cunningham (2016). *Using IBM® SPSS® Statistics: An Interactive Hands-On Approach, 2nd Edition*. Los Angeles, CA: SAGE. (or a similar SPSS guide)
- Handouts and other written materials will be provided by the instructor and will be available in Canvas.

IBM® SPSS Statistics

This course will use SPSS Statistics 23 for data analysis, which is available on all computers in UF labs and on UF Apps. To use SPSS at home/on your laptop, you may purchase the software from the HUB for \$35 for install on your personal computer (recommended), or access SPSS Statistics 23 using UFApps (info.apps.ufl.edu).

Course Requirements & Grading

- **Weekly Assignments:** You will complete a series of weekly homework assignments that test your knowledge of the skills learned in class. These projects, taken together, account for **25%** of your final grade.
- **Mid-term Exam:** This take-home exam accounts for **15%** of your final grade. The mid-term will be distributed at the end of class on October 10 and is due at the start of class on **October 17**.
- **Final Exam:** This take-home exam accounts for **15%** of your final grade. The final exam will be distributed at the end of class on November 28 and is due at the start of class on **December 5**.
- **Final Research Proposal:** You will complete a short proposal to serve as a guide for your final research paper (including topic, research question, intended data set, and intended analysis). This proposal accounts for **5%** of your final grade and is due by the start of class on **October 24**.
- **Final Research Paper:** You will complete a research paper that uses the data analysis skills acquired during the semester. This project should address a political science research question, policy issue, or community/social issue of your choice, utilizing either primary or secondary data. The final research paper accounts for **40%** of your final grade, including an in-class presentation of your final research. The paper is due by **December 12**.

Information on current UF grading policies for assigning grade points can be found on the [UF web page](#).

Research Paper

This project provides students with an opportunity to go through the research process from start to finish, applying the analysis techniques learned in class to a substantive political science research question, policy, or community/societal problem. You'll begin with a research question, formulate hypotheses, find or gather data, conduct statistical analyses, present and interpret the results, and provide conclusions based on your findings.

In completing the research paper, students should:

- Identify a significant research question related to a political, policy, or community/social issue;
- Choose an appropriate dataset which includes needed variables (or collect primary data relevant to the issue, for all required variables);
- Conduct appropriate analyses based on the data and variables chosen to properly address the research question using techniques from the course;
- The final paper should include a literature review, description of methodology and variables, statistical analysis, interpreted results, and conclusions based on the findings;
- To insure that you remain on track, a paper proposal including your research question, proposed dependent and independent variables, and dataset choice is due by **October 24**. However, I'd recommend you begin this process as soon as possible for the best possible outcome.

Readings & Attendance

You are responsible for completing all assigned readings before class, as this will facilitate your understanding of lectures, participation in discussion, and may be essential to taking part in data lab instruction. Class attendance is extremely important, and it is essential that you keep up with weekly homework assignments and readings. This is not a typical seminar – each week's material builds on the

POS 6737: Political Data Analysis

previous week, and each week's class time will include lecture, discussion, and work on computer analysis. In addition, you'll need to spend time outside class honing your skills with computer software for data analysis. If you need to miss class for some reason, please contact the instructor.

Students with disabilities requesting accommodations should first register with the Disability Resource Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, students will receive an accommodation letter which must be presented to the instructor when requesting accommodations. Students with disabilities should follow this procedure as early as possible in the semester.

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The [Honor Code](#) specifies a number of behaviors that are in violation of this code and the possible sanctions. Furthermore, you are obligated to report any condition that facilitates academic misconduct to appropriate personnel. If you have any questions or concerns, please consult with the instructor.

Course Outline

Date	Topic	Readings	Due
8/22/16	Intro to the course	Agresti 1	
8/29/16	Sampling & measurement, Finding data	Agresti 2; Aldrich 4; Elkins 2000	
9/05/16	LABOR DAY – NO CLASS		
9/12/16	Descriptive statistics	Agresti 3; Aldrich 8, 9, 11; Gleditsch & Rudolfson 2016	Assignment #1
9/19/16	Probability distributions, Sampling distributions	Agresti 4	Assignment #2
9/26/16	Estimation	Agresti 5	
10/03/16	Significance tests & hypothesis testing	Agresti 6; Aldrich 12	Assignment #3
10/10/16	Comparison of two groups (Difference of means tests)	Agresti 7; Aldrich 13 & 14; Burnett 2016	Assignment #4
Mid-term Exam Distributed at end of Class			

POS 6737: Political Data Analysis

Date	Topic	Readings	Due
10/17/16	Association between categorical variables (Contingency tables)	Agresti 8; Aldrich 25; Field 2014	Mid-term Assignment #5
10/24/16	Simple Linear Regression & Correlation, Index/Scale variables	Agresti 9, 16.5; Aldrich 19, 20, 23; Pennycook, et al. 2015	Paper Proposal Assignment #6
10/31/16	Multivariate relationships (Control)	Agresti 10; Barkan 2014	Assignment #7
11/07/16	Multiple OLS Regression	Agresti 11 & 14; Aldrich 21; Mondak & Hurwitz 2012	Assignment #8
11/14/16	ANOVA	Agresti 12; Aldrich 15; Wojcieszak 2014	Assignment #9
11/21/16	Logistic Regression	Agresti 15; Aldrich 22; Braithwaite & Sudduth 2016	Assignment #10
11/28/16	Other advanced techniques	Agresti 16	
<i>Final Exam Distributed at end of Class</i>			
12/05/16	Final Paper Presentations		Final Exam
12/12/16	Final Research Papers Due		

** This schedule is subject to change with proper advance notice to students*