

# Mini Class: Quantitative Political Analysis II

---

COURSE INFORMATION	<i>Term:</i> Spring 2023 <i>Level:</i> Intermediate <i>Meet:</i> T/Th 10:30-11:50 (Class); T 7-8 (Lab) <i>Room:</i> ACE 329 <i>Syllabus Revision:</i> January 26, 2023	<i>Instructor:</i> Jack Reilly <i>Office:</i> Social Sciences 205 <i>E-mail:</i> <a href="mailto:jreilly@ncf.edu">jreilly@ncf.edu</a> <i>Office Hours:</i> T 12-2 (Office), W 10-11 (Zoom) <i>Appointments:</i> <a href="http://jacklreilly.com/appointments">jacklreilly.com/appointments</a>
--------------------	--	--

**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.

**INTERESTED?** If you'd like to take the course, **let me know!** <http://jacklreilly.com/interest> (Make sure that you're logged in to your NCF google account).

## Materials

---

<b>BOOKS</b>	<b>Required</b> <ul style="list-style-type: none"><li>• Kellsted &amp; Whitten, 2018. <i>The Fundamentals of Political Science Research</i>. Cambridge. ISBN: 9781316642672</li><li>• Acock, 2016. <i>A Gentle Introduction to Stata</i> (any edition fourth or newer should do)</li></ul>
--------------	--

**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. Weekly Reading & Preparation
2. Assignments
  - (a) Problem Sets (4)
  - (b) Replications (4)
3. Quiz (1)
4. Exams (2)
5. Final Project
  - (a) Pre-Registration Paper
  - (b) Final Presentation

TOPICS OUTLINE (Subject to change)

W	Conceptual	Workflow	Work
1	Crash Course: Inference	Stata Crash Course: Coding Style	A1: Stata Basics
2	Crash Course: Regression	Cleaning & Recoding Data	A2: Regression
3	Multiple Regression	QUIZ	Quiz
4	Categorical IVs	Weights	A3: More Regression
5	Categorical Interactions	Replication	A4: Replication I (Bartels I)*
6	Continuous Interactions	Predicted Values, Marginal Effects	A5: Interactions
7	Transformations	EXAM I	Exam I
FALL BREAK			
8	Outliers & Error Terms	Graphics I	A6: <i>Replication II (Valentino) (Opt)</i>
9	Logistic Regression	ADVISING DAY	A7: Replication III (Mond & Sand)
10	Ordinal & Multinomial Logits	Graphics II	A8: Replication IV (Bartels II)
11	Interactions & Logits	AMEs, MEMs, AEMs, oh my!	A9: Replication V (Reilly)
12	BACC WEEK	EXAM II	Exam II
PROJECT SECTION			
13	Advanced Stata & Data	Presenting Quantitative Projects	Pre-Registration
14	Presentations	Presentations	Presentations
F	FINALS WEEK		