POLS 7014: Intermediate Political Methodology

Spring 2024

Instructor
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Office: Baldwin Hall 416
Email: mlynch@uga.edu
Office Hours: Monday 1:30–3:00 PM
and by appointment

Class Schedule
Wednesday 3:55–6:40 PM
Candler Hall 214

Introduction
This course is the third course in the graduate methods sequence. This course will focus on a particular statistical model used throughout the social sciences — the linear regression model. We will learn how to estimate the linear regression model and perform inference with it. We will learn how to identify and resolve potential problems common when estimating linear regression models. Finally, we will learn about a few models that extend beyond the standard linear regression model.

In addition to these statistical issues, we will also discuss how the results of regression analysis should be presented. We will practice both writing about regression analysis and presenting the results of regression analysis via tables and graphs.

Requirements and Evaluation
The main requirements of the course are to attend class, keep up with the readings, turn the homework assignments in on time, and ask lots of questions. We will attempt to cover a great deal of technical materials during the semester and will go as quickly or as slowly as is necessary to adequately cover the material.

Evaluation for the course will be based on homework assignments, a mid-term exam and a final exam. There will be between 8 and 10 homework assignments due during the semester. The assignments will be a combination of analytical problems, computer-generated graphs, and written essays and research notes. I encourage students to work together on assignments, but students must write up the assignments on their own. Late assignments will not be accepted unless prior arrangements have been made. Homework assignments will count for 40% of the final grade. The mid-term exam will count for 25% of the final grade. The final exam will count for the remaining 35% of the final grade. If you think you may miss an exam I need to know immediately.
Readings and Software

Required Texts
There are two required texts for this course. The first is a very good applied regression textbook and will be used extensively throughout the course:


The second is a companion book to the main textbook that focuses on using R to perform statistical analysis:


Supplemental Texts
There are a number of additional books that you may find useful throughout the class. The first is the undergrad text that I have used to teach undergraduate stats courses in the past. It does a good covers many of the methods used in political science research. It is a nice reference to have on the shelf.


Some of my colleagues love this book and use it in their undergraduate statistics courses. It is more advanced than Agestri and Finlay and use R throughout the text.


There are many alternative statistics textbooks which you may want to make use of during the semester. If you are struggling to learn a concept in one textbook, reading about the same concept in a different textbook may quickly clear things up. Here is one that I find to be useful. There are many other books out there and I would be happy to recommend more supplemental texts, if you are interested.

Kennedy, Peter. *A Guide to Econometrics*. 
Software
Becoming comfortable with statistical software is an important part of this course. I use R and will teach this course using R. While you are welcome to complete your homework assignments in any statistical package with which you are comfortable, I encourage you to use R in this course. R is a very good statistical software package that is available for free at www.r-project.org. The Fox R companion text we will be using for class is a great introduction to the software. Perhaps the more important reason for you to use R is that homework assignments for the course are likely to closely mirror the exercises and examples in Fox’s R companion book.

Additional Readings
There are a few additional readings for the course. You will either receive a copy of these readings from me or a copy will be easily accessible on the internet.

Other Issues (in no particular order)

1. Disabilities: Students with disabilities of any kind are strongly encouraged to tell me at the beginning of the semester, so appropriate accommodations can be made. If you plan to request accommodations for a disability, please register with the Disability Resource Center. They can be reached by visiting Clark Howell Hall, calling 706-542-8719 (voice) or 706-542-8778 (TTY), or by visiting http://drc.uga.edu.

2. Instructor Availability: I am available to meet with students by appointment if anyone cannot attend my posted office hours. Please email me to schedule a meeting.

3. Classroom Behavior: Students should behave professionally throughout the course. Disruptive behavior in discussion sections will not be tolerated. Laptops and other electronic may be used to take notes in class, but not in a way that is disruptive to other students.

   UGA is committed to creating a dynamic, diverse, and welcoming learning environment for all students and has a non-discrimination policy that reflects this philosophy. Our class will respect all students regardless of race, color, sex (including sexual harassment and pregnancy), sexual orientation, gender identity, ethnicity or national origin, religion, age, genetic information, disability, or veteran status.

4. Cheating and Plagiarism: All course work must meet the standards put forth in the University of Georgia’s Student Honor Code. See the Academic Honesty Policy for details on what is expected of you.

5. FERPA Notice: The Federal Family Educational Rights and Privacy Act (FERPA) grants students certain information privacy rights. See the registrar’s explanation at reg.uga.edu/general-information/ferpa/.

6. Mental Health and Wellness Resources: If you or someone you know needs assistance, you are encouraged to contact Student Care and Outreach in the Division of
Student Affairs at 706-542-7774 or visit [https://sco.uga.edu/](https://sco.uga.edu/) They will help you navigate any difficult circumstances you may be facing by connecting you with the appropriate resources or services.

UGA has several resources for a student seeking mental health services ([https://www.uhs.uga.edu/bewelluga/bewelluga](https://www.uhs.uga.edu/bewelluga/bewelluga)) or crisis support ([https://www.uhs.uga.edu/info/emergencies](https://www.uhs.uga.edu/info/emergencies)).

If you need help managing stress, anxiety, relationships, etc., please visit BeWellUGA for a list of free workshops, classes, mentoring, and health coaching led by licensed clinicians and health educators in the University Health Center.

Additional resources can be accessed through the UGA App.

7. **Artificial Intelligence-Based Software**: Artificial intelligence-based technologies, such as ChatGPT, must not be used to generate responses for course assignments.
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<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>References</th>
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<tbody>
<tr>
<td>January 31</td>
<td>Linear Regression</td>
<td>Fox (2016) Chapters 5.1, 6.1 Fox and Weisberg (2019) Chapters 4.1–4.2</td>
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<td>February 14</td>
<td>Dummy-Variables</td>
<td>Fox (2016) Chapter 7</td>
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<td>February 28</td>
<td>Midterm Exam</td>
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<td>March 6</td>
<td>Spring Break-No Class</td>
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<td>March 13</td>
<td>Assumptions of OLS/Transformations</td>
<td>Fox (2016) Chapter 4 Fox and Weisberg (2019) Chapter 3.4</td>
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March 20  
Linear Models in Matrix Form  
Fox (2016) Chapter 9

March 27  
Influential Data  
Fox (2016) Chapter 11  
Fox and Weisberg (2019) 8.1–8.3  

April 3  
Nonlinearity  
Fox (2016) Chapter 12  
Fox and Weisberg (2019) 8.4–8.6

April 10  
Collinearity and Time Series  
Fox (2016) Chapter 13 and 16  
Fox and Weisberg (2019) 8.8–8.9

April 17  
Logistic Regression  
Fox (2016) Chapter 14  
Fox and Weisberg (2019) 6.1–6.4

April 24  
Catch Up and Review

TBA  
Final Exam