INTRODUCTION

Some of the most important political debates come down to questions that can be answered by research. For example, is the death penalty applied fairly? Does democracy promote peace and economic growth? Do school vouchers improve academic performance? In addition, we are bombarded with research findings and statistical information every day (public opinion polls, stock market reports, unemployment figures, crime statistics, test scores, and so on). As a result, it is important to know how good political science research is done, and to be informed about how statistics are used (and misused). Whether we realize it or not (and whether we like it or not), statistics can inform many aspects of everyday life.

This course provides an introduction to some of the basic methods of data analysis used in political science research. The emphasis here is on learning how these methods are used to answer important public policy questions. We will examine the quantitative study of politics. Statistics provide a tool (certainly not the only one) to help understand the world. In order to make effective use of these techniques, students will be introduced to several principles underlying quantitative political analysis, including research design, measurement, probability, sampling, hypothesis testing, and control. Students also will gain experience in the analysis of political data. This will be accomplished through in-class exercises using a statistical software package called SPSS.

No background in statistics, advanced mathematics, or computing is assumed or required, although students will need to use some basic math skills and a calculator. Don’t panic! Students only need to know how to add, subtract, multiply, and divide numbers to manage this course.
OBJECTIVES

By the end of the semester, students will be able to: (1) think analytically and abstractly about social science research; (2) understand the foundations of research design and hypothesis testing in political science; (3) perform basic statistical calculations; (4) interpret and explain statistical results, and (5) use the SPSS computer program.

REQUIRED BOOKS


There will be a few short articles (available on the MyGateway site for the course) assigned as well.

COURSE REQUIREMENTS

Exams: There will be two midterm exams and a final exam. The exams will be based on assigned readings and course lectures. The final exam will be comprehensive. Failure to take the exams at the scheduled time, unless excused by the instructor in advance, will result in an F for that exam.

Research Paper: A significant part of your final grade will be based on a paper where you apply some of the methods from this course to conduct research on a topic of interest to you. All students will design and implement a political research paper. The research paper will be completed in stages throughout the semester, with the final product due near the end of the semester. See the “Research Paper” section at the end of this syllabus for detailed information on the paper.

Problem Sets: All students will complete several problem sets during the semester. The problem sets will be like take-home quizzes and will not require the use of the computer. Late problem sets will be penalized one full letter grade for every day they are late.

Computer Labs: Throughout the semester, students will be required to attend several computer lab sessions (scheduled during our regular class time). During these sessions, you will apply the analytic techniques we cover in class to political data (which I will provide). The data analyses from the lab sessions will be used to complete exercises in which you will be required to report and interpret the findings of your analyses. Late computer assignments will be penalized one full letter grade for every day they are late.

All of your lab analyses will involve using the SPSS statistical software, which is not difficult to use. The first few exercises you complete will have detailed instructions about how to access the data and proceed with your analysis. In addition, the program itself has extensive on-line help instructions for the procedures you will use. There is a convenient help button that will give advice if you get stuck in the program. In any event, Cassandra
and I will be here to help with any problems you encounter in the lab sessions. Cassandra and I will also be available to help with SPSS during office hours and by appointment.

Attendance and Participation: I expect students to read the assigned materials on time, attend class, and participate in discussions on a regular basis. Understanding political science research methods is like learning a language. The information in this course is cumulative. You will use what you learn in this class throughout the semester. As a consequence, it will be very difficult to understand what we are doing if you are not in class regularly. I will take attendance on ten randomly chosen days during the semester. Students who miss more than two of those days will lose points on the attendance and participation part of their grade. Regular attendance and participation is likely necessary to receive an A for the course.

GRADING

Final grades will be based on the following proportions:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Weight</th>
<th>Due date</th>
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<tbody>
<tr>
<td>Midterm Exam 1</td>
<td>15%</td>
<td>Sept. 29</td>
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<tr>
<td>Midterm Exam 2</td>
<td>15%</td>
<td>Nov. 3</td>
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<tr>
<td>Final Exam</td>
<td>15%</td>
<td>Dec. 13</td>
</tr>
<tr>
<td>Problem Sets/Computer Labs</td>
<td>30%</td>
<td>several</td>
</tr>
<tr>
<td>Research Paper</td>
<td>25%</td>
<td>Dec. 6</td>
</tr>
<tr>
<td>Attendance</td>
<td>5%</td>
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ACADEMIC HONESTY

I take academic misconduct (plagiarism, cheating, etc.) very seriously, and any cases of cheating or plagiarism will be reported to the university committee on academic misconduct and handled according to university policy. In addition, students will receive a grade of “0” for that assignment. According to the American Heritage Dictionary, plagiarism is “stealing and using the ideas or writings of another as one’s own” (p. 524). If you are uncertain about this definition or how it applies to your work, please come see me.
 COURSE OUTLINE
Readings marked with an asterisk (*) are available on the MyGateway site.

I. INTRODUCTION: WHAT IS POLITICAL SCIENCE?

Studying Politics Using the Scientific Method  (Aug. 18-25)
Read:  Johnson and Reynolds, chapters 1, and 2
Sharon Begley. “The Science Wars,” Newsweek, 4/21/97, pp. 54-57. (*)
Question: Can politics be studied scientifically?
Lab Monday, August 23 (Introduction to MyGateway and SPSS)

II. FORMULATING A RESEARCH PROJECT

Read:  Johnson and Reynolds, chapters 4 and 6
Research Question: Does the Brady Law (background checks) reduce crime?
Lab Wednesday, Sept. 8: Do cookie prices indicate quality?
No Class on Labor Day – Monday, September 6
Research Paper: Topic Due Wednesday, September 8

Research Design: Experiments and Quasi-Experiments (Sept. 13-15)
Read:  Johnson and Reynolds, chapter 3
Research Question: Are southern men more violent than northern men?
Research Question: Do speeding crackdowns reduce car accidents?

