POLI 4001
Introduction to Quantitative Analysis in Political Science

Semester: Spring 2016
Class period: T TH 10:30 – 11:50
Classroom: 102 Stubbs Hall

Instructor: Dr. Leonard Ray (lray2@lsu.edu)
Office: 208C Stubbs Hall
Office Hours: 9:00 - 11:00 M W F

Most of your Poli Sci professors went into academia because research is fun. POLI 4001 will equip you to play with data, and see what all the fun is about.

This course is intended to teach students how to prepare and execute an original empirical research project of their own design using basic techniques of quantitative analysis. The course will provide hands on training with statistical software commonly used in Political Science, tools for the graphical and tabular presentation of data, and will cover common problems in the interpretation and misinterpretation of quantitative results. A review of basic statistical techniques will include descriptive statistics, tests for bivariate relationships, and strategies for statistical control of third variables.

Objectives
The four main objectives of this course are:
1. To teach students about the nature of research in Political Science.
2. To enable students to read Political Science research.
3. To train students to execute their own quantitative analyses of data.
4. To guide students in the professional presentation of their research results.

Requirements
Hands on lab assignments (from the SPSS Companion workbook) will develop the skills in applied quantitative analysis you will need to do your own quantitative research. Students will design and execute their own empirical research project putting these skills to use on a topic of their own choosing. Students will report the results of their research in an abbreviated (approx. 10 page) research paper.

Graded work:
Lab exercises: 25%
Research Project: 25%
Midterm Exam: 25%
Final Exam: 25%

Grading Scale:
$$A+ \geq 98 > A \geq 92 > A- \geq 90$$
$$90 > B+ \geq 88 > B \geq 82 > B- \geq 80$$
$$80 > C+ \geq 78 > C \geq 72 > C- \geq 70$$
$$70 > D+ \geq 68 > D \geq 62 > D- \geq 60$$
$$60 > F$$

Research Project
The research project for this course is somewhat different than the usual college term paper. Students not expected to summarize the published research on their topic. Instead, they conduct an original research project of their own. This research project should be an original analysis of data. These data can be obtained from a variety of sources, including surveys, official statistics, direct observation, archives, and

data used in previously published work. It is important to select a topic early, and identify the data to be used well before the end of the semester. This is particularly important if students plan to collect their own data from scratch. For more guidance on conducting and writing up a research project, read Pollock SPSS Companion Ch. 11.

Readings
Course readings will be drawn from textbooks available at the university bookstore and from journal articles and book chapters posted online. Readings should be completed before the class period for which they are assigned.

Required Textbooks and material:
Phillip Pollock. (text) The Essentials of Political Analysis Fifth edition CQ Press 9781506305851
Phillip Pollock. (workbook) An SPSS Companion to Political Analysis Fifth edition. CQ Press ISBN 978-1-5063-0579-0
A USB drive with at least 1 gigabyte free space

Course Schedule
January 14 Course description, introduction to quantitative research and data sources

Week 1, Jan 19, 21
Lecture: Concepts and Measurement Quality
READINGS: Pollock Essentials- Intro and Chapter 1
                Nagler 1995 "Coding Style" (on Moodle)
Lab: SPSS Companion, Getting Started and Chapter 1

Week 2, January 26, 28
Lectures: Levels of Measurement and presenting data
READINGS: Pollock Essentials Ch 2
                S. Stevens, "On The Theory of Scales of Measurement" (on Moodle)

Week 3, Feb 2, 4
Lecture: Descriptive Statistics
Lab: SPSS Companion Chapter 2

Week 4, Feb 9, 11
Feb 9 (Mardi Gras holiday)
Feb 11 Lab: SPSS Companion Chapter 3

Week 5, Feb 16, 18
Lecture: Basic Bivariate Comparisons
READINGS: Pollock Essentials-Ch 3
Lab: SPSS Companion Chapter 4

Week 6, Feb 23 25
Lecture: Research Design, controlling for third variables
        READINGS: Pollock Essentials-Ch 4
Paper Proposal due Feb 26

Week 7, March 1 3
Lecture: Controlling for third variables
        READINGS: Pollock Essentials-Chapter 5
Lab: SPSS Companion Chapter 5

Week 8, March 8 10
March 8 Midterm
March 10: Sampling exercise

Week 9, March 15 17
Lectures: Sampling and Statistical Inference
READINGS: Pollock Essentials-Ch 6 and also pages 156-163
        And Ronald Fisher, *The Design of Experiments*. Chapter 2. (moodle)
Lab: SPSS Companion Chapter 6
Paper descriptive statistics due March 18

March 22 24 (Spring Break)

Week 10. March 29, 31
Lectures: Tests of Significance and Measures of Association
READINGS: Pollock Essentials-Chapter 7
Lab: SPSS Companion Chapter 7

Week 11, April 5, 7
Lectures: Laying it on the line: Correlation and Regression
READINGS: Pollock Essentials-Ch 9

Week 12, April 12, 14
Labs: SPSS Companion Chapter 8, 9

Week 13, April 19, 21
Lecture: Curveball: Logistic Regression
READINGS: Pollock Essentials-Ch 10
Lab: SPSS Companion Chapter. 10

Week 13: April 26 28
Lectures: Wrap up and cautionary notes
READINGS: Pollock Essentials-Ch 11
               Abelson Ch 4 "Styles of Rhetoric" (moodle)
               Mock and Weisberg 1992. "Political Innumeracy" (moodle)

Final Paper Due May 3 (midnight)

Final Exam Friday May 6 10:00-12:00