

## **Quantitative Political Analysis**

GVPT 422

Spring 2017 – Wednesdays 2:00-4:45pm

Tydings 2102

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Drop Date: February 7, 2016

### *1. Course Description and Learning Objectives*

Quantitative Political Analysis offers skills that are central to the understanding, appreciation and critique of political science research. The course also prepares students for doing their own research, especially of a quantitative nature. The course is highly recommended for ALL students considering a senior thesis or independent research as well as those considering an advanced degree. The skills acquired easily extend to research in American politics, public opinion, comparative politics, international relations, and other political science subfields.

This class is designed to provide fundamental quantitative reasoning and applied research skills. After taking this course, students will both understand and know

how to conduct basic research in political science using survey, experimental, and other empirical data. Moreover, students will comprehend the basic building blocks of political science inquiry, know how to do a literature review, be able to formulate and test a research hypothesis of their own, and will become familiar with data analysis using STATA, a widely-known statistics program.

Lastly, students will become more employable as a by-product of taking this course. Understanding data collection methods and being able to conduct basic data analysis using STATA are skills that translate readily to work conducted outside the classroom. Jobs in politics, marketing, public relations, business, etc. often require analytical skills like the ones taught in this course. In addition to preparing students for jobs, this class also provides the skills and research experience necessary to take more advanced quantitative reasoning courses, to conduct further research, or do well in graduate school.

## 2. *Requirements*

Students will encounter some math in this course, and should have basic mathematical skills. Students are also required to use STATA to do basic statistical analysis. STATA is available in most labs.

Data are provided on the website

<https://edge.sagepub.com/pollock/student-resources/a-stata-companion-to-political-analysis-3rd-edition/datasets>

### 2.1. **The Required Textbook.**

*The Essentials of Political Analysis* (5th Edition) bundled with *A STATA Companion to Political Analysis* by Philip H. Pollock, ISBN 978-1-5063-2901-7

You must own a copy by the second week of classes.

IF YOU HAVE ALREADY USED THIS BOOK IN ANOTHER CLASS: This class will go into far greater depth than prior classes you have taken. That said, if the redundancy is something that will bother you, it would be wise to choose a different class.

### 2.2. **ELMS**

Additional readings are available via the course site on ELMS. Students are expected to have completed the required textbook and any supplemental

readings before class. Supplemental readings may not be noted on the syllabus and will be announced via ELMS and assigned as needed.

**2.3. Technology.** Computers and Calculators: Students must use a scientific calculator during quizzes, exams, problem sets, etc. Bring the calculator to every class. For reasons that are obvious, you may not use your phone, tablet, or computer during the exams in lieu of a calculator. Students may not share calculators. Laptops are welcome in class, unless they are used for entertainment purposes. I reserve the right to prohibit personal computer use if I think the class will benefit.

### *3. Course Grade Distribution*

Exam 1 - 25%

Final Project - 25%

4 Problem Sets - 25%

Attendance/Participation - 15%

Quizzes - 10%

Total = 100%

### *4. Attendance and Quizzes*

Regular attendance during the course is expected and students are asked to participate meaningfully in class. I reserve the right to call on students by name to check if you are present and if you have done the readings. This means you must show up on time and stay for the entire class. I do not take attendance every class, but I will take a "random sample" to estimate overall attendance. I also reserve the right to hold short unannounced quizzes as a way to gauge comprehension. These will occasionally be collaborative quizzes, and otherwise will be independent quizzes. This is why you should bring your calculator to every class.

**4.1. Absences.** Extended absences will compromise your ability to succeed in this course; should you encounter an emergency or situation that you believe will hamper your ability to complete the course requirements, speak to the Dean of Students as soon as possible, do NOT wait until the end of the semester, or when assignments or grades are due.

**4.2. Make-up Policy.** If you are absent for the midterm, or one of the days the problem sets are due, I will allow for a makeup during alternate hours  $\Leftrightarrow$  (*if, and only if*) (A) the absence is reported in a timely fashion (before class and before the assignment due date) and (B) you can document the reason for your absence showing that it was beyond your control.

If you miss an in-class quiz, there will be no chance for a make-up. I will drop the lowest quiz grade.

