Course Objective:
Political scientists explore a variety of intriguing questions. For example, some political scientists are interested in explaining why some people vote and others do not. Others are concerned with explaining the factors that predict democratization in different countries. Still others wonder how an increasingly globalized market influences the economies of developed and undeveloped nations. While political scientists grapple with a wide array of issues, what unites most of them is their use of objective evidence to address these questions.

The goal of this course is to provide students with a toolset to address different puzzles in the social sciences. In particular, students in this course will learn how to create viable research questions, to collect, analyze, and interpret data, and to connect the results from their analysis to real world problems. By the end of this course, students should be able to formulate and test a research question of their choice using survey data as evidence. Moreover, students should be able to comprehend quantitative and qualitative methods and analysis used in peer-reviewed academic journals.

Course Readings:
The one required books for this course is Statistics for People Who (Think They) Hate Statistics, Fourth Edition by Neil Salkind. The book provides a quick, understandable description of most of the methods that we will use in this class and provides instructions on how to conduct these methods in Microsoft Excel. In addition to the text book, there will be several social science readings, which we will use as background information for the analysis we conduct in class. Through these readings and class discussions, we will create research questions and use the methods learned in class to examine these questions.

Computer Software:
One of the largest components of this class will be data analysis using a variety of statistical programs. While many hours of tedious work, an intimate knowledge of calculus and statistics, and a calculator would allow us to conduct most of these methods by hand, the use of statistical software makes data analysis much more manageable. The first software package that we will be using is Microsoft Excel. While Excel is a rather primitive tool for statistical analysis, it provides a more hands on approach to learning statistics than other statistical programs. Another advantage of using Excel is that most students should already have access to this program on their computer. The other
program that we will use in this course is Stata. Stata is a useful program for learning statistics because it is can perform a wide variety of statistical functions and is arguably easier to use than other statistical programs such as R and Excel. Stata is also one of the most commonly used statistical programs in political science.

Course Structure:
The course meets three times a week for 50 minutes. On Monday and Wednesday of each week, we will discuss quantitative and qualitative research methods. During these discussions, we will learn how to calculate/use the methods and examine their applications in political science. Friday's course will be more hands on. Students will be divided into groups of two or three and will use the majority of the class solving problems using excel and/or Stata.

Course Requirements and Grading:
Your performance in this class will be evaluated in four different ways.

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<thead>
<tr>
<th>Course Grading</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Midterm</td>
<td>25%</td>
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<tr>
<td>6 Problem Sets (6*5%)</td>
<td>30%</td>
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<tr>
<td>Research Paper</td>
<td>30%</td>
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<tr>
<td>In Class Assignments</td>
<td>15%</td>
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<td><strong>Total</strong></td>
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In Class Assignments 15%: To assess students’ participation, students will complete a weekly in class assignment every Friday. The assignments will generally require students to use excel and/or Stata to solve a particular set of problems. These assignments will be graded as credit/no credit. Students are allowed to miss two assignments without penalty. Students will lose 3% of this grade for every missed or uncredited assignment after that.

Midterm 25% (March 6th, 2012): Your midterm will test your knowledge of statistics and statistical software for the first half of the course. The test will include 10 multiple choice questions (10*4=40%), 2 problems that must be answered without a computer (2*15=30%), and 5 questions that will test your ability to utilize both Stata and Excel to conduct data analysis (5*6=30%). I, however, reserve the right to change this format if necessary.

Problem Sets 30% (Due on Various Dates): The best way to learn statistics is by actually doing it. Thus, the problem sets in this course are designed to teach you to apply the skills we learn in class to different social science questions. These problem sets will usually be comprised of 3-5 large questions with several sub-questions. The problem sets will ask you to make calculations by hand and with statistical software. Students will receive the problem sets one week before they are due.

Research Project 30% (May 10th, 2012): One of the primary goals of this course is to train students to think like social scientists. To assess student’s progress in this area, students will be divided into groups of 2 or 3 and will be required to write a 10-15 page research paper dealing with a research question of their choosing. In these papers,
students will formulate hypothesis based on previous research. To test these hypotheses, students will be required to collect, code, and analyze data from a survey put out by the class. The students will also be required to utilize one or more of the methods that we use in class.

To ensure that the students select a viable research question that can be done in a 15 week course, students should clear the project with the professor on March 8th in a class set aside for individual meetings. Students should also consult with the professor earlier if they are having trouble coming up with a research question.

During finals week, students will be asked to present their research project in front of the class. This will provide students with the opportunity to receive feedback from their classmates. It will also give students practice presenting quantitative/qualitative research. More detailed instructions about the project and the presentation will be available at the beginning of March.

**Course Schedule and Assigned Readings:**

**Monday, January 14th**- Introduction and Syllabus  
**Reading:** None

**Wednesday, January 16th** – Introduction: What is Political Science Research? Nominal, Interval, and Ordinal Variables  
**Readings:** Chapter 1 (Salkind)

**Friday, January 18th**– Introduction to Excel and Stata Part 1  
Presenting Nominal, Interval, and Ordinal Variables  
**Readings:** Chapter 19 (Salkind)

**Week 2: Descriptive Statistics**  
**Monday, January 21st** – No Class

**Wednesday, January 23rd** Measures of Central Tendency (Mean, Median, and Mode)  
**Readings:** Chapter 2 (Salkind)

**Friday, January 25**th- Introduction to Excel and Stata Part 2  
Mean, Mode, Median in Stata and Excel  
**Readings:** http://www.stata.com/help.cgi?summarize