Research Design:  Content Analysis (Sept. 20-22)
Read:  Johnson and Reynolds, chapters 8 and 10 (section on elite interviews)
Bernard Goldberg, Bias, 2001, Regnery Press (selections)
Lab Wednesday, Sept. 25: Is there a liberal bias in the media?
Research Paper: Research Question Due Wednesday, September 22
Literature Reviews and Data Sources (Sept. 27)

Read: Johnson and Reynolds, chapter 5

Lab Monday, September 27 (Literature Search for Research Papers)

MIDTERM 1: WEDNESDAY, SEPTEMBER 29

Research Design: Surveys (Oct. 4-6)

Read: Johnson and Reynolds, chapters 9 and 10 (section on surveys)

Research Question: Can the Internet be used to conduct public opinion surveys, and why did Arnold Schwarzenegger win the California election for governor?

Research Paper: Literature Review Due Wednesday, October 6

III. DESCRIPTIVE STATISTICS

Univariate Statistics (Oct. 11-20)
Central Tendency, Dispersion, and the Normal Distribution

Read: Johnson and Reynolds, chapter 11

Lab Wednesday, October 13: How accurate are food labels? (Central Tendency)
Lab Wednesday, October 20: How good are stock analysts? (Variation and the Normal Distribution)

Bivariate Statistics (Oct. 25-Nov. 8)
Crosstabulation, Scatterplots, Correlation, and Regression

Read: Johnson and Reynolds, chapter 12

Research Paper: Research Design Due Wednesday, October 27
Lab Wednesday, Oct. 27: Is the death penalty racially biased? (Crosstabs)

MIDTERM 2: WEDNESDAY, NOVEMBER 3

Lab Monday, November 8: Smoking and cancer (Correlation and Regression) 
Also begin data entry for research projects

IV. INFERENTIAL STATISTICS

Probability and Samples (Nov. 10-15)

Read: Johnson and Reynolds, chapters 9 and 11

Research Question: Are random samples representative of the population from which they are drawn?

Testing Hypotheses With Sample Information (Nov. 17-29)
Statistical Significance

Read: Johnson and Reynolds, chapter 12

Research Paper: Data Analysis Due Monday, November 22

Lab Monday, November 22 (Chi-Square and Difference-of-Means Tests)

No Class Wednesday, November 24 (Thanksgiving break)

Multivariate Analysis (Dec. 1)

Read: Johnson and Reynolds, chapter 13
Research Question: Who was supposed to win the last presidential election?

Finish the Research Paper and Review for Final Exam (Dec. 6)

Read: Johnson and Reynolds, chapter 14

FINAL RESEARCH PAPER DUE MONDAY, DECEMBER 6

FINAL EXAM: 7:45-9:45 AM, Monday, December 13, CCB 104
**Research Paper**

For the research paper, you will design and implement your own research project. The project is divided into sections to make the assignment more manageable and to give me several opportunities to provide you with feedback. You will choose your own topic. The only criteria I have for topic selection are that the research question involves politics in some way, the project is manageable in a semester, and you are interested in it. Students will meet with me individually at least twice during the semester to help plan the research strategy and implement it. Listed below are the five assignments that make up the research paper. The due dates for each assignment are listed in your course outline and appear on the assignment calendar I will distribute in class.

1. **Topic.** One-half page identifying the topic of your research project. What political science topic are you interested in investigating? Be sure to choose a topic that interests you since you will spend a lot of time on it this semester. At this point, your topic may be fairly broad. After I have reviewed your topic, you should schedule a meeting with me to discuss how to proceed.

2. **Research question.** One page explaining your research question and one or more hypotheses you will test. Be explicit about the concepts you are using and identify your dependent and independent variables clearly.

3. **Literature Review.** Five page paper examining five to seven political science articles that have considered this topic or a closely related topic. The articles must come from a social science journal. (Some examples: *American Political Science Review, Journal of Politics, American Journal of Political Science, American Politics Quarterly, Political Research Quarterly, World Politics, International Studies Quarterly.*) Citations must follow the American Political Science Association Style manual, which will be distributed in class.

4. **Research Design.** The research design combines some of the earlier research project assignments with new information to create the research proposal and plan. The design should include the following sections:

   a. Introduction explaining the problem to be studied. This will be a revised version of your research topic assignment.

   b. Revised literature review describing how the question has been addressed by political scientists in the past. This section should use the literature review you have already submitted as a starting point. You should revise this review based on feedback from me.

   c. Hypothesis or hypotheses explaining what relationships you expect between the variables you are examining. This means you must clearly explain what the dependent and independent variables will be in your analysis. You will
likely use some of the ideas included in your research question assignment in this section.

d. Information about how you will measure the variables for your study.

e. Sources of the data you will need to pursue your research question. Where will you find the data to measure the variables in the way you have suggested? Is it already available? If so, where will you get it? If not, how will you collect it?

5. **Data Analysis.** This section reports descriptive statistics for the data you collected (central tendency, variation for the dependent and independent variables). In addition, this section reports the results of statistical tests of your hypotheses. Explain whether your hypotheses are supported or not. How certain are you of your findings? This section should be roughly 5 pages long, and it gives me the chance to make sure you are on the right track in the quantitative section of your research project.

6. **Final Research Paper.** Revised research design with conclusion added. The final project will include a revised version of the previous sections, plus a conclusion. The conclusion should tie the paper together and explain what you would like the reader to conclude about your research. What are the main results? Do the results apply to other situations? What should the reader remember most? Read chapter 14 in the Johnson and Reynolds book for an example of an excellent research article.