Stata Lab Syllabus

ECON 3983-01 (CRN:60211)
1 Credit Hour
Fall 2024
MW: 4:00-4:50P.M. in Norman Mayer 101

Instructor: Gabriel Olivier, Tulane Economics Doctoral Candidate

Pronouns: He/Him

Office Hours: By appointment via email

Email: golivier1@tulane.edu

Course Description and Objectives

This course is designed to be taken concurrently with ECON 3230 (Econometrics). We will cover the basics of Stata and data cleaning as an introduction to the program, and from there we will follow the ECON 3230 class by taking the statistical analysis taught in theory and performing it in Stata. This includes linear regression, t-tests, and more.

Prerequisites and Corequisites

There are no prerequisites to this course, but it is meant to be taken with ECON 3230 (Econometrics) as a corequisite. Note that this course will be exclusively computer-focused, so having basic computer literacy will help but is not a requirement. Students must have access to a computer that is able to run Stata for this course.

Program Outcomes

This course begins to bridge the gap between theory and practice in statistical analysis through Stata. For any students pursuing research or graduate school, this course will be helpful as a jumping-off point for empirical data analysis. Stata is very popular among applied economists due to its ease of use, but it does have its limitations. However, learning Stata will likely make learning further programming languages (e.g., R, Python) easier as they tend to be easier to learn the more coding experience you have. We will cover the basics of statistical analysis in Stata, which should help students to perform basic data analysis, learn further Stata, and learn other programming languages.

Learning Outcomes

After completing this course, students should be able to:

1) Basics of Stata and Data Cleaning
    - Recognize the difference between a Stata output window, Stata .do file as well as how each are used.
    - Use basic Stata commands (cd, use, save, log, etc.) to load and save data and Stata output in a desired location in a desired file format.
    - Apply clear variable naming and commenting principles to make it easier to describe and explain what a piece of code does.
    - Employ basic commands to inspect variables (e.g., codebook, describe, summarize, etc.) as well as change a variable's values and type.
    - Generate and alter both numeric and string variables with labels.
    - Use commands like merge and append to combine datasets
    - Construct graphs and tabulations to inspect variables.
    - **Identify gaps in your own Stata abilities and use online resources to fill them.**
        i. This learning outcome will be the most helpful for learning further Stata as well as other programming languages.
2) Basic Data Analysis
    - Perform linear regression analysis with provided data.
    - Analyze data by identifying the appropriate hypothesis test and carrying it out on Stata. Students should also be able to interpret Stata output and determine whether a tested null hypothesis can be rejected or not.
    - Construct Stata code that can perform linear and nonlinear regressions and interpret output for model validity and hypothesis testing.
        i. This will follow Dr. Long's ECON 3230 Syllabus as we follow the topics of his course for the data analysis portion of this class.

Required and Recommended Materials

There are no required books for this class, though many examples will come from Introduction to Econometrics by Stock and Watson (textbook from concurrent ECON 3230). A Stata license is necessary for this course and can be either purchased online (version BE will work for this course) or accessed through Tulane's Stata license on "AppsAnywhere."

- Buying your own license: https://www.stata.com/order/new/edu/profplus/student-pricing/
- Using Tulane's License: https://software.tulane.edu/

While I provide some basic resources for learning Stata, one of the most important things to understand about learning a programming language is that it will take heavy amounts of time,

effort, and googling. There are (likely multiple) online resources for everything you will be asked to do in class, and you should work on developing the skills to find them if you plan on pursuing any kind of empirical research. Many graduate students falter because they are unable to fill gaps in their programming knowledge on their own.

The following books introduce Stata for those with little or no previous experience. Skimming through those books will be useful to you, even if it's something you do after the course.

- Acock, Alan. 2008. A Gentle Introduction to Stata, 2nd Edition. Stata Press
- A. Colin Cameron, and Pravin K. Trivedi. Microeconometrics Using Stata, 2nd Edition. Stata Press

There are lots of other resources available for learning Stata on your own. Stata Corp. has a list of excellent web-based tutorials for learning how to use Stata:

- https://www.stata.com/teaching-with-stata/
- https://www.stata.com/links/resources-for-learning-stata/

For example, here are Stata cheat-sheets that are useful for beginners:

- https://www.stata.com/bookstore/stata-cheat-sheets/

There are also useful Stata resources here:

- http://www.ats.ucla.edu/stat/Stata/examples/greene/default.html
- http://fmwww.bc.edu/gstat/examples/wooldridge/wooldridge.html

Evaluation and Grading

Grades will be determined by performance on in-class activities, homework, and exams. Final grades will be calculated using the table below.

Assignment	Grading	Due Date	Percent
In-Class	Light grading (effort)	TBA	20%
Homework	50% completion, 50% correctness	TBA	30%
Midterm	100% Correctness	Oct. 18th-20th	20%
Final Exam	100% Correctness	Dec. 6th-8th	30%

To convert to letter grade, an A is 90% - 100%, a B is 80% - 89.99%, a C is 70% - 79.99%, a D is 60% - 69.99%, and an F is 0% - 59.99%. Pluses and minuses occur at the top 3% and bottom 3% of every score range respectively (e.g., 83% would be a B- and 87% would be a B+). Note that there is no A+, F+, or F-.

