Mini Class: Quantitative Political Analysis II

COURSE INFORMATION	*Term:* Fall 2020 *Level:* Intermediate *Meet:* T/F 1-2:20 (Class) R 7-8 (Lab) *Room:* ACE 329 *Syllabus Revision:* August 19, 2021		*Instructor:* Jack Reilly *Office:* Social Sciences 205 *E-mail:* jreilly@ncf.edu *Office Hours:* Weds 1-3 (drop-in), Tues by appt *Appointments:* jacklreilly.com/appointments

DESCRIPTION

This course is designed for all students who intend to conduct quantitative research in political and social science. It will also be useful to other students interested in quantitative analysis. We will take a pragmatic approach to data analysis, focusing both on formal statistical analysis and on the actual practice of utilizing and managing social science data. Statistically, we will cover a number of topics, including multiple regression, regression with categorical independent variables, interaction terms, regression diagnostics, and regression with categorical dependent variables (logistic regression.) For data, we will use a variety of major political and social science datasets, including the American National Election Studies, the General Social Survey, the Cross National Election Project, the Comparative Study of Electoral Systems, and others.

COURSE STRUCTURE

This will be the most applied "stats" course you will ever take. We have two main components to the class: a theoretical track, introducing relevant statistical techniques and methods, and an applied track, in which we learn about writing code for statistical analysis software (Stata), conduct analyses, and replicate previous studies.

PREREQUISITE

An introductory class in statistics (Quantitative Political Analysis I, Introduction to Statistics, Dealing with Data I, Introduction to Biostatistics, etc). Students should already be familiar with the concept of hypothesis testing and bivariate regression to take the class. This course is recommended for students who intend to take Econometrics in the spring. Upper-division work in a social science is highly recommended before taking the course.

INTEREST FORM

Want take this class? Great!!! Please let me know by filling out the survey accessible at www.jacklreilly.com/interest - click "Interest Form" next to "Quantitative Political Analysis II" and fill out the short list of questions.) (Make sure that you're logged in to your NCF google account).

Materials

BOOKS

Required

- Lewis-Beck and Lewis-Beck, 2015. Applied Regression: An Introduction, Second Edition. Sage Green Book #22.

- Tufte, 1974. Data Analysis for Politics and Policy. (ebook: http://www.edwardtufte.com/tufte/ebooks)

- Acock, 2016. A Gentle Introduction to Stata (any edition fourth or newer should do)

STATISTICAL COMPUTING & SOFTWARE

A primary component of the class is learning how to effectively and practically use statistical software. The main software package we will use, Stata, is the standard package used by practicing political scientists, and is commonplace in sociology and economics as well. It is also

frequently used by political think tanks, policy analysts, financial analysts, businesses, and statistical consultants. New College has licenses available for use in NCF computer classrooms, the virtual desktop lab, as well as on the computers in the Quantitative Social Science Lab. Inexpensive personal licenses are available for purchase as well.

Course Overview

OVERVIEW   Satisfactory completion of the course requires completion of the following:

1. Daily Reading & Preparation

2. Assignments

   (a) Problem Sets (4)
   (b) Replications (4)

3. Exams (2)

4. Final Project

   (a) Pre-Registration Paper
   (b) Final Presentation

TOPICS OUTLINE   (Subject to change)

W	Conceptual	Workflow	Work
1	DIAGNOSTIC QUIZ	Stata/R Crash Course: Coding Style	Diagnostic Quiz
2	Crash Course: Regression Inference	Cleaning & Recoding Data	A1: Stata Basics
3	Multiple Regression	Large Across Time Surveys	A2: Regression
4	Categorical Interactions	Weights	Replication I
5	Continuous Interactions	Predicted Values & Marginal Effects	A3: Interactions
6	Transformations	Graphics I	Replication II
7	Outliers & Error Terms	EXAM	Exam I
	FALL BREAK		
8	Logistic Regression	Predicted Probabilities	Replication III
9	Interactions & Logits	AMEs, AEMs, MEMs, oh my!	Replication IV
10	Ordinal & Multinomial Logits	Graphics II	A4: Ordinality
11	HLMs	EXAM	Exam II
	PROJECT SECTION		
12	Advanced Stata	Catchup, Project Meetings	Pre-Registration 1
13	Presenting Work	T(OF)URKEY TIME!	PUMPKIN PIE
14	Presentations	READING DAYS	Presentations
F	FINALS		Papers