POS 6747: Topics in Political Methodology
(Linear Models)
(Class Number 20799)
Spring Semester, 2019
Class: Tues. 8:30AM-11:30AM
Location: MAT 0014

Instructor: Dr. Chase B. Meyer
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Office: Anderson Hall 317
Office Hours: Wed. 12-4pm & Thurs. 11-1pm
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Course Description: This course is an introduction to ordinary least squares (OLS) bivariate and multiple regression, and it assumes familiarity with introductory statistics, probability, and basic algebra. OLS, while useful in and of itself, also serves as the foundation of many more advanced data analytical techniques. The primary goal of the course is to develop a practical, applied, and intuitive (rather than strictly theoretical or mathematical) understanding of OLS regression. Participants should leave with a solid working foundation of the application of OLS, the ability to use it in their own research, and the skills to build on it in their further study of more advanced statistical topics.

Required Texts:

Agresti, Alan. 2018. *Statistical Methods for the Social Sciences*. 5th ed. Boston: Pearson.

Lewis-Beck, Colin, and Michael Lewis-Beck. 2016. *Applied Regression: An Introduction*. 2nd ed. Thousand Oaks, CA: SAGE Publications.

Philip H. Pollock III, *A STATA Companion to Political Analysis*. CQ Press.

Readings: Be sure to complete the readings prior to each class period. The content of the readings will not always be discussed in class. However, it is important that you comprehend the content, as it is fundamental to your ability to meaningfully understand and use regression analysis. Additional readings will be posted on the class website and on Canvas on the day they are assigned, giving students a full week to read them. During class we will discuss these additional readings and interpret them.

Class Format: This course is for 3 credit hours in a 3-hour block every Tuesday from 8:30 to 11:30AM. Due to the long duration of class there will be 2 short breaks during class. During these breaks students are free to be on their phones, go to the bathroom, or be on their laptops. During class time students should not be on their cell-phones and

while laptops are allowed for note taking purposes, students will not be permitted to use their laptops for any other purpose during the class instruction time.

Course Requirements and Grading:

Class Attendance: Attendance is mandatory, and I will take attendance every day of the semester. I will give each student one unexcused absence. After the first unexcused absence I will begin taking off points for any unexcused absence afterwards. If you have an excused absence (illness, death in the family, etc.) please talk to me and give me proof of the excused absence (a doctor's note for example).

Participation: Participation is also mandatory. I expect students to participate in class discussions, to answer questions when asked, and to contribute whenever asked in class.

Homeworks: You will be required to complete a few short practice assignments. The assignments will require statistical software, which is freely available for use from the labs on campus. All assignments will be available electronically on the website and Canvas. The following is required for each homework assignment:

- Type and staple your homework (hand calculations can be written out).
- Present exercises in numerical order, and label your answers clearly.
- Embed any figures or tables within the homework; do not attach them at the end.

A Note on Software: While the in-class data analysis will be conducted with Stata, students are welcome to complete their assignments using STATA, R, or SPSS. (Please get my permission if you wish to use another software package.)

Lab Sessions: Throughout the semester we will hold several lab sessions, the date of these sessions will be announced at a later time. These lab sessions are required as they will teach you how to use the statistical software program STATA. Learning how to properly use statistical software is critical to your mastery of OLS and to conduct political science research.

Exams: There will be two exams given during this semester. One exam will be near the midpoint of the class, the second will be near the end of the semester. The exams will be closed book and will test your mastery of the materials up to that point in the class. You may bring a calculator for the exam but no other material (aside from paper and pen/pencil) is allowed.

Final Paper: The most important part of this course will be the research paper. The goal of this class is for you to write your own original research paper (approximately 15 pages). This paper will be due at the end of the course in place of a final exam. In this paper you will be expected to produce your own regression results, analyze the results correctly, and perform a thorough

exploration of the data. We will discuss this paper more in depth later in the semester. The paper is due in my inbox on May 2 at 9:30am.

Paper Presentation: In addition to your research paper, you will present a conference style presentation of your research in front of the class. Each presentation will be about 10-15 minutes and will include time for your fellow classmates to engage in a Q&A about your project. You will also be required to act a discussant and review and critique your classmate's papers/presentations. More information on the presentation will be given as the semester progresses.

Required Meetings: While I encourage all my students to attend office hours I will require that students attend office hours for this course <u>TWICE</u> this semester. These meetings are required to ensure that your research project is on the right track and you are considering a research question that can be answered.

