SYA 6407 Quantitative Research Methods &
CCJ 6705 Research Methods in Crime, Law and Justice
Spring 2025

Tuesdays	Period 8 – 9	3:00 pm - 4:55 pm
Thursdays	Period 9	4:05 pm - 4:55 pm

Class Location:
Turlington 2342

Professor Edo Navot
Department of Sociology and Criminology & Law
Office: Turlington Hall, Room 3356
enavot@ufl.edu

Office hours:

Day	*Time*	*How*	*Where*
Wednesdays	1:45 pm – 2:45 pm	Virtual	Zoom
Thursdays	1:00 pm – 2:00 pm	In Person	Turlington 3356
	or by appointment		

INCLUDE "SYA 6407" OR "CCF 6705" IN SUBJECT OF YOUR EMAIL

Required Readings:

Gordon, Rachel A. Applied Statistics for the Social and Health Sciences. Routledge; 1st edition (May 9, 2012).

Other readings will be provided as pdf files on Canvas.

Overview of the class, schedule, and due dates:

Week	Day	Date	Class #	Lecture Topic	Read Chap	Lab	Assignments*
1	Tuesday	14-Jan	1	Intro, Organizational meeting, "statistical thinking"	1		
	Thursday	16-Jan	2			Intro to Stata 1-3	
2	Tuesday	21-Jan	3	Research Projects, working with data, NLSY	3.3.2-3.3.4 & 4.3-4.6		HM 1 Given
	Thursday	23-Jan	4			Intro to Stata 4-6	
3	Tuesday	28-Jan	5	Sampling, Distributions, and Inference	6 & 7		RP: choose dep var, form groups^
	Thursday	30-Jan	6			Stata Graphics	
4	Tuesday	4-Feb	7	Simple Regression	8		HM 1 Due, HM2 Given
	Thursday	6-Feb	8			Data Wrangling 1-3	
5	Tuesday	11-Feb	9	Intro Multiple Regression	9		RP: Description of data, begin cleaning^
	Thursday	13-Feb	10			Data Wrangling 4-6	
6	Tuesday	18-Feb	11	Dummy Variables	10		HM 2 Due, HM 3 Given
	Thursday	20-Feb	12			Data Wrangling 7-9	
7	Tuesday	25-Feb	13	Interactions	11		RP: choose indep vars, explanation of model^
	Thursday	27-Feb	14			String Functions	
8	Tuesday	4-Mar	15	Non-Linearity within linear models	12		HM 3 Due, HM 4 Given
	Thursday	6-Mar	16			Macros	
9	Tuesday	11-Mar	17	Indirect Effects, Omitted Variable Bias	13		RP: methods discussion^
	Thursday	13-Mar	18			Loops	
10	Tuesday	18-Mar		Spring Break - No Class			
	Thursday	20-Mar					
11	Tuesday	25-Mar	19	Relaxing assumptions: outliers, heteroskedastcity & multicolinearity	14		HM 4 Due, HM 5 Given
	Thursday	27-Mar	20			Saved Results	
12	Tuesday	1-Apr	21	Intro to Causality	articles (Canvas)		RP: Reg analysis^
	Thursday	3-Apr	22			Tables 1	
13	Tuesday	8-Apr	23	Intro Generalized Linear Models and Maximum Likelihood	15		HM 5 Due
	Thursday	10-Apr	24			Tables 2	RP: Graphs and Tables^
14	Tuesday	15-Apr	25	Dichotomous Outcomes	16		
	Thursday	17-Apr	26			Intro to Programming	
15	Tuesday	22-Apr	27	Flex Day (TBD)			
	Sunday	27-Apr					RP due
*	Assignment abbreviations: HM are your homework problem sets. RP is your research project.						
^	RP assignments are suggested benchmarks, not due dates. The full and final RP is due at the end of semester.						

The research project is due at 10pm on Sunday, April 27th.

NOTE

The above schedule should be considered aspirational. As we progress through the semester and I learn your capabilities and needs, we may need to revise the schedule, most likely spending more time than allotted above for certain topics. Please expect changes in response to how we progress and manage.

