

POS 673: Political Data Analysis
Fall 2013

Instructor: Dr. Magda Giurcanu

Office: 210 Anderson Hall

Email: magiur@ufl.edu

Office Hours:

- Tuesday 10.30-12.30 am
- Friday 10.30-11.30 am

TA *Diana Forster*

Office: Political Science Data Lab 001 Anderson Hall

Computer Lab Sessions: TBA (2- hour weekly sessions)

Class Time: Th 8-10 (3-6 pm)

Class Location: DAU 342

Lab Location: Political Science Data Lab 001 Anderson Hall

Course Description and Objectives

This course provides an introduction to the theory and practice of statistical analysis for graduate students in political science. There are no prerequisites for the course other than a commitment to read the course material prior to class and to work one's way through the homework assignments, exams, and the research paper. This course is not designed to focus on statistical theory, but rather on how to use and interpret statistics to test theories of politics. By the end of the course, students will be able to: 1) design and carry out research that employs basic statistical techniques, 2) learn how to use STATA 12, and 3) be confident in engaging with statistical research published in political science journals.

Course format

- The Thursday classes will be led by the professor at both locations-- DAU 342 and Political Science Data Lab (001 Anderson Hall).
- Additionally, two-hour weekly lab sessions will be led by the TA in the Political Science Lab. While attendance is not mandatory (see exceptions), it is highly recommended that you attend the TA sessions: the first hour will be dedicated to STATA review following the schedule below and the second hour will focus on solving problems from the Agresti book, homework assistance, tests reviews, and research project feedback.

** If participation in the TA lab sessions becomes an issue, I reserve the right to alter this policy with prior notice, one week in advance.

Acknowledgements: This course is modeled after the courses designed by Professors Badredine Arfi and Katherine Baldwin at the University of Florida.

Course materials

Required:

The following textbooks have been ordered and are available through the UF bookstore:

- Agresti, Alan and Barbara Finley. 2009. *Statistical Methods for the Social Sciences*, 4th Edition. Upper Saddle River, NJ: Prentice-Hall.
- Acock, Alan C. 2008 (Revised 3rd Edition). *A Gentle Introduction to STATA*. College Station, TX: Stata Press

Recommended:

- M. Lewis-beck, *Applied Regression* (1980), Sage. (Available on course reserve at Library West)

Accessing STATA 12:

You have access to STATA 12 through the political science computer lab. If interested in purchasing a copy for your personal computer of STATA 13 (released in June 2013), you can peruse the following Stata Grad plans: <http://www.stata.com/order/new/edu/gradplans/>.

Grading

Homework 25% (2.5*10): There will be 10 homework assignments throughout the semester: 5 assignments from Agresti book and 5 from STATA book. All assignments are due typed at the beginning of class (as hard copy) on their respective due dates. An electronic copy should be uploaded on SAKAI as well. No late submission will be accepted, except when justified with proper documentation. Students may work in groups when solving these assignments, but each student MUST write up their own homework.

In-class tests 50%: We will have two in-class tests on the materials covered in the lectures and labs. The tests will be very similar to the type of questions mentioned in the homework assignments and in-class lectures.

Research paper 25%: A research paper on a topic of your choice in consultation with the instructor is required for the class. The final paper must include both graphical data and at least one model discussed in the course. Students will give a 5-minute presentation on their preliminary results during the last meeting of the course. The final paper is due to the professor's office on **December 9th** at noon. An electronic copy should be submitted on SAKAI as well.

Paper guidelines:

Each student must:

1. Identify a research question
2. Develop hypotheses

3. Find data set(s) to address the research question and hypotheses
4. Conduct analysis

The final paper should be 8-10 pages long, excluding the bibliography and plots. It must contain the following sections:

- Research question and hypotheses (including literature review that justifies the hypotheses)
- Description of Data
- Description of Data Analysis Techniques and justification of their appropriateness
- Data Analysis (Do not copy STATA output): Tables and Figures
- Conclusion (discussion of limitations and future research)
- Bibliography

There are several steps to go through for the final paper:

Component/ Due Date	Description	% of Final Paper Grade
One-page/ October 10	The one-page should state the research question, hypotheses to be tested, data source, description of variables to be included in the analysis	2%
Two pages/ October 24	Description of the data analysis technique to be used and its appropriateness;	1%
Presentation/ Nov 21	In-class presentations of the argument to be tested and most importantly the data analysis and findings. The purpose of this presentation is to give you an opportunity to receive feedback before the final submission.	2%
Final paper/ December 9		20%

