

SOC 502: Multivariate Regression Techniques Laboratory
Spring 2020, Second Half
Online

Instructor: Jessica Kim

Office: SBS S-439

Electronic Office Hours: M-F, 9:00 am – 5:00 pm through email

Synchronous Virtual Office Hours: Wednesdays, 2:00pm – 4:00pm & by appointment on Zoom (Meeting ID: 907-572-545, password: 094503)

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Course Description

This online lab is designed to reinforce and apply the statistical terms and ideas learned in lecture and provide students with a practical understanding of basic multivariate regression in social science research. This course lays the groundwork for quantitative methods and is therefore critical for cultivating well-rounded social scientists capable of intelligently reviewing and producing research, regardless of methodological specialty. It is also a necessary foundational course for students interested in pursuing further quantitative methodological training. It is my hope that at the end of this course, you will consider yourself a certifiable Stata-whiz and competent statistician!

Learning Outcomes

Upon completion of this course, students will be able to:

1. Use Stata to perform basic multivariate regression
2. Apply proper coding, data management, and best research practices when performing statistical analyses
3. Apply their knowledge of basic OLS model assumptions to perform relevant diagnostic checks, such as detecting outliers and influential cases, avoiding excessive multicollinearity, and addressing heteroskedasticity and nonlinearity
4. Interpret regression coefficients and interaction terms produced in Stata output
5. Communicate and summarize statistical findings in a professional manner suitable for publication in a journal
6. Learn to independently problem-solve new coding issues as they arise

Course Structure

Meeting times: One of the best qualities of online coursework is the flexibility it offers learners. This course will therefore be delivered in a weekly, *asynchronous* fashion – allowing you to access the material at a time that is most convenient for you. However, you must observe all scheduled deadlines as listed in the syllabus. Be sure to regularly check Blackboard for announcements and amendments.

Material Delivery

All course material is posted to Blackboard. **Each lab opens on Wednesday and closes the following Wednesday.** Labs will become available to students as they are scheduled in the course – not before. All previous labs will remain accessible for the duration of the course for student review. Within each weekly lab folder, you will be provided: that week's lab slides, a handout PDF version of the slides, a YouTube link to the weekly lecture, and the lab assignment related to that week's material. I strongly advise that you download the PPT and/or handout each week before watching the lecture so you can follow along. You should also only complete the homework **after** viewing the lecture.

Technical Requirements

- A Stony Brook email account to access course communication
- High speed internet connection to access lecture materials via YouTube and Blackboard
- Zoom account for synchronous virtual office hours
 - To get started with Zoom and to download the Zoom plug-in for your computer, please visit:
 - <https://it.stonybrook.edu/help/kb/getting-started-with-your-stony-brook-zoom-account>
 - Zoom ID: 907-572-545
 - Zoom Password: 094503

Evaluation

This lab is worth 22 percent of your overall grade. Each lab assignment is worth a total of 2 points. Lab assignments will be made available to students each Wednesday and are due the following **Wednesday at 11:59 pm via email*** (note: EXCEPT Lab 11, which you have two weeks to complete given the timing of Exam II). No late assignments will be accepted. Though these labs are graded, **please feel free to contact me with any questions you have!** Learning Stata can be a frustrating process, and I am here to help. Late assignments will not be accepted. Grades will be posted on Blackboard for you to track your progress.

Classroom Policies

General Policies

- Please come to class having with the assigned readings complete. This will only help you better absorb material during lab.
- Please ask questions! There are no dumb questions, and we are all here to learn with and from each other. If you are ever confused, chances are someone else is as well. This is the place to make mistakes and hone your skills.
- If you have any extenuating circumstances that prevent you from completing your work on time (and specifically your lab work), please let me know as soon as possible.
- If you believe I have graded your lab incorrectly, please speak with me within one week of receiving your graded assignment. Appeals received after this time will not be considered.