Course Description:

This course serves as an overview of the principles, interpretation, and application of multivariate regression. Most of the semester will focus on the types of regression used when the dependent variable is continuous. In the last few weeks of the class we will introduce the type of regression utilized when the dependent variable can only take the values of "0" and "1." The course will build upon your previous knowledge of statistics and probability. A secondary goal of the course is to teach you how to think statistically. By this I mean at least three things: First, thinking about how social phenomena can be conceptualized through probability theory and modeled using regression. Second, thinking about how human behavior and institutions complicate statistical inference and helping you develop a critical eye for the limits of statistical practice. Finally, we will begin touching upon how to analyze data in a way that will allow you to make causal arguments (in effect, how to try to overcome the limits in point 2).

This year I have also implemented several significant changes to the class structure. In previous years, this class – like all graduate seminars – met once per week in a three-hour session. Due to the nature of the material, most of this time was spent in lecture. I have found this format to be less than ideal for student learning. Therefore, this year the class has been broken into two sessions per week. Tuesday sessions, which meet for duration of two class periods, will primarily consist of lectures which explain and build upon the textbook chapters. Thursday sessions, which meet for a single class period, will be a Stata lab. This lab is essentially a "flipped classroom" where you will work through a series of tasks to build the practical knowledge and skills of using Stata for quantitative research projects. These skills are usually not taught as part of quantitative methods seminars but are an indispensable part of the quantitative research workflow.

Since time is limited, spending one third of our classroom time on practical skills will have some costs. The main drawback of this format is that I will not be able to cover all the content in each textbook chapter during our lecture class. This puts a greater onus on the students to read textbook chapters *before* lecture, to actively engage with the materials, and to ask questions whenever something isn't clear.

Class Expectations

To make the most out of our class time, you must come prepared. This means:
- Read textbook chapters *before* lecture.
- Each student must come to class with *at least* two questions about or points of discussion from the textbook chapter.
- Come to Thursday labs with a computer with a charged battery and launch Stata before class session begins.

Statistical Software

Our primary statistical tool will be Stata, which can be accessed through UF Apps or purchased at a student discount from Stata Corp at various price points and conditions. We will be learning to use Stata because it is by far the dominant tool for empirical analysis and statistical programming in the social sciences. It also provides an environment that is incredibly powerful

and relatively approachable. By learning applied statistical analysis using Stata, you can devote more energy to understanding statistical concepts and less time focusing on how to implement those concepts in computer code. Finally, our department has made a collective choice to coordinate and focus our quantitative methods curriculum around Stata.

Our textbook will teach both Stata and SAS side-by-side. We will focus our attention on Stata but, if you think you might consider jobs in the government sector after graduation, you should consider independently reviewing SAS code.

I know that many students are interested in learning R and the fact that R is free and open source makes it very attractive. By contrast, Stata's high cost is its main drawback. I will take this opportunity to explain why we won't be learning R. Until about a decade ago, R was dominant only among academic statisticians. However, with the rising popularity of data science and machine learning, commercial interests have mounted a concerted effort to encourage adoption of R in the private sector. While use of R is growing in all sectors, including academic social science, it remains secondary in most sectors. More importantly, the R language is much more difficult to learn than Stata. I have previously taught a masters-level applied econometrics course using R and I found that students struggled to learn both the R language and statistical theory at the same time. Finally, R remains ill-equipped to analyze publicly available survey data because it only has a single user-written package for the analysis of survey data with complex sampling structure. Since private sector R users don't utilize public survey much, many R functions and packages don't work well with the survey package. This is a significant disadvantage for R because public surveys are the bread and butter of sociology and criminology.

Statistical Thinking

Thanks to advances in computing power and the availability of extraordinarily powerful statistical software, empirical analysis has become very easy. To put it bluntly, running a regression requires almost no skill. However, knowing when to run what kind of regression/analysis given your research questions and the nature of your data, identifying the limits of regression and statistical inference, knowing what assumptions are being made in any given circumstance, correctly interpreting your analytical results, checking your analysis for robustness, and other aspects of empirical research are much more difficult. In addition, this list of tasks is more tricky than you will realize when you begin your career as quantitative analysts. This course will therefore emphasize understanding of concepts and correct application of concepts. You will learn to always think critically and reflexively about your own research. I also encourage you to be careful, cautious, and exercise intellectual humility in attempting quantitative analysis.

Attendance

You are expected to attend every class. If you are unable to attend, please notify me via email before class. Each student is permitted two unexcused absences. You must make up all work missed. If extenuating circumstances lead to multiple absences, contact me and we will determine the best course of action together. Failure to attend the required number of classes

means failure to meet your requirements for graduate education and result in a failing grade (you can also withdraw from the class).