In-class group activities will ask students to work together to perform different Stata coding assignments. This will be a great place to share knowledge with your classmates and work through problems while having the instructor present to ask questions. There is no graded attendance in this class (though attendance is highly encouraged and expected), but I will drop the lowest 2 in-class activity grades to accommodate students who unexpectedly cannot attend. Not every class period will have an in-class activity.

Homework will be similar to in-class activities but will cover more material. Additionally, you are **expected to work on homework individually.** There is no group component to homework and any instances of collaboration will be reported to the Tulane Office of Academic Integrity (Tulane Code of Academic Conduct). However, students are free to use any class provided or internet resources, just not any other person. Homework will likely be weekly.

The midterm and final will be similar to the homework in that they will cover a large swath of class materials and students **must work independently**. Students may still use class and internet resources for exams (no people!) as they can for the homework, but both exams will be given over a weekend rather than over a full week. Both homework and exams will be completed outside of class. Exam dates are tentative as of now but will likely be at least near their stated dates.

All assignments will have instructions, but students will always submit 1) a typed document of answers to questions, 2) their Stata .do file, and 3) their Stata log file. Students DO NOT need to submit .dta data files. Late homework submissions will receive a 50% late penalty if received within 2 days of the due date. Homework submissions later than 2 days will not be accepted. No late submissions for in-class activities or exams will be accepted.

Course Schedule

Week 1: Introduction to the course and introduction to Stata.

Week 2: Data cleaning basics.

The remaining weeks will follow Dr. Long's ECON 3230 Syllabus, and we will cover:

- Regression with One Regressor (Chapter 4 & 5)
- Linear Regression with Multiple Regressors (Chapter 6 & 7)
- Nonlinear Regression Model (Chapter 8)
- Assessing Regression Models (Chapter 9)
- Two Topics on Regression Analysis (Chapter 10 & 11)
- Time Series Regression (Chapter 14)

The content and order of the course schedule may change at my or Dr. Long's discretion. We are developing this Stata Lab into a companion course for ECON 3230, so there may be changes to the course schedule as we proceed. I will be very communicative about what is expected and when, so there should not be any surprises throughout the semester

Course Policies

ADA/Accessibility Statement

Tulane University is committed to offering classes that are accessible. If you anticipate or encounter disability-related barriers in a course, please contact the Goldman Center for Student Accessibility to establish reasonable accommodations. If approved by Goldman, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion. I will never ask for medical documentation from you to support potential accommodation needs. **Goldman Center contact information:** Email: goldman@tulane.edu; Phone (504) 862-8433; Website: accessibility.tulane.edu

Code of Academic Conduct

The Code of Academic Conduct applies to all Newcomb-Tulane College students at Tulane University. Students enrolled in the School of Professional Advancement (SoPA) have a separate Code. Tulane University expects and requires behavior compatible with its high standards of scholarship. By accepting admission to the university, a student accepts its regulations (i.e., Code of Academic Conduct and Code of Student Conduct) and acknowledges the right of the university to take action, including suspension or expulsion, for conduct judged unsatisfactory or disruptive. School of Professional Advancement Code of Academic conduct

Equity, Diversity, and Inclusion Statement (EDI)

"Equity, diversity, and inclusion (EDI) are important Tulane values that are key drivers of academic excellence in our learning environments. In our drive for academic excellence, we seek to ensure that students, faculty, and staff across diverse social identities, cultural backgrounds, and lived experiences can thrive - especially those from underrepresented and underserved communities (e.g., race/ethnicity, gender identity and expression, sexual orientation, disability, social class, international, veterans, religious minorities, age, and any other classification protected by applicable law - see Tulane's Nondiscrimination Policy). To build a supportive culture and climate for every member of our community, we recognize that we each have unique EDI strengths to share with others and that we also have areas for EDI growth, learning, and change. This EDI commitment and cultural humility helps us collectively build a university community and culture where everyone experiences belonging."

Religious Accommodation Policy

Per Tulane's religious accommodation policy, I will make every reasonable effort to ensure that students are able to observe religious holidays without jeopardizing their ability to fulfill their academic obligations. Excused absences do not relieve the student from the responsibility for any course work required during the period of absence. Students should notify me within the first two weeks of the semester about their intent to observe any holidays that fall on a class day or on the day of the final exam. See Religious Calendar here.

Title IX:

Tulane University recognizes the inherent dignity of all individuals and promotes respect for all people. As such, Tulane is committed to providing an environment free of all forms of discrimination including sexual and gender-based discrimination, harassment, and violence like sexual assault, intimate partner violence, and stalking. If you (or someone you know) has experienced or is experiencing these types of behaviors, know that you are not alone. Resources and support are available: you can learn more at allin.tulane.edu.