Office Hours: During my established office hours, my time is yours. Please feel free to reach out if you have questions, are struggling with the material, need clarification on something we discussed in class, or if you just want to chat about the course! You should use office hours to ask specific questions, having read the relevant material. Over the course of the semester, I will hold two types of office hours: electronic, and synchronous virtual. Please see below for a description of each.

- *Electronic Office Hours:* **My electronic office hours are M-F, 9:00 am – 5:00 pm.** This is the time during the week that I will read and respond to emails. Please allow for a 24-hour response window. On weekends, please allow for a 48-hour window. If I do not respond to your email within these timeframes, kindly send me a follow-up email.
- *Synchronous Virtual Office Hours:* In addition to being generally available via email, I will also hold weekly synchronous virtual office hours on **Wednesdays from 2:00 pm – 4:00 pm and by appointment** through Zoom. During this time, I will be immediately available to respond to any questions you may have. My hope in holding virtual office hours in this

way is that I can address your questions in a manner that better mimics a live, interactive session.

Necessary but Still Important Syllabus Things:

Academic Integrity: All submitted assignments should be the honest product of a student's personal efforts. You are welcome and encouraged to discuss class material and assignments openly with your classmates, but the work you submit must be your own. Any submission containing the ideas of another scholar MUST cite those ideas according to standard accepted citation guidelines (MLA, APA, ASA, or Chicago are all acceptable formats). Failure to use proper citations is plagiarism and will be treated as such. Any suspicions of academic dishonesty will be reported to the Academic Judiciary. Any student found guilty of plagiarism will receive a failing grade for the course. For more information regarding academic dishonesty at Stony Brook University and associated policies, please refer to: http://www.stonybrook.edu/commcms/academic_integrity/.

Disability Support Services: If you have a physical, psychological, medical, or learning disability that may impact your course work, please contact Disability Support Services (DSS), room 128 ECC Building: (631) 632-6748. DSS will determine what accommodations are necessary and appropriate. All information and documentation is confidential.

Critical Incident Management: Stony Brook University expects students to respect the rights, privileges, and property of other people. Faculty are required to report to the Office of Judicial Affairs any disruptive behavior that interrupts their ability to teach, compromises the safety of the learning environment, and/or inhibits students' ability to learn.

Class Schedule (Second half):

Topics:	Course Activities:	Assessment:
4/1 – 4/8: Lab 8 - Omitted Variable Bias		
<ul style="list-style-type: none"> ➤ What is omitted variable bias? ➤ Upwardly and downwardly biased coefficients 	Activities: <ul style="list-style-type: none"> ➤ YouTube: Lab 8 Lecture 	Due Wednesday 4/8, 11:59 pm ✓ Lab 8 HW
4/8 – 4/15: Lab 9 – Nonlinear Relationships		
<ul style="list-style-type: none"> ➤ Generating squared terms ➤ Interpreting squared terms ➤ Graphing quadratic relationships 	Readings: <ul style="list-style-type: none"> ➤ AA 10.12 Activities: <ul style="list-style-type: none"> ➤ YouTube: Lab 9 Lecture 	Due Wednesday 4/15, 11:59 pm ✓ Lab 9 HW
4/15 – 4/22: Lab 10 – Regression Diagnostics I		
<ul style="list-style-type: none"> ➤ Detecting and addressing influential cases 	Readings: <ul style="list-style-type: none"> ➤ AA 10.7 Activities: <ul style="list-style-type: none"> ➤ YouTube: Lab 10 Lecture 	Due Wednesday 4/22, 11:59 pm ✓ Lab 10 HW
4/22 – 4/29: Lab 11 – Regression Diagnostics II		
<ul style="list-style-type: none"> ➤ Detecting and addressing heteroskedasticity and multicollinearity 	Readings: <ul style="list-style-type: none"> ➤ Owed to Regression Activities: <ul style="list-style-type: none"> ➤ YouTube: Lab 11 Lecture 	Due Wednesday 5/6, 11:59 pm ✓ Lab 11 HW