## 5. *Assessment*

**5.1. Examinations.** There is one exam. It will include all material from lectures, the textbooks (including information in the text that has not been discussed during lecture), and work done using STATA. You will need to bring a scientific calculator.

**5.2. Problem Sets.** Completed by hand, in STATA, or on ELMS, depending on the assignment. There are four short problem sets. Problem sets give students an opportunity to sharpen their math skills and ensure that students are working towards a successful final project. Problem sets are due one week after they are assigned. Late problem sets lose 20 points every day they are late.

**5.3. Final Project.** The final project of the course consists of a research design and analysis. This project should be 8-10 pages in length and contain the following: literature review, hypotheses, methods, and results. The paper features the results from data analysis performed by the student. We will go over the requirements for the paper in class and some of the problem sets will provide students the opportunity to begin work on the final project early in the semester. Final projects must be turned in via ELMS in PDF format.

## 6. **Academic Integrity**

I strictly enforce academic integrity as determined by the University.

- All students should be aware of the expectations of conduct elaborated at <http://www.ugst.umd.edu/courserelatedpolicies.html>

## 7. *Course Outline*

All readings are on ELMS or in the textbook — Unless noted otherwise.

## Introduction

1. Wednesday 1/25 — Course Overview, Syllabus, and Introduction to The Philosophy of Science

(1) Philip H. Pollock, *The Essentials of Political Analysis* (2012), "Introduction."

(2) Karl Popper, *The Logic of Scientific Discovery* (1934), Ch.1 "A Survey of Some Fundamental Problems."

(3) Atul Gawande, "The Mistrust of Science"

(4) Science and PseudoScience: <http://astro.physics.sc.edu/pseudoscience.html>

2. 2/1— Measurement and Math

- Philip H. Pollock, *The Essentials of Political Analysis* (2012), Ch.1 "Definition and Measurement of Concepts."
- Philip H. Pollock, *An STATA Companion to Political Analysis* (2012), Ch. 1
- Janet B. Johnson and H.T. Reynolds, *Political Science Research Methods* (2012), Ch. 8 "Making Empirical Observations."
- James Gibson and Richard Bingham, "On the Conceptualization and Measurement of Political Tolerance," *The American Political Science Review*. (1982)

Intro to STATA in Lab: Data Management; Variables

3. 2/8 — Measuring and Describing Variables/Central Tendency & Dispersion

(1) Philip H. Pollock, *The Essentials of Political Analysis* (2012), Ch.2 "Measuring and Describing Variables."

(2) Janet B. Johnson and H.T. Reynolds, *Political Science Research Methods* (2012), Ch.11 "Making Sense of Data."

Lab: STATA central tendency and dispersion

4. 2/15 —Hypotheses

(1) Philip H. Pollock, *The Essentials of Political Analysis* (2012), Ch.3 "Proposing Explanations, Framing Hypotheses, and Making Comparisons."

(2) Philip H. Pollock, *An STATA Companion to Political Analysis* (2012), Ch. 4 "Making Comparisons."

STATA Demonstration in Lab: Basic Comparisons between Groups

*Problem Set #1 assigned; Due next week*

### **Common Research Methods in American Politics**

5. 2/22 — Sampling and Surveys

*Problem Set #1 Due at start of class*

(1) Janet B. Johnson and H.T. Reynolds, *Political Science Research Methods* (2012), Ch. 7 "Sampling."

(2) Philip H. Pollock, *The Essentials of Political Analysis* (2012), Ch. 6 "Foundations of Statistical Inference"

(3) Matt Baretto. "Why Pollsters Missed the Latino Vote — 2012." *Latino Decisions*

(4) Janet B. Johnson and H.T. Reynolds, *Political Science Research Methods*, Ch.10 "Survey Research and Interviewing"

(5) <http://www.pewresearch.org/2016/08/01/flashpoints-in-polling/>

6. 3/1 — Surveys and Experiments

(1) Philip H. Pollock, *The Essentials of Political Analysis* (2012), Ch. 4 "Research Design and the Logic of Control"

