

POL 201: Research Methods in Political Science And IS 240: Research Methods in IS

Department of Political Science, Simon Fraser University
Room: AQ 3005 (Tu: 10:30-12:20)

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Office Hours:

Thursday: 10:30-12:00

or by appointment

“Most people use statistics the way a drunk uses a lamp post, more for support than enlightenment”

Political science is largely an empirical discipline. That is, we study politics primarily because we are interested in understanding *real world* political events, such as war, ethnic conflict, revolutions, voting behaviour, political and social protest, public opinion, policy outcomes, economic growth, etc. These events may be either historical, current, or even events yet to happen. We want to know *why* these events happen and how to make sense of them. Political science tries to answer these questions in a rigorous way. Data analysis is thus a critical component of political science, serving two important purposes:

- (1) Providing numerical *descriptions* or summaries of political phenomena, facilitating comparisons across time, countries, states, people, etc. (**Descriptive Statistics**);
- (2) Testing theories, models and hypotheses about politics (**Inferential Statistics**).

For the most part, the “data” in this class is quantitative data. We will use computers to manage, inspect and describe quantitative data. We will also see how statistical methods let us perform inference: that is, using the data available for analysis to make claims that apply to broader settings. As we shall see, inference is a critical part of the “science” part of political science, since it speaks directly to whether we can validly understand particular political events as unique, idiosyncratic or specific instances of more general political processes.

Best put, this course is an introduction to how political scientists use the tools of statistics to rigorously understand political events. It also serves as a means for students to develop a clearer understanding of the logic of political inquiry and sharpen their analytical thinking skills. I assume no prior background with using computers for data analysis; however, you will spend significant time in the course learning how to use computers to conduct statistical analyses.

Teaching Assistants:

Joshua Newman: joshua.newman@sfu.ca

Andrea Nuesser: andrea.nuesser@me.com

Course Requirements and Evaluation:

- (1) On-time and full attendance **at all 4 lecture and lab sections** in first 2 weeks of course (5%)
- (2) Quiz over Basics of R language in Week 4 (5%)
- (3) Lab Assignments & Participation (10%)
- (4) Homework Assignments (35%)
- (5) Mid-Term Exam (20%)
- (6) Final Exam (25%)

Procedures for Marking Course Assignments:

1. Lab assignments are marked pass/fail based simply on whether or not you have submitted the assignment during your scheduled lab time. You must attend your lab section in order to receive credit. In this sense, they are like a “participation grade”. There are no “make-ups” or late submissions for these assignments.
2. Homework assignments are marked on a 5 point scale (0 – 4). All homework assignments are due **on Sundays at 5:00** and must be submitted online at WebCT. **Late assignments are not accepted and scored a 0.**
3. All assignments and exams must be completed using the statistical program “R”.

Textbooks:

Agresti, Alan and Christine Franklin, 2009. Statistics: The Art and Science of Learning From Data. Pearson/Prentice Hall, 2nd edition (Required).

Ayers, Ian. 2007. Super Crunchers. Bantem Books (Required).

Verzani, John. “simpleR – Using R for Introductory Statistics” (Recommended).

This is an extremely useful introduction to the R statistics program and language. You should find it particularly useful in the first few weeks of the course.

It can be downloaded with the following URL:

<http://cran.r-project.org/doc/contrib/Verzani-SimpleR.pdf>

Tentative Schedule:

1. September 8. Course Introduction.
 - Readings:
 - Agresti and Franklin: Chapter 1
 - Ayers: Introduction and Chapter 1
 - Weldon: “R: How To Guides #1 and #2”
 - Verzani: Chapters 1 & 2 “simpleR” (sections Introduction, Data, and Univariate Data) at the following website:
<http://cran.r-project.org/doc/contrib/Verzani-SimpleR.pdf>
- Note: Do the examples as you read. It will help tremendously!