Miscellaneous: Extra credit opportunities will be assigned throughout the semester, if you want extra points or to do extra work, these will be your opportunities to do so. Do not come to me at the end of the semester and ask for more extra credit chances, by that time you will have missed your chance.

Participation/Attendance	10%
Homeworks	20%
Office Meeting #1	5%
Office Meeting #2	5%
Exam #1	15%
Exam #2	15%
Paper Presentation	10%
Research Paper	20%
Total:	**100%**

Grade Breakdown:	**B+:** 87-89	**C+:** 77-79	**D+:** 67-69
A: 93-100	**B:** 83-86	**C:** 73-76	**D:** 63-66
A-: 90-92	**B-:** 80-82	**C-:** 70-72	**D-:** 60-62
			F: 0-59

<u>**Instructor Availability:**</u> I will hold office hours every week on Wed. 12-4pm & Thurs. 11-1pm in my office located in Anderson Hall, room 317. These office hours are subject to change and if any changes are made to my scheduled office hours I will inform the class. If you would like to meet with me outside of my normal office hours please email me at chase.meyer@ufl.edu.

<u>**Special Needs and Academic Honesty:**</u> The University of Florida is committed to providing academic accommodations for students with disabilities. Students with disabilities requesting accommodations should first register with the Disability Resource

Center (352-392-8565, www.dso.ufl.edu/drc/) by providing appropriate documentation. Once registered, a student should present his/her accommodation letter to me supporting a request for accommodations. The University encourages students with disabilities to follow these procedures as early as possible within the semester.

Academic honesty is of the upmost important in an academic setting like UF. You are welcome to study together but make sure the work you hand in is your own. I will not tolerate plagiarism or deception in any form. All work in this class is to be your own. Students who fail to abide by this policy, or who plagiarize, will receive a failing grade on the assignment.

Course Schedule (*subject to change*):

Week 1- Tues. Jan. 8: Class Introduction and Review
              Readings due: None

Week 2 - Tues. Jan. 15: Association between Two Variables
              Readings due: Agresti Chap. 8

Week 3 - Tues. Jan. 22: Constructing and Interpreting a Bivariate OLS Regression
              Readings due: Agresti Chap. 9 (9.1-9.4) & Lewis-Beck Chap. 1

Week 4 - Tues. Jan. 29: Statistical Inference with Bivariate OLS Regression
              Readings due: Agresti Chap. 9, Section 9.5 & Lewis-Beck Chap. 2 pg 29-39

Week 5 - Tues. Feb. 5: The Assumptions of OLS Regression
              Readings due: Agresti Chap 9 (the rest) & Lewis-Beck Chap. 2 pg. 23-28

Week 6 - Tues. Feb. 12: Confounding Factors, Causality, and Control
              Readings due: Agresti Chap. 10

Week 7 - Tues. Feb. 19: Multiple Regression
              Readings due: Agresti Chap.11, pg 307-319; Chapter 13, Section 13.3 & Lewis-Beck Chap. 3, pg 55-64 and 72-73

Week 8 - Tues. Feb. 26: EXAM 1
              Readings due: None

Week 9 - Tues. Mar. 5: SPRING BREAK, NO CLASS
              Readings due: None

Week 10 - Tues. Mar. 12: Collinearity and Comparing the Effects of Variables in Multiple Regression

Readings due: Agresti Chap. 11, pg 319-324 and Section 11.7 &
Lewis- Beck Chap. 4, pg 75-78 and 83-86

Week 11 - Tues. Mar. 19: Categorical Independent Variables
Readings due: Agresti Chap. 12, Section 12.1; Chapter 13, pg 387-392 & Lewis-Beck Chap. 3, pg 64-69

Week 12 - Tues. Mar. 26: Interactions between Variables 1
Readings due: Lewis-Beck Chap. 3, pg 69-71

Week 13 - Tues. Apr. 2: Interactions between Variables 2
Readings due: Agresti Chap. 11, Section 11.4; Chap. 13, pg 392-397

Week 14 - Tues. Apr. 9: Categorical Dependent Variables
Readings due: Agresti Chap. 5, Section 5.5; Chap. 15, Sections 15.1-15.5

Week 15 - Tues. Apr. 16: EXAM 2
Readings due: None

Week 16 - Tues. Apr. 23: Presentations
Readings due: None

May 2, 2019 at 9:30AM: Final Paper Due