University of Texas at Austin
GOV 391J: Statistical Analysis in Political Science I (38870) - Fall 2010

Instructor: **Tse-min Lin** <tml@austin.utexas.edu>
Office: BAT 4.144 (Phone: 232-7248)
Office Hours: TTH 3:30-5:00pm and by appointment

Teaching Assistant: **Dorothy Morgan** <dmorgan@mail.utexas.edu>
Office: BAT 1.118 (TA Meeting Room)
Office Hours: TTH 9:30-11:00am

Course Overview:

This course introduces basic concepts and methods of statistics. Unlike the typical elementary statistical courses you may have taken, the emphasis here will be on 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, analysis of variance, contingency tables, correlation, and simple regression. Computing will be an integral part of this course. You will use SPSS to analyze data from Gallup Survey, General Social Survey, and/or National Election Study in homework assignments. In particular, you will be asked to replicate results reported in journal articles and book chapters. You are also encouraged to develop and work out your own research problems. There are no prerequisites for this course.

Grading Policy:

Homework Assignments (6 sets graded): 5% each set
In-Class Midterm Exam (October 14): 30%
In-Class Final Exam (December 9): 30%
Attendance & Participation: 10%

Notes: (1) Plus/minus grades will be assigned for the final grade. (2) Students are allowed to work together on homework questions, but they should write their assignments individually.

Required Texts:

[W&W] T. H. Wonnacott and R. J. Wannacott. 1990. *Introductory Statistics*, 5th Ed. Wiley. (Or 4th ed., *Introductory Statistics for Buisness and Economics*, 1990, which is the same as the 5th Ed.)

[JSTOR]/[Blackboard] In addition, a number of journal articles and book chapters are assigned as required readings. Most of these papers are political science applications of the statistical methods to be introduced. These papers are included primarily for use in homework assignments, and they often include parts that are beyond the scope of this course. These readings will be discussed in class only if time allows. Most of the papers are available online at JSTOR (http://www.jstor.org); others will be posted on the class Blackboard (https://courses.utexas.edu/). Reading these materials will help you get a better grip on the statistical concepts and methods introduced in this class. Lecture notes will also be posted on Blackboard.

Optional: [SPSS] S. B. Green and N. J. Salkind, 2008. *Using SPSS for Windows and Macintosh: Analyzing and Understanding Data*, 5th ed. Pearson Prentice Hall. (Old editions OK)

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:

http://registrar.utexas.edu/catalogs/gi09-10/ch01/index.html

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
8/26: W&W, Chapter 1.

Week 2 Univariate Descriptive Statistics
8/31: W&W, Chapter 2.
9/2: SPSS, Lessons 1-10.
[JSTOR] Aldrich et al., 1989. "Foreign Affairs and Issue Voting." *APSR*.* 83:123-141.
[JSTOR] Krehbiel, 1990. "Are Congressional Committees Composed of Preference Outliers?" *APSR*, 84:149-163.

Week 3 Univariate Descriptive Statistics / SPSS Computing
9/7: Lab Session
SPSS, Lessons 11-14.
9/9: [Blackboard] 1984 "Gallup Survey Questionnaire"

Week 4 SPSS Computing / Probability
9/14: Lab Session
SPSS, Lessons 15-20.
9/16: W&W, Sections 3-1, 3-2, 3-3, 3-4, 3-5.
[JSTOR] Davis and Davenport, 1999. "Assessing the Validity of the Post-Materialism Index." *APSR*, 93(September).

Week 5 Probability Distributions
9/21: W&W, Sections 4-1, 4-2, 4-3.
[JSTOR] Richardson (1944), "The Distribution of Wars in Time." *Journal of Royal Statistical Society*, 107:242-250.
9/23: W&W, Sections 4-4, 4-5, 4-6.

Week 6 Bivariate Distributions
9/28: W&W, Sections 5-1, 5-2, 5-3.
9/30: W&W, Sections 5-4.
SPSS, Lesson 40

Week 7 Sampling and Sampling Distribution
10/5: [Blackboard] Goel (1988), "Sampling." Chapter 5 of his *Political Science Research*.
10/7: W&W, Sections 6-1, 6-2, 6-3, 6-4.

Week 8 Review & Midterm Exam
10/12: Review and Catch-up
10/14: Midterm Exam

Week 9 Point Estimation
10/19: Discussion of Midterm Exam
10/21: W&W, Chapter 7.

Week 10 Confidence Intervals
10/26: W&W, Sections 8-1, 8-2, 8-5.
11/28: W&W, Sections 8-3, 8-4.
[JSTOR] Sullivan et al., 1990. "Candidate Appraisal and Human Nature: Man and Superman in the 1984 Election." *Political Psychology*, 11:459-484.

Week 11 Hypothesis Testing
11/2: W&W, Sections 9-1, 9-2.
[JSTOR] Stokes & Iversen, 1962. "On the Existence of Forces Restoring Party Competition." *Public Opinion Quarterly*, 26:159-171.
11/4: W&W, Sections 9-3, 9-4.

Week 12 Hypothesis Testing
11/9: W&W, Section 9-6.

[JSTOR] Krehbiel, 1990. "Are Congressional Committees Composed of Preference Outliers?" *APSR*, 84:149-163.

[JSTOR] Box-Steffensmeier, De Boef, & Lin, 2004. "The Dynamics of the Partisan Gender Gap." *APSR*, 98:515-528.

11/11: SPSS, Lessons 21-23.

Week 13 Analysis of Variance & the Chi-Square Test

11/16: W&W, Sections 10-1.
SPSS, Lesson 24.

11/18: W&W, Chapter 17
SPSS, Lessons 40.
[Blackboard] Dahl, 1984. "Political Regimes: Popular and Hegemonic." Chapter 7 of his *Modern Political Analysis*.

Week 14 Testing Relationships for Nominal and Ordinal Data

11/23: SPSS, Lessons 41-42.
[Blackboard] Cole, 1996. "Measuring Strength of Relationships: Two Variable Situations." Chapter 9 of his *Introduction to Political Science and Policy Research*.
[JSTOR] Davis and Davenport, 1999. "Assessing the Validity of the Post-Materialism Index." *APSR*, 93(September).

11/25: Thanksgiving

Week 15 Testing Relationships for Interval Data: Correlation and Regression

11/30: W&W, Ch. 15-1.

12/2: W&W, Chs. 11-12.

Week 16 Final Exam

Thursday, December 9, 2:00-5:00pm