(2) Shanto Iyengar, Mark Peters, and Donald Kinder. "Experimental Demonstrations of the Not-So-Minimal Consequences of Television News Programs." *American Political Science Review* (1982)

(3) <https://www.washingtonpost.com/news/wonk/wp/2015/08/10/the-science-of-skipping-breakfast-how-government-nutritionists-may-have-gotten-it-wrong/>

Coding Variables IN LAB

Pollock STATA Companion Ch. 3

## **Statistical Inference**

7. Tues 3/8 — Controlled Comparisons, Distributions, Normal Curve, Z-Scores

(1) Steven P. Schacht and Jeffrey E. Aspelmeier. *Social and Behavioral Statistics* (2005), Ch.5,6 "Measures of Variability" and "Locating Points within a Distribution"

(2) Chris Spatz, *Tales of Two Distributions* (2011), Ch.5 "Other Descriptive Statistics"

STATA Demonstration in Lab:Controlled Comparisons and Statistical Inference

(3) Philip H. Pollock, *An STATA Companion to Political Analysis* (2012), Ch. 5 "Controlled Comparisons" and Ch. 6 "Making Inferences About Sample Means."

*Problem Set #2 Assigned*

8. 3/15 — Significance

*Problem Set #2 Due at start of class*

*Hand in a general topic for your Final Paper. A few sentences is fine. State in the form of a hypothesis.*

(1) Philip H. Pollock, *The Essentials of Political Analysis* (2012), Ch.7 "Tests of Significance and Measures of Association"

STATA Demonstration in Lab

(1) Philip H. Pollock, *An STATA Companion to Political Analysis* (2012), Ch. 7 "Chi Square and Measures of Association."

9. 3/22 NO CLASS- Spring Break

10. 3/29 — Guest Lecture: (Judith Markowitz -Political Science Librarian - UMD)

(1) Neil J. Salkind, *Exploring Research* (2011), Ch.3A "Selecting a Problem and Reviewing Research"

(2) Neil J. Salkind, *Exploring Research* (2011) Ch.14 "Writing a Research Manuscript"

LOCATION CHANGE: McKeldin Library, Room 6107 (6<sup>th</sup> floor)

11. 4/5— Midterm Exam

12. 4/12 — Correlation

(1) Chris Spatz, *Tales of Two Distributions* (2011) Ch. 6 "Correlation and Regression"

(2) James Pollock, *An STATA Companion to Political Analysis*, (2012), Ch. 8 "Correlation and Linear Regression"

13. 4/19 — Regression

*BIBLIOGRAPHY DUE – counts like a quiz*

*Problem Set #3 Assigned*

READ AGAIN (pay attention to the regression segments):

(1) Philip Pollock, *An STATA Companion to Political Analysis*, (2012), Ch. 8 "Correlation and Linear Regression"

(2) Chris Spatz, *Tales of Two Distributions* (2011) Ch. 6 "Correlation and Regression"

STATA Demonstration in Lab: Bivariate Regression

14. 4/26 — Intro to Multiple Regression

*Problem Set #3 Due; Continue work on literature review/research design*

*Problem Set #4 Assigned (Research Question, Hypothesis, Research design; One paragraph)*

(1) Briefly review: Philip H. Pollock, *The Essentials of Political Analysis* (2012), Ch. 4: Research Design and the Logic of Control



(2) Philip H. Pollock, *The Essentials of Political Analysis* (2012), Ch. 8: Correlation and Linear Regression

In Lab: Multiple Regression in STATA

(1) Philip Pollock, *An STATA Companion to Political Analysis*, (2012), Ch. 8 "Correlation and Linear Regression"

15. 5/3 — Interactions in Multiple Regression, Intro to Logit

*Problem Set #4 Due*

16. 5/10- Paper Workshop in Class:

(1) Due in hardcopy today: Literature review (5 pgs), Revised research question, hypothesis, and method

(2) Exchange with partner (Group A/B). "Grade" each other's work and provide thoughtful feedback

(3) Turn in with comments; *Comments count like a quiz*

Analysis workshop in lab: come with data questions

FINAL PROJECTS due Wednesday 5/17 before 5pm. Submit via ELMS, in pdf format.