Empirical Political Analysis

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Goals and Objectives: This course will introduce you to regression analysis. This is the most fundamental form of quantitative analysis conducted by political scientists. You cannot pick up a journal without reading several articles employing it or variants of it. We will begin by reviewing bivariate regression and will discuss the assumptions underlying regression in depth. Then, we will move to multivariate regression and several topics, including how to diagnose and handle violations of the basic assumptions. Finally, we will discuss logit and probit, which are forms of analysis most frequently used when your dependent variable is dichotomous.

Our discussion will focus on both the technical, that is, the more statistical aspects of regression, and more applied aspects. On the more technical side, we will discuss the statistical properties of the regression estimates, the assumptions underlying it, and the consequences of violations of these assumptions. As the course outline indicates, though, we will spend several class sessions honing your skills in interpreting regression analysis. Many of the assignments will require you to perform regression analysis and to interpret its results. Moreover, you will also complete a research project utilizing this form of analysis.

Text: We will use four books this semester. They are available at the bookstore and I have requested that they also be available at Gelman Library's reserve desk. More specifically, the books are:

Gujarati, Damodar N. 1995. *Basic Econometrics*. 3d ed. New York: McGraw-Hill.

I have also asked the bookstore to order a number of monographs by Sage Publications. These may help elucidate the topics we are discussing this semester. I have asked Gelman to put these books on reserve as well.

Berry, William D. 1993. *Understanding Regression Assumptions*. Newbury Park, CA: Sage.

Berry, William D, and Stanley Feldman. 1985. *Multiple Regression in Practice*. Newbury Park, CA: Sage.

Lewis-Beck, Michael S. 1980. *Applied Regression: An Introduction*. Newbury Park, CA: Sage.

Aldrich, John H., and Forrest D. Nelson. 1984. *Linear Probability, Logit, and Probit Models*. Newbury Park, CA: Sage.

Course Requirements and Grading. We will have several weekly assignments based on the topics that we have been discussing in class. These assignments, for the most part, will require you to explore a topic in further depth with data that I provide for that problem. These assignments will compose 25 percent of your course grade. One caveat, if these assignments are completed without an acceptable excuse after the date they are due, I reserve the right to deduct points from your score.

The major assignment this semester is a research project that you will complete. This assignment will require you to write a paper, including a statement of your research question, a literature review, a discussion of your data and methods, your findings, and a conclusion. My expectation is that you will use regression analysis to explore a topic of interest to you. As with all projects, it is important that you get an early start on your project. If you get a late start, you almost certainly will have problems with the data and analysis and little time to resolve them. Depending on your topic, you may want to review the data available through the Inter-University Consortium for Political and Social Research (ICPSR). This can be best accomplished by searching the archive at their web site (http://www.icpsr.umich.edu). To the extent possible, I will facilitate obtaining the data that your paper requires. Your paper, which is due on May 9, will make up 75 percent of your course grade.

Course Schedule. The following is a course outline with accompanying readings. Note that we will not meet on March 21 because of Spring Break. Of course, I reserve the right to change specifics in the syllabus as the course progresses.

Week	*Topic*	*Readings*
January 18	Introduction	Gujarati Introduction & Chapter 1
January 25	Bivariate Regression	Gujarati Chapters 2 & 3 (except Sections 3.2 & 3.4)
February 1	Interpreting Bivariate Regression	Gujarati Chapter 5
February 8	Multivariate Regression	Gujarati Chapter 7
February 15	Issues of Interpreting Regression	King (1986), Luskin (1991), King (1991)
February 22	Data	
February 29	Assumptions & Criteria of Good Estimators	Gujarati Chapter 3, Sections 3.2 and 3.4
March 7	Specification and Measurement Error	Gujarati Chapter 13
March 14	Multicollinearity	Gujarati Chapter 10
March 21	No Class — Spring Break	

March 28	Linearity	Gujarati Chapters 6 & 7, Section 7.11
April 4	Heteroskedasticity	Gujarati Chapter 11
April 11	Autocorrelation	Gujarati Chapter 12
April 18	Interaction of Independent Variables	Friedrich
April 25	Dichotomous Independent Variables	Gujarati Chapter 15
May 2	Dichotomous Dependent Variables	Gujarati Chapter 16