

# FP220 – Political Science Methods

## Spring AY18 Syllabus

### Sections 2001/3001

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### Course Overview

This course provides an introduction to research methods in political science, with an emphasis on quantitative methods. As an empirical discipline, a central question facing researchers in political science is “What can we learn from what we observe?” As such, this course will provide students with a comprehensive introduction to the principles of scientific research and techniques of quantitative data analysis in political science.

This course is not simply a statistics course; while we will use statistical techniques to analyze data, the focus is on what we can learn from the data and not on statistical theory for its own sake. **You are assumed to be familiar with introductory statistics, at the SM219 level or equivalent.**

At the end of this course, students should be able to do the following:

1. Understand the application of the scientific method to explain patterns of political outcomes.
2. Read and interpret political science literature using quantitative data.
3. Use statistical and graphical methods to analyze and present quantitative data in their own work.

Professor Polga-Hecimovich will be teaching sections 2001 and 3001, and Major Khalsa will be teaching sections 5001 and 6001. We will be covering the same content, using the same texts, and taking similar approaches to the material. With both instructors, the course is designed to challenge students and will require more time and effort than the average course.

## Course Requirements

To evaluate your success in mastering the material, we will require a number of different assignments over the course of the semester:

- Problem sets (15%): Three major problem sets that will cover concepts, applications, and hand-on analysis of data using R.
- Midterm exams (15% each): Two in-class exams that will cover material from the course. These will include pencil-and-paper exercises as well as the interpretation of analysis generated in R.
- Final project (20%): You will be assigned to a group of two or three midshipmen. As a group, you will find and analyze a dataset of your own choosing. This is your opportunity to get your hands dirty with data from a topic that interests you. It must be relevant to political science or public policy, but within those bounds you have wide discretion in choosing a topic.
- Final exam (25%): A *cumulative* in-class exam during the finals period, similar in format to the midterms but covering material from the entire course.
- Participation (10%): You are expected to participate actively in class, both asking and answering questions and taking part in various activities throughout the course. Participation in EI and attendance at MGSP and review sessions will count toward your participation grade.

Failure to complete any of the assignments will lead to an incomplete for the course. **A failing grade on the Final Project or Final Exam may result in a failing grade in the course.**

## Course Policies

**Preparation:** Students are expected to complete the assigned readings prior to the class for which they have been assigned and to be prepared to discuss them in class.

**Collaboration:** Students are encouraged to work together on the major problem sets and to ask each other for help with concepts or computing. It is crucial, however, that each student understand the concepts and methods used in the problem sets; failure to do so will almost guarantee poor performance on the exams. To encourage this, *each student must write up his or her own answers to the problem sets in their own words; it is not acceptable to copy and paste answers and simply change the names.* If we find evidence that students are doing this (and it isn't hard; everyone makes typos), all students submitting identical answers will receive a 0 for that assignment.

Students Repeating the Course: Since FP220 is required for political science majors, students are occasionally required to repeat the course. Any student in such a position is expected to complete all of the required assignments for the course as if taking it for the first time, particularly with respect to the final project. If you are uncertain, please check with us first.

Extra Instruction: Extra instruction is strongly encouraged, and in fact is essential to the successful completion of the course. Feel free to drop in during scheduled office hours, or make an appointment if you cannot meet during that time. You should note, however, that you will often be better off asking your colleagues for help since they are accessible 24-7; save formal EI for big-picture concerns. Overall, if you work with us, we will work with you.

Late Submissions: Late submissions of assignments are not accepted with few exceptions (these include hospitalization or a death in the immediate family, and not much else) and **will result in zero points for the assignment**. If you are unable to attend a class in which an assignment is due, it is your responsibility to get your work to us before that class, either directly or via one of your classmates.

