PS 138 Introduction to Political Analysis

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Office Hours: TTh 1–3

This class is an introduction to quantitative methods for the analysis of politics. This will not be a class in statistics *per se,* but instead a class dedicated to analyzing politics from numerical perspectives. We will cover topics such as:

- How do we prove causality?
- How do we collect information to elucidate political problems?
- Using pictures to understand politics
- How to count
- What are the odds?
- Describing political and social phenomena
- Confidence intervals, or the lack thereof
- Covariation, and other fellow-travellers
- Relationships
- Function and form
- Diseases of data analysis

The requirements for this class will be three short papers (5–10 pages each) and an in-class final exam. Students will be responsible for selecting the political problem of each of the papers. The first paper will be about ways in which we might collect data on a problem of interest. In the second paper, students will make conjectures about what causes the distribution of some variables of interest. In the third paper, students will evaluate a claim about the relationship between political concepts. Students will be allowed to bring calculators, rulers, graph paper, and a cheat sheet (one page) to the final exam. In addition to these graded assignments, students will also complete occasional problem sets.

In order to facilitate your completion of the last two papers, the sections will occasionally meet in the computer labs. If your section meets on East Campus (Sections 1–3), your lab will be in the Carr Cluster. If your section meets on West (Section 4), your lab will be in 133 Soc/Psych. Skipping these labs would be a really bad idea.

The following books are on order at the Duke University Bookstore:

Manheim and Rich (MR), *Empirical Political Analysis*
Lee and Maykovich (LM), *Statistics: A Tool for Understanding Society*

4 Sep	What this course is about • MR, Ch. 1, The Reseearch Process (1–16)
9 Sep	How does one prove causality? • MR, Ch. 2, Theory Building (17–38)
11 – 18 Sep	Experiments in Political Research • MR, Ch. 4, From Abstract to Concrete (56–83) • MR, Ch. 5, Working From a Plan (84–105)
23 – 30 Sep	Survey Research • MR, Ch. 6, Who, What, Where, When (106–126) • MR, Ch. 7, Survey Research (129–154) • MR, Ch. 8, Interviewing (155–170)
2 Oct	Modeling • MR, Ch. 19, Mathematical Modeling (346–368)
7 Oct	Simulation
	FIRST PAPER DUE, 7 OCT
9 – 14 Oct	Exploratory Data Analysis • MR, Describing the Data (276–288) • LM, Ch. 1–2, 3.7.
11 Oct	**Computer Lab**
16 Oct	Combinatorics • LM, Ch. 6
21 Oct	**FALL BREAK**
23 – 28 Oct	Probability • LM, Ch. 7
25 Oct	**Computer Lab**
30 Oct	Univariate Statistics • LM, Ch. 3 • MR, Statistics I (289–301)
1 Nov	**Computer Lab**
4 – 11 Nov	Hypothesis Testing and Confidence Intervals • LM, Ch. 8, 9.1–9.2, 10, 11.1–11.3
8 Nov	**Computer Lab**

13 Nov	<u>Covariation and Correlation</u> • LM, Ch. 5.4
	SECOND PAPER DUE, 6 NOV
15 Nov	**Computer Lab**
18 – 27 Nov	<u>Regression</u> • LM, Ch. 5.1–5.3, 15.1–15.3
22 Nov	**Computer Lab**
2 – 4 Dec	<u>Diseases of Least Squares</u>
6 Dec	**Computer Lab**
9 Dec	<u>Functional Form</u>
11 Dec	<u>Where to go from here</u>
	THIRD PAPER DUE, 6 DEC