

**GOV 350K**  
**Statistical Analysis in Political Science**

**Unique #: 38702**  
**Spring 2012**

**MWF 3:00-4:00pm**  
**Calhoun 221**

Instructor: John P. McIver  
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**Course Overview:**

This course introduces basic concepts and methods of statistics with applications in political science. The objective of this course is to help students acquire the literacy for understanding political science literatures based on the scientific approach, as well as to prepare interested students for more advanced methods courses. Topics include descriptive statistics, probability and probability distributions, sampling, sampling distribution, point estimation & confidence intervals, hypothesis testing, contingency tables, correlation, and simple bivariate and multivariate regression.

Computing will be an integral part of this course. You will use “Stata” to analyze data from a variety of commercial and media polls e.g., the Gallup Survey, as well as established academic polls such as the General Social Survey and National Election Study in homework assignments. You are encouraged to develop and work out your own research problems in a required term paper.

There are no prerequisites for this course.

**Grading Policy:**

Grades will be based on the following:

- Homework Assignments (4-6 graded): 20%
- Midterm Exam (Friday, March 23<sup>rd</sup>): 20%
- Term paper based on original analysis of data: 25% (Due: April 30<sup>th</sup>)
- Final Exam (Officially Scheduled at Wednesday, May 9<sup>th</sup>, 7:00-10:00 PM): 25%
- Instructor’s Discretion (Attendance, Participation, etc.): 10%

Note: You must complete all parts of this course to earn a passing grade.

**The Text (and Software):**

The primary textbook for this class is Philip Pollock III *Essentials of Political Analysis* (Washington DC: CQ Press). It will come bundled at the Coop with a workbook “A Stata Companion to Political Analysis” which will provide a number of the data sets and serve as a reference for the software we will use.

There will be a variety of supplemental readings that will appear on the class BlackBoard web pages. Please check there regularly.

We will be using Stata statistical software to conduct analysis of real data. You may choose to use it on one of the campus servers or decide you want your own copy either as a semester/annual “rental” or as a permanent purchase. (A new version, Stata 12, has just been released. Campus servers may continue to offer Stata 11. Version is not important.)

**Advice:**

Stay ahead of me on the readings so you can be ready to ask questions when we get to material you don't understand. Don't be afraid to ask in class. Chances are you are not the only person with the same question. This is the type of class that if you fall too far behind it's very difficult to catch up.

Shocking as it may seem, statistics can be fun. Oftentimes the challenge is to find a topic that is relevant to you to make it work. We can make this apply to anything from TX weather to the UT football team (as well as the operation of the TX and Federal government).

## **University Policies**

### **Students with Disabilities:**

Students with disabilities may request appropriate academic accommodations from the Division of Diversity and Community Engagement, Services for Students with Disabilities, 471-6259. For more information, visit <http://www.utexas.edu/diversity/ddce/ssd/>.

### **University Honor Code:**

The core values of the University of Texas at Austin are learning, discovery, freedom, leadership, individual opportunity, and responsibility. Each member of the University is expected to uphold these values through integrity, honesty, trust, fairness, and respect toward peers and community.

Unauthorized collaboration and plagiarism are strictly prohibited. For definitions and examples of unauthorized collaboration and plagiarism, visit [http://deanofstudents.utexas.edu/sjs/acint\\_student.php](http://deanofstudents.utexas.edu/sjs/acint_student.php)

### **Accommodations for Religious Holidays:**

By UT Austin policy, you must notify me of your pending absence at least fourteen days prior to the date of observance of a religious holy day. If you must miss a class, an examination, a work assignment, or a project in order to observe a religious holy day, you will be given an opportunity to complete the missed work within a reasonable time after the absence.

### **Emergency Evacuation Policy:**

Occupants of buildings on The University of Texas at Austin campus are required to evacuate buildings when a fire alarm is activated. Alarm activation or announcement requires exiting and assembling outside.

Familiarize yourself with all exit doors of each classroom and building you may occupy. Remember that the nearest exit door may not be the one you used when entering the building.

Students requiring assistance in evacuation shall inform their instructor in writing during the first week of class.

In the event of an evacuation, follow the instruction of faculty or class instructors.

Do not re-enter a building unless given instructions by the following: Austin Fire Department, The University of Texas at Austin Police Department, or Fire Prevention Services office.