Data Links:

Afrobarometer Data: <http://www.afrobarometer.org/>

ANES: <http://www.electionstudies.org/>

American Religious Data Archive: <http://www.thearda.com/>

Comparative Study of Electoral System: <http://www.cses.org/>

Latin American Public Opinion Project: http://lapop.ccp.ucr.ac.cr/Lapop_English.html

World Bank: <http://data.worldbank.org/>

World Values Survey: <http://www.worldvaluessurvey.org/>

COURSE OUTLINE

Week 1: Aug 22

Course Introduction and visit to the computer lab

- Agresti, Ch 1 & Ch 2 (pp11-15)

Week 2: Aug 29*

Sampling and Measurement

- Agresti, Ch 2

→HMW 1 Agresti: 2.7, 2.20, 2.16, 2.27 (Due the following meeting)

*Class canceled due to the APSA conference participation. A make-up will be scheduled at a convenient time.

Week 3: Sept 5

Descriptive Statistics

- Agresti, Ch 3
- Acock, STATA, Ch 1

→ HMW 1 Stata: Ch 1: 1, 2, 3, 4 (Due the following meeting)

Week 4: Sept 12

Probability Distributions /Entering Data

- Agresti ,Ch 4
- Acock, STATA, Ch 2

→HMW 2 Agresti: 3.16, 3.24, 4.25, 4.36 (Due the following meeting)

Week 5: Sept 19

Statistical Inference: Estimation/Preparing Data for Analysis

- Agresti, Ch 5
- Acock, STATA, Ch 3

→ HMW 2 Stata: Ch 2: 7; Ch 3: 1, 2, 3 (Due the following meeting)

Week 6: Sept 26

Statistical Inference: Significance Tests/Commands, Do-files, Results

- Agresti, Ch 6
- Acock, STATA, Ch 4

→HMW 3 Agresti: 5.25, 5.26, 5.44, 5.64

Week 7: Oct 3

Comparison of Two Groups

- Agresti , Ch 7
- Acock, STATA, Ch 5

→ HMW 3 Stata: Ch 4: 1; Ch 5: 1, 2, 3 (Due the following meeting)

Week 8: Oct 10

Analyzing Association between Categorical Variables

- Agresti, Ch 8
- Acock, STATA, Ch 6

→HMW 4 Agresti: 7.28; 7.30; 6.24; 6.34 (Due the following meeting)

→Mandatory test review led by the TA during lab hours

→One-page description of the research project due in class

Week 9: Oct 17

In- class test 1: 1 hour

Linear Regression and Correlation

- Agresti, Ch 9
- Lewis-Beck, pp9-47
- Acock, STATA, Ch 7

→ HMW 4 Stata: Ch 6:1, 2; Ch 7: 1, 3 (Due the following meeting)

Week 10: Oct 24

Introduction to Multivariate Relationships

Multiple Regression and Correlation

- Agresti, Ch 10 & 11
- Lewis-Beck: pp 47-54
- Acock, STATA, Ch 8 & 10

→ HMW 5 Agresti: 9.6, 9.11, 10.37, 10.24 (Due the following meeting)

→ Two-page description of data analysis due in class

Week 11: Oct 31

Comparing Groups: Analysis of Variance Methods

- Agresti, Ch 12
- Acock, STATA, Ch 9

→ HMW 5 Stata: Ch8:1, 2; 3,4 (Due the following meeting)

Week 12: Nov 7

Combining Regression and ANOVA: Analysis of Covariance

- Agresti, Ch 13
- Lewis-Beck, pp 54-74
- Acock, STATA, Ch 10

→ Mandatory test review led by the TA during lab hours

Week 13: Nov 14

In- class test 2: 1 hour

What lies ahead

- Agresti, Ch 14
- Acock, STATA, Ch 11

→ Mandatory practice on group projects during TA lab

Week 14: Nov 21

→ In-class student presentations of research projects

Week 15: Nov 28

- Thanksgiving Break: Enjoy!

Week 16: Classes end on Dec 4

→ Final research paper due December 9th, at noon