Plagiarism: Plagiarism is a serious issue and is not acceptable in an academic context. Incidental plagiarism (failure to cite information that would otherwise be appropriate to use in the context of a research project) will result in a lower grade for that assignment. Significant plagiarism (representing the work of others as your own) will result in a grade of 0 for the assignment and a failing grade for the course, in addition to any consequences under the Honor Concept. More detail on the definition of plagiarism is available here: <http://libguides.usna.edu/plagiarism>. If you have any questions, please discuss them with us *prior* to submitting any work.

Cheating: Like plagiarism, cheating is unacceptable. If we have reason to believe that cheating has occurred on an assignment or exam, a grade of 0 will be given for that assignment, in addition to any consequences under the Honor Concept.

## Course Materials

There is one required text for this course:

- Kellstedt, Paul M. and Guy D. Whitten. 2013. *The Fundamentals of Political Science Research*, second edition. Cambridge: Cambridge University Press.

Data analysis for the course will be done using the R statistical computing environment. This program is open-source and can be downloaded for free from the Internet. Details will be provided during the first class session.

In addition, lectures in the course will occasionally use examples taken from political science journal articles. These articles will be posted on Blackboard prior to the lecture and will be announced in class.

## Course Schedule

January 11	Introduction; Scientific Methods in Political Science KW Ch. 1 (1–20)
January 16	Formulating Useful Hypotheses; Making Causal Claims KW Ch. 3 (51–66)
January 18	Making Causal Claims (cont.); Research Design I KW Ch. 4 (69-91)
January 23	Concepts and Variables; Measurement KW 5.1–5.6 (92-109); KW 5.7–5.8 (110-114); “The College Kid and the Single Mom,” (on Blackboard)
January 25	Measurement (cont.); Lab time
January 30	Descriptive Statistics KW 5.9–5.12 (114-124) <b>Homework: Install R and R Commander on your laptop and bring it to class.</b>
February 1	Descriptive Statistics (cont.)
February 6	Introduction to R; Research Design II; Comparative Method Lijphart, Arend. 1971. “Comparative Politics and the Comparative Method” <i>American Political Science Review</i> 65: 682–693. (Available on Blackboard) R tutorial (handout) <b>Problem Set 1 Due</b>
February 8	Comparative Method (cont.); Bad Plots
February 13	Data Sources for Political Science; Review
February 15	<b>6 week Exam</b> (or comp time if X period)
February 20	Populations and Samples; Sampling Distributions KW 6.1–6.2 (129–133)
February 22	Sampling Distributions (cont.); Interval estimation KW 6.3–6.5 (133-143)

February 27	Hypothesis Testing KW 7.1–7.3 (145-150)
March 1	Hypothesis testing (cont.); Two-sample Tests KW 7.4.2 (156-161) <b>Project Part I Due</b>
March 6	Two-sample Tests; Correlation KW 7.4.3 (161-167)
March 8	Intro to Regression <b>Problem Set 2 Due</b>
March 10-17	SPRING BREAK
March 20	Two-variable Regression Analysis; Ordinary Least Squares KW 8.1–8.2 (171-174); KW 8.3–8.4.4 (174-183)
March 22	Ordinary Least Squares (cont.) KW 8.5 (189-194)
March 27	Interval estimation for OLS; Inference for OLS KW 8.4.5 (183-185); KW 8.4.6–8.4.9 (183-189)
March 29	Inference for OLS (cont.); Transformations <b>Problem Set 3 Due</b>
April 3	Common Errors in Political Science; Review
April 5	<b>12 Week Exam</b> (or comp time if X period)
April 10	Regression with two IVs KW Ch. 9 (197-218) <b>Project Part II Due</b>
April 12	Regression with two IVs (cont.); Multiple Regression: Estimation KW 10.5 (238-244)

April 17	Multiple Regression: Estimation; Multiple Regression: Inference
April 19	Multiple Regression: Inference (cont.); Multiple Regression: Interpretation and Presentation KW 12.4 (286-293)
April 24	Problems with Regression: Diagnostics; Choosing the Right Model KW 10.4 (232-237)
April 26	Choosing the Right Model (cont.); Review Readings TBA
May 1	Wrap-up/Evaluations <b>Final Project Due</b>