Behavior Concerns Advice Line (BCAL): 232-5050

Emergency Information Web Site: <http://www.utexas.edu/emergency>

## **Course Outline and Reading Assignments:**

### **Week 1: Introduction**

Statistics in Political Science & Politics

Pollock, Introduction

Lab:

SC, Chapter 1

Keeping a Lab Notebook: Guidelines

### **Week 2: Describing Variables: Univariate Descriptive Statistics I**

Summarizing Information: Frequency Distributions

Pollock, Chapter 2

Displaying Univariate Distributions

Lab: SC, Chapter 2

### **Week 3: Describing Variables: Univariate Descriptive Statistics II**

Measuring Central Tendency & Variability

Pollock, Chapter 2

Displaying Univariate Distributions

Lab: SC, Chapter 2

### **Week 4 Theory and Data**

Hypotheses

Pollock, Chapter 3 (pp. 48-58)

Anthony Downs, *An Economic Theory of Democracy*, Excerpts from Chapter 3 and Chapter 14.

Causation

Lab: SC, Chapter 3

### **Week 5 Where Do Data Come From? (Research Design)**

Cross-sectional versus Time Series Designs

Real World Datasets: GSS, ANES, Gallup, CBS/NYT

Experiments & Quasi Experiments in Political Science

Pollock, Chapter 4 (pp. 78-86)

Shanto Iyengar, Mark D. Peters, and Donald R. Kinder, "Experimental Demonstrations of the 'Not-So-Minimal' Consequences of Television News Programs," *American Political Science Review* 76 (December 1982): 848-858

Feline Reactions to Bearded Men

## **Week 6 Conceptualization & Measurement**

Conceptualization & Measurement

Pollock, Chapter 1

Stephen Jay Gould (1978) "Morton's Ranking Of Races By Cranial Capacity: Unconscious Manipulation Of Data May Be A Scientific Norm." *Science* 5 May 1978: Vol. 200, no. 4341 pp. 503-509

Gerardo L. Munck & Jay Verkuilen (2002) "Conceptualizing and Measuring Democracy: Evaluating Alternative Indices." *Comparative Political Studies*. February 2002 vol. 35 no. 1 5-34.

Anthony Downs and the ANES. Testing Theory by Identifying Empirical Referents for Key Concepts

Validity vs. Reliability

Pollock, Chapter 1

## **Week 7 Contingency Tables I ("Testing" Relationships for Nominal and Ordinal Data)**

Comparisons & Relationships:

Pollock, Chapter 3 (pp. 58-63)

Walter Stone & David Davis, *An Introduction to Quantitative Research Methods*, Chapter 1

Indick et al (2000) "Gender Differences in Moral Judgment" *Current Research in Social Psychology*

Visualizing Relationships

Pollock, Chapter 3 (pp. 63-70)  
Lab: SC, Chapter 4

### **Week 8 Contingency Tables II – Measures of Association**

Pollock, Chapter 7 (pp 169-176)  
Lab: SC, Chapter 7

\* \* \* \* \* SPRING BREAK – MARCH 12-17

### **Week 9 Contingency Tables III – Elaboration**

Elaboration

Pollock, Chapter 4 (pp. 86-96)  
Pollock, Chapter 5

Watson & McGaw, Chapter 14 (Multivariate Distributions)  
Watson & McGaw, Chapter 15 (Effect Types)

Walter Stone & David Davis, *An Introduction to Quantitative Research Methods*,  
Chapter 2

Writing a (Social) Scientific Paper:

Johnson & Reynolds, *Political Science Research Methods*, Chapter 14

A sample outline using Down's theory of voting as a paper topic.

Lab: SC, Chapters 5 & 11

### **Week 10 Sampling and Sampling Distribution (Inferential Statistics)**

Pollock, Chapter 6

Kmenta, Chapter 2 (Empirical Distributions)

M&M's and Sampling Theory

### **Week 11 Hypothesis Testing**

Difference of Means (t-test)

Pollock, Chapter 7 – Hypothesis Testing (pp. 157-164)  
Lab: SC, Chapter 6

Independence (Chi-Square)

Pollock, Chapter 7 – Hypothesis Testing (pp. 164-169)  
Lab: SC, Chapter 7

**Week 12 Analysis of Variance**

Pollock, Chapter 3 (pp. 61-63)

**Week 13 Testing Relationships for Interval Data: Correlation & Bivariate Regression**

Pollock, Chapter 8 (pp. 182-199)  
Lab: SC, Chapters 8 & 9

**Week 14 Multiple Regression**

Pollock, Chapter 8 (pp. 199-206)  
Lab: SC, Chapters 8 & 9

**Week 15**

Catch-up

Term Papers

Review for Final exam

**Final Exam: Wednesday, May 9<sup>th</sup>, 7:00-10:00 PM**