- Note: Lab sections will run the first week of class.
2. September 15. Univariate Statistics and Graphs.
 - Readings:
 - Agresti and Franklin, Chapter 2
 - Weldon: "R: How To Guides #3 and #4"
 - Homework #1 (Due September 20th by 5:00 pm)
 3. September 22. Association, Correlation, and Bivariate Regression.
 - Readings:
 - Agresti and Franklin, Chapter 3
 - Weldon: "R: How To Guide #5"
 - Homework #2 (Due September 27th by 5:00 pm)
 4. September 29. Introduction to Sampling and Probability
 - **QUIZ in Lecture, Focusing on the 5 "How To" Guides**
 - Readings:
 - Agresti and Franklin: Chapters 4 and 5 (Good time to skim chapters 6 and 7 as well. The material for this week and the next is probably the most difficult of the entire semester.)
 - Ayers: Chapters 2-4
 5. October 6. Probability Distributions
 - Readings:
 - Agresti and Franklin: Chapter 6
 - Ayers: Chapters 5 and 6
 - Homework #3 (Due October 11th by 5:00 pm)
 6. October 13. Sample Distributions
 - Readings:
 - Agresti and Franklin: Chapter 7
 - Ayers: Chapters 7, 8, and Afterword
 7. October 20. MID-TERM EXAM (50% in lecture; 50% in lab section)
 8. October 27. Statistical Inference: Confidence Intervals.
 - Readings: Chapter 8
 9. November 3. Statistical Inference: Significance Tests and Hypotheses.
 - Readings: Chapter 9
 - Homework #4 (Due November 8th by 5:00 pm)
 10. November 10. Comparing Groups: T-tests.

- Readings: Chapter 10
11. November 17. Chi-Square and ANOVA.
- Readings: Chapters 11 & 14
 - Homework #5 (Due November 22nd by 5:00 pm)
12. November 24. Linear Regression I
- Readings: Chapter 12
13. December 1. Linear Regression II
- Readings: Chapter 13
 - Homework #6 (Due December 6th by 5:00 pm)

**** Final exam to be held or due on December 12th from 8:30AM-11:30AM (A Saturday)**

Notes on Plagiarism and Cheating:

Simply put, don't do it.

*Plagiarism/Cheating of **any form or scope** will have the following repercussions:*

- 1) The instructor will write a report to the department chair recommending an automatic F **for the course. (I repeat, in the course, not just on that particular assignment).**
- 2) This report will be placed in the student's permanent department file.
- 3) The report will also be forwarded and placed in the new university wide database of academic dishonesty cases.

Plagiarism and Cheating notes, especially relevant to this course:

- 1) I strongly encourage students to work together on homework and in-class assignments in this course. However, each student must write up his or her own answers and explanations. In the event that two or more students submit identical or closely paraphrased homework assignments, this will be considered plagiarism/cheating for all relevant students.
- 2) READ THIS CLOSELY: I have a very simple rule in this class: If you are asked by a TA or the instructor to redo **any** assignment that you submitted under your name, and **you don't know how to do it on the spot**, I will assume that you have cheated.

Further notes on Plagiarism from the University and Department of Political Science:

Plagiarism involves using another author's words without attribution or otherwise presenting another person's work as one's own. It is a fraudulent and serious academic offence that will result in a severe academic penalty. Also, close paraphrasing of another author's work & self-plagiarism, including

submitting the same, or substantively the same, work for academic evaluation more than once, are unacceptable practices that will result in a severe academic penalty.

The university policies on academic honesty are available at <http://www.sfu.ca/policies/teaching/t10-02.htm> and <http://www.sfu.ca/policies/teaching/t10-03.htm>.

The Department of Political Science's interpretation of this policy can be found at http://www.sfu.ca/politics/undergrad/ug_plag_pol.html,

and is available in hard copy format outside our General Office. All students are responsible for familiarising themselves with these policies.

A helpful SFU Library tutorial on plagiarism is at

<http://www.lib.sfu.ca/researchhelp/tutorials/interactive/plagiarism/tutorial/introduction.htm>

The DOs and DON'Ts of AVOIDING PLAGIARISM

Do not:

- submit an entire paper or part(s) of a paper or papers that has been written or researched by any other person(s);
- submit a paper as an assignment that has been bought from another person or from a 'paper mill' or essay service;
- submit a paper or other written assignment that has been submitted at another time or for a different course by yourself or any other student or former student;
- submit material that has been downloaded from a website, without acknowledging (using appropriate citation style) that you have done so;
- take someone else's idea(s) and represent it/them as your own;
- copy any text verbatim, or with only slight variation from the original text, without using quotation marks and documenting the source with proper citation style;
- do not closely paraphrase another's material; either paraphrase completely in your own words, or cite as a direct quotation using quotation marks (in either case, give full credit and details regarding authorship and location of the original material);

Do:

- learn how to cite material properly (there are many good guides on this, including the departmental one);
- use a recognized citation style (eg. APA, MLA, Chicago), according to instructions given by the course instructor, and be consistent in the use of the style throughout any single piece of written work;
- carefully read and make sure you understand the university's policy on academic honesty;
- ask the instructor of this course or other faculty members if you have any questions about plagiarism.