**Week 3: Standard Scores**  
**Monday, January 28**th – Measures of Variation (Range and Standard Deviation)  
**Readings:** Chapter 3 (Salkind)

**Wednesday, January 30**th – Normal Distributions and Standard Scores  
**Readings:** Chapter 8 (Salkind)
Friday, February 1st – Using Stata and Excel to Find Descriptive Statistics and Standard Scores
Readings: http://www.stata.com/help/cgi?egen

Weeks 4 & 5 Probability
Monday, February 4th – Standard Scores and Percentile Ranks
Readings: Review Chapter 8 (Salkind)

Problem Set # 1 Due

Wednesday, February 6th – Introduction to Probability
Readings: Selected Readings from Noviello "Secrets of Statistics"

Friday, February 8th – Transforming Variables and Standardized Scores in Excel and Stata
Readings: http://www.stata.com/help/cgi?recode

Monday, February 11th – Joint Probability
Readings: Selected Readings from Noviello "Secrets of Statistics"

Wednesday, February 13th – Conditional Probability
Readings: Selected Readings from Everyday Probability and Statistics: Health, Elections, Gambling, and War

Friday, February 15th – Transforming Variables in Excel and Stata Part 2
Readings: http://www.stata.com/help/cgi?replace

Weeks 6 & 7 Comparisons of Means and Proportions

Monday, February 18th – Comparison of Means and Proportions: Standard Error and One Sample T-Tests
Readings: Chapter 7 (Salkind)

Problem Set # 2 Due

Wednesday, February 20th – Comparison of Means and Proportions: One Sample T-Tests and Hypothesis Testing
Readings: Chapter 9 pp 199-209 (Salkind)

Friday, February 22nd – One Sample T-Tests in Stata and Excel
Reading: http://www.stata.com/help/cgi?ttest
http://www.youtube.com/watch?v=HwzCyqW-0dc
Will the Youth Come out for Obama? (Posted on Desire to Learn)

Monday, February 25th – Comparison of Means and Proportions: Two Sample T-test
Readings: Chapter 10 (Salkind)
Wednesday, February 27th – Comparison of Means and Proportions: Paired Sample T-Tests
Readings: Chapter 11 (Salkind)

Friday, March 1st – Two Sample T-Tests in Stata
Reading: http://www.stata.com/help.cgi?ttest
http://www.youtube.com/watch?v=by4c3h3WXQc
Does the Internet Increase Voter Participation in Elections (Posted on Desire 2 Learn)

Week 8: Midterm

Monday, March 4th – Midterm Review
Readings: None

Problem Set # 3 Due

Wednesday, March 6th – Midterm
Readings: None

Friday, March 8th – Individual Meetings about Research Paper
Reading: None

March 11th – March 15th – Spring Break

Week 9 Survey Design and Research

Monday, March 18th – Survey Design and Social Desirability Response Bias
Readings: Good Excuses: Understanding Who Votes with an Improved Turnout Question (Posted on Desire 2 Learn)

Wednesday, March 20th – Sampling
Readings: Selected Reading from Sampling Techniques, by Cochran

Friday, March 22nd – Survey Design in Class Meeting

Week 10 Chi Square

Monday, March 25th – Chi-Square: Inferences about Nominal Variables Part 1
Readings: Chapter 16 (Salkind)

Wednesday, March 27th – Chi-Square: Inferences about Nominal Variables Part 2
Readings: Chapter 16 (Salkind)

Friday, March 29th – Chi-Square in Stata
Readings: http://www.youtube.com/watch?v=DBsMPZqjjo

Problem Set # 4 Due
Weeks 11 & 12 Correlation and Regression

Monday, April 1st – Pearson's Correlations Part 1
Readings: Chapter 5 (Salkind)

Wednesday, April 3rd – Pearson's Correlations Part 2
Readings: Chapter 14 (Salkind)

Friday, April 5th – Correlations in Stata
Readings: http://www.stata.com/help.cgi?correlate
http://www.youtube.com/watch?v=o7ko844ff-g

Monday, April 8th – Multivariate Regression Part 1
Readings: Chapter 15 (Salkind)

Wednesday, April 10th – Multivariate Regression Part 2
Readings: Chapter 15 (Salkind)

Friday, April 12th – No Class - Groups Should Meet Outside of Class to Work on Project

Week 13 & 14 Special Topics in Regression

Monday, April 15th – Multivariate Regression Part 3
Readings: Selected Readings from Noviello

Problem Set # 5 Due

Wednesday, April 17th – Logit Regression, Odds Ratios, and Predicted Probability (Part 1)
Readings: http://www.ccsr.ac.uk/publications/teaching/blr.pdf

Friday, April 19th – Regression in Stata
Readings: http://www.youtube.com/watch?v=HafqPSB9x70
http://www.stata.com/help.cgi?regress
Does Electoral Reform Increase (or decrease) Political Equality (Posted on Desire 2 Learn)

Monday, April 22nd – Logit Regression, Odds Ratios, and Predicted Probability (Part 2)
Readings: None

Wednesday, April 24th – Regression and Logit Regression in Stata (Part 1)

Friday, April 26th – Regression and Logit Regression (Part 1)

Weeks 15 Qualitative Methods

Monday, April 29th – Content Analysis
Readings: Chapter 3 of *Voting Hopes and Fears* by Reeves

**Problem Set # 6 Due**

**Wednesday, May 1st**– Case Studies and Ethnographies  
**Readings:** Selected Readings from *Methods of Social Movement Research*

**Friday, May 3rd**– Final Project Preparations  
**Readings:** None

**Final Paper is Due on May 11th, 2012**