Political Science 201
Political Data Analysis
Spring 2017
R. H. Bruhl
CRN 20206, 3SH
TR, 3:30-4:45 PM, BSB 369
1114c BSB, (312) 413-3775, rbruhl1@uic.edu
Office Hours TR 10:00-12:00

Syllabus

The object of this course is to understand the how and why of basic statistical analysis. It is the instructor's belief that the skills of statistical analysis are best developed by doing statistical analysis. Consequently, the course material will be covered primarily through project work in which students obtain primary data observations and execute the appropriate statistical analyses for the type of data collected. These projects will cover the following statistical concepts and procedures:

1. Descriptive Statistics—Qualitative or Categorical data;
2. Descriptive Statistics—Quantitative data;
3. Probability and Sampling Distributions;
4. Comparing categorical observations from two or more different groups—Chi-Square;
5. Comparing quantitative observations from two different groups—the t-test;
6. Comparing quantitative observations from several different groups—ANOVA;
7. Assessing the relationship between one quantitative measure and another—Correlation;
8. Assessing the relationship between one quantitative measure and time—Time Series Regression; and
9. Quantifying the relationship between one quantitative measure and one other quantitative measure—Bivariate Regression.

Your course grade will be determined by project work, homework assignments, and attendance. The project work in this course will be completed, for the most part, using the computer application program SPSS ® (Statistical Package for the Social Sciences). Class time in the computer lab will dedicated to these efforts, and the student is encouraged to have an active University computer account. The required textbooks for this course are
- *Elementary Statistics in Social Research* 12th edition, by Levin, Fox, and Forde.
- *Ready, Set, Go! A Student Guide to SPSS®*, most recent edition.

Because the data analysis assignments for this class may require the student to conduct small surveys, each student will be required to complete the "Investigator Training" course sponsored by the Office for the Protection of Research Subjects at UIC and provided on-line by the organization CITIPROGRAM. To complete the course, follow the following steps:

(1) Go to www.citiprogram.org;
(2) Register, and set your affiliation as "University of Illinois, Chicago;"
(3) Go to the main menu;
(4) Go to "Add a course;"
(5) Select "Group 2: Social / Behavioral Research;"
(6) Complete the "Initial Investigator Training Course," which consists of 17 modules;
(7) Upon passing the course, print the completion certification;
(8) Submit the certificate to me.

YOU MUST COMPLETE THIS TRAINING AND SUBMIT THE COMPLETION CERTIFICATE IN HARD COPY TO ME BY JANUARY 19, 2017.

IF YOU HAVE COMPLETED THIS TRAINING FOR ANOTHER COURSE, YOU STILL MUST SUBMIT A HARD COPY OF YOUR COMPLETION CERTIFICATE TO ME BY JANUARY 19, 2017.

STUDENTS WHO HAVE NOT COMPLED THIS TRAINING OR HAVE NOT SUBMITTED THE TRAINING CERTIFICATE IN HARD COPY TO ME WILL NOT RECEIVE A PASSING GRADE IN THIS COURSE.

Class Conduct

Because each class session will build on material from previous class sessions, *regular attendance is expected.* Cellphone usage, texting, internet browsing, and internet chatting are all prohibited during class time. Eating in class is also prohibited. If warnings prove to be insufficient, I reserve the right to ask offending students to leave the class.

Grading

As previously noted, each student's grade in this course will be determined through a series of data analysis projects. In order to facilitate student learning, each student will be allowed to correct and re-submit these assignments. However, the re-submitted assignment must be completed exactly one class period after the original assignment was returned.

Because each topic builds from the previous topic, assignments must be submitted in a timely manner. Consequently, late assignments will be penalized 20% per class period. Furthermore, electronic submissions will not be accepted. The components of the student's grade will be:

1. Project and homework assignments. These will be worth 10 to 20 points each, for a combined total of approximately 300 points.

2. Attendance will be taken and worth a maximum of 30 points as determined by each student's relative rate of attendance (percentage).

The grading scale will be 90%+ for an "A," 80-89%+ for a "B," 70-79%+ for a "C," 60-69%+ for a "D," and below 60% will be "Failing".

Tentative Assignment Schedule

Assignment	Points	Tentative Due Date
1. Qualitative Data Analysis, A	10	1/17/17
2. Qualitative Data Analysis, B	10	1/26/17
3. Quantitative Data Analysis, Central Tendencies, A	20	1/31/17
4. Quantitative Data Analysis, Central Tendencies, B	20	2/2/17
5. Z-Transformation	10	2/7/17
6. Quantitative Data Analysis, Descriptives	20	2/9/17
7. Probability, Basics	20	2/14/17
8. Probability, Jointly Held Properties	10	2/16/17
9. Probability, Co-Variance and Stochastic Independence	20	2/21/17
10. Probability, Samples and Central Limit Theorem	30	2/23/17
11. Association of Two Qualitative Properties, A	10	2/28/17
12. Association of Two Qualitative Properties, B	10	3/2/17
13. Comparing a Quantitative Property for Two Groups	20	3/9/17
14. Comparing a Quantitative Property for Several Groups	20	3/16/17
15. Algebra and Linear Models of Association	10	3/30/17
16. Association of Two Quantitative Properties, Correlation, A	10	4/6/17
17. Association of Two Quantitative Properties, Correlation, B	10	4/13/17
18. Association of Two Quantitative Properties, Time Series	20	4/20/17
19. Association of Two Quantitative Properties, Regression	20	4/27/17
20. Attendance	30	Entire Course
TOTAL	330	

Plagiarism

It is expected that each student will do his or her own work, and plagiarism will result in a grade of zero for the plagiarized assignment. Moreover, a second plagiarism offense will result in a failing grade for the course.

Religious Holidays

We will observe University policy for religious holidays. Any special requests should be addressed to the Instructor.

Special Instructional Needs

Any student with special instructional needs is requested to discuss those needs with the Instructor at the student's earliest convenience.