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
Agenda Revision: August 26, 2021

Instructor: Jack Reilly
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Office Hours: Tuesdays 9:30-11:30
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Class Schedule

TOPICS OUTLINE (Subject to change)

W	Conceptual	Workflow	Work
1	DIAGNOSTIC QUIZ	Stata 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		

A NOTE ON READINGS AND REFERENCES

Readings in this class are different than many other classes. You shouldn't imagine just doing the readings beginning to end; but rather, you should look through them after the lecture video for the week to fill in and enhance your understanding.

There is a "main" track for reading in the class, generally focusing on Tufte, Lewis-Beck, and Acock. However, if you prefer a more in-depth treatment of the material, readings are given from Gelman, Hill, and Vehtari's excellent *Regression and Other Stories* as well. Please see the main syllabus for more about these books.

Textbook abbreviations used in this document:

- LB^2=Lewis-Beck and Lewis-Beck, *Applied Regression, An Introduction. 2nd Edition*
- Tufte = Tufte, *Data Analysis for Politics and Policy*
- Acock = Acock, *A Gentle Introduction to Stata*
- Long = Long, *The Workflow of Data Analysis Using Stata*
- GHV = Gelman, Hill, and Vehtari, *Regression and Other Stories*
- FR = Freeman and Ross, *Programming Skills for Data Science*

Assignments Policy

DUE DATES — All weekly work - assignments, exams, and projects - is due at the beginning of class Friday. Because we go over all work immediately in class, no work can be turned in late.

"FREEBIES" — For the purposes of the class, you get one "freebie" week. A "freebie" is a point you can spend to not turn in work without penalty or negative note in your written evaluation.

You cannot use a freebie for the Diagnostic Quiz, Exam I, Exam II, or Replication I.

References

WEEK 1 — **Introductions & Beginning Stata Crash Course**

1. *Review*: Kellstedt & Whitten, Fundamentals of Political Science Research, ch 7-8
2. Complete: Course interest form (`https://forms.gle/EhWuf1iwQSmJ2i9c6`)
3. Confirm: that you have access to the course slack, google drive, canvas, and that you can use zoom. Install local applications for all of the above as desired.

WEEK 2 — **Regression & Inference**

1. Main Reference:
   - Tufte, ch 1-3
   - LB^2, ch 1-2
   - Acock, chs 1-4, 8
2. Alternate References:
   - Alternate Stata Intro: Getting Started With Stata, ch 1 (Mac) (Windows)
   - Alternate Stats Track: GHV, chs 6-7
   - Advanced R Track: FR, chs 9-10

WEEK 3 — **Multiple Regression**

1. Main Reference:
   - Tufte, ch 4
   - LB^2, ch 3
   - Miller, Interpreting the substantive significance of multivariable regression coefficients [drive]
   - Nagler, coding style [drive]
   - Acock, section 10.1-10.4
   - Long, ch 1 [drive]
2. Alternate References:
   - GHV, ch 10

WEEK 4 **Categorical Interactions**

1. Main Reference:
    - LB^2, 64-71
    - Stata Track: Acock, section 10.8-10.11
    - Walkthrough: Fidalgo, Interaction Effects [drive]
2. Alternate References:
    - GHV, section 10.3-4

WEEK 5 **Interaction Terms II: Continuous**

1. Main Reference:
    - Jaccard & Turrisi, chs 1-2
    - LB^2, 69-71
    - Acock, 10.11
    - Walkthrough: Using the Margins Command in Stata for Continuous Interactions
2. Alternate References:
    - GHV, section 10.3

WEEK 6.1 **Transformations**

1. Main Reference:
    - Acock, 10.12
2. Alternate References:
    - GHV, ch 12

WEEK 6.2 **Graphics I**

1. Main Reference:
    - Acock, ch 5
2. Alternate Reference:
    - FR, ch 15

WEEK 7 **Outliers, Error Terms, & Specification Issues**

1. Main Reference:
    - LB^2, ch 4
    - Acock, section 10.5-10.7
2. Alternate References:
    - GHV, ch 11

WEEK 8 **Logistic Regression**

1. Main Reference:
    - Pollock, Logistic Regression [drive]
    - Acock, ch 11.1-11.6
2. Alternate References:
    - GHV, ch 13.1-13.3

WEEK 9 **Interactions and Logits**

1. Main Reference:
    - Acock, ch 11.7
2. Alternate References:
    - GHV, ch 13.7; 14.1-14.2

WEEK 10.1 **Ordinal & Multinomial Logits**

1. Main Reference:
    - Long and Freese, TBD
2. Alternate References:
    - GHV, 15.5

WEEK 10.2 **Graphics II**

1. Main Reference:
    - Acock, ch 6
2. Alternate Reference:
    - FR, ch 16, 17

WEEK 11 **TBD**

1. TBD

WEEK 12 **Programmatic Data Manipulation**

1. Main Reference:
    - Long, all
2. Alternate References:
    - Advanced R: FR, ch 5-8

WEEK 13-14 **Presentations & Projects**