Disclosures of gender-based discrimination

To comply with the requirements of Title IX of the Education Amendments of 1972, Tulane University requires all faculty members to report incidents of gender-based discrimination. Please know that if you choose to confide in me, I am required by the university to share your disclosure in a Care Connection to the Office of Case Management and Victim Support Services to be sure you are connected with all the support the university can offer. The Title IX Coordinator is also notified of these disclosures. You choose whether or not you want to meet with these offices. You can also make a disclosure yourself, including an anonymous report, through the form at tulane.edu/concerns.

Statement on Confidentiality and Privacy

Tulane University is committed to protecting the privacy of all individuals involved in a disclosure of gender-based discrimination. Any and all of your communications on these matters will be treated as either "Confidential" or "Private."

Confidential	Private
Certain individuals and resources (see list below) are designated as confidential. Individuals and resources designated as confidential will not share any information, except in extreme circumstances involving imminent danger to oneself or others, with the Office of Case Management and Victim Services, the Title IX Coordinator, or local law enforcement without the express permission of the disclosing party. ▪ Counseling & Psychiatric Services (CAPS) | (504) 314-2277 ▪ The Line (24/7) | (504) 264-6074 ▪ Student Health Center | (504) 865-5255	Private resources means that information related to a disclosure of gender-based discrimination may be shared with key staff members of the University to assist in the review, investigation, or resolution of the disclosure or to deliver resources, accommodations, and support services. Information pertinent to the disclosure will be shared with the following Offices: ▪ Case Management & Victim Support Services | (504) 314-2160 or srss@tulane.edu ▪ Tulane University Police (TUPD) | Uptown - (504) 865-5911 | Downtown – (504) 988-5531 ▪ Title IX Office & Title IX Coordinator | (504) 865-5611 or titleix@tulane.edu ▪ Student Affairs Professional On-Call (24/7) | (504) 920-9900

▪ Sexual Aggression Peer Hotline and Education (SAPHE) | (504) 654-9543	

Title IX Safeguards for Pregnant and Parenting Students

Title IX also provides reasonable protections and support for pregnant and parenting students. Discrimination on the basis of a student's pregnancy, childbirth, false pregnancy, termination of pregnancy, or recovery from any of the previous conditions is prohibited by Title IX, and Tulane is committed to providing equal access to academic programs and extracurricular activities to students who might be, are, or have been pregnant. If you need support related to a pregnancy or any of the previously listed conditions, visit pregnancy.tulane.edu for more information, including a list of resources. Student who believe that they may have experienced pregnancy discrimination can file a complaint with the Title IX Office by contacting 504-865-5611 or titleix@tulane.edu, visiting the office in Jones Hall 308, or filing a report at tulane.edu/concerns.

Emergency Preparedness & Response

EMERGENCY NOTIFICATIONS: TU ALERT	
In the event of a campus emergency, Tulane University will notify students, faculty, and staff by text message, email, and/or phone call. You are automatically enrolled in this system. Check your contact information annually in Gibson to confirm it is still accurate. Ensure your cell phone number is listed.	
TROPICAL/SEVERE WEATHER	
Hurricane season begins June 1 and ends November 30 each year. • Students are required to have a personal evacuation plan that can be implemented independently and without reliance on the university. • Students should have two plans: one for evacuation and one for shelter in place. When planning to evacuate, you should plan to be gone at least a week. • Visit emergencyprep.tulane.edu/hurricane-preparedness for more information. Monitor the weather and Tulane communications. • During hurricane season check the weather regularly and watch your Tulane email for university communications. • Monitor the Tulane emergency website (tulane.edu/emergency) for university-wide announcements	If severe weather strikes while you are on campus: • Follow instructions in all TU Alerts. • Seek shelter indoors until the severe weather threat has passed and the TU Alert All Clear message is sent. • Do not use elevators. • Do not attempt to travel outside if weather is severe. In the case of a university evacuation: • Activate your personal evacuation plan. • Classes may be moved online or postponed; look for announcements from your professors in Canvas. • Take all materials you will need to attend classes remotely with you when you evacuate. • If you evacuate before the university has cancelled classes OR if the university is sheltering in place, it is

relating to tropical storms and hurricanes.	your responsibility to communicate with your professor.
ACTIVE SHOOTER/VIOLENT ATTACKER	EVERBRIDGE APP
• **RUN** – run away from or avoid the affected area, if possible. • **HIDE** – go into the nearest room that can be locked, turn out the lights, and remain hidden until the TU Alert All Clear message is sent. • **FIGHT** – do not attempt this option except as a last resort. • For more information or to schedule a training, visit emergencyprep.tulane.edu.	• Download the Everbridge app from the App Store or Google Play store. • The Report feature allows you to silently and discreetly communicate with TUPD dispatchers. • The SOS button allows you to notify TUPD if you need help. • The Safe Corridor button serves as a virtual escort and allows you to send check-in notifications to TUPD.

From: Tulane Office of Emergency Preparedness and Response