You may receive an excused absence if there is an emergency, for a religious obligation, a professional obligation (such as conference presentation), or other UF duties with mandatory attendance, as specified by UF attendance policy. You will not be penalized for excused absences.

Professional Conduct

Sociology and criminology deal with many controversial and contested concepts. As we engage in discussion, critically evaluate theories and empirical findings, and review each other's work, diverse views are inevitable and valuable. Accordingly, I expect each member of this class to treat colleagues with courtesy, respect, and professionalism, even if you disagree with the views or positions they hold. Of course, harassment and intolerant language of any type are not acceptable under any circumstances.

Course assignments and requirements

Course work will consist of homework assignments as well as a research project, described below.

Homework assignments

You will do a total of 5 homework assignments throughout the semester, all drawn from the textbook. These assignments will consist of problem sets and are essential for helping you learn both the theoretical and practical aspects of applied statistical analysis. Learning statistics is like learning a language; you will learn it by practicing it. Regular homework assignments, while challenging in pace and rigor, will be the primary way you internalize this knowledge.

Each homework assignment will be graded on a scale of 0-100 and each assignment will count for a total of 10% of your final grade. All the homework assignments together will determine 50% of your final grade.

You will submit your completed homework problem sets in two formats:
As a file upload to Canvas as well as printed hard copy.

Canvas uploads are due before the start of class on Tuesdays when homework is due.
Printed copies must be handed to me at the start of each Tuesday class when homework is due.

Classroom engagement

You must come to each Tuesday class with at least two questions about, or points of discussion from, the relevant textbook chapter. I will also ask questions during lecture. You don't have to

know the right answer every time, but I do expect you to demonstrate that you've read the chapter and to try to answer the questions. 10% of your final grade.

Research project

Over the course of the semester, you will conduct a quantitative research project which will be worth 40% of your final grade. The research project will require you to utilize the National Longitudinal Survey of Youth (1979 cohort), a.k.a. the NLSY79. You will have to learn about the data, download the appropriate portions required for your project, clean and prepare the data for analysis, conduct analysis, present results, and interpret and discuss those results. In short, the research project will teach you the basic elements and workflow of quantitative research but with scaffolding and guardrails.

Much more detail and guidance on the research project will be provided in a separate document.

The research project will be due at 10pm on Sunday, April 27th.

Grading Policy

You will be graded and evaluated based on your ability to demonstrate accurate comprehension of the source material. You demonstrate your knowledge by correctly performing calculations based on statistical concepts and theory, correctly summarizing statistical ideas and practice in your own words, correctly applying techniques (which includes correct identification of when a particular technique is appropriate given the nature of the data and research questions), and correctly interpreting the results of applied analysis. You will also be evaluated on clarity of exposition in your writing, particularly of statistical concepts. Finally, you will be evaluated on your ability to translate and synthesize sociological or criminological [or other relevant] theory into applied statistical analysis.

Homework problem sets will be on a two-week cycle which begin and end with our Tuesday class session. In the first week of each homework cycle, you will complete your homework individually. In the second week of each homework cycle, you will work in groups to collectively correct, revise, and improve your homework. You will hand in homework at the end of each two-week cycle.

The assignments and the percent of your final grade each represents are as follows:

Assignment	Percent final grade
Homework	5 HM problem sets, each worth 10%; 50% total
Class engagement	10%
Research project	40%

Homework assignments will be given a numeric score ranging from 0 to 100. If you are unsatisfied with your score, you will have the opportunity to revise and correct the assignment to achieve a higher score. Revisions must be submitted within a week after the assignment is

returned. Late assignment will receive a ten-point reduction for each day past the due date. I will provide extensions on assignment when there is reasonable justification, as outlined in the in the attendance policy. Reasonable justification includes health and family emergencies, religious obligations, professional duties, and your required attendance at other UF functions. Other requests for extension will be evaluated on an individual basis; I reserve the right to deny extensions. Finally, you need to request an extension before the due date and time. Final grades will be assigned based on the following thresholds:

Score	Final Grade
93-100	A
90-92	A-
87-89	B+
80-86	B
0-79	Fail**

**NOTE: a grade of "B" or higher is necessary to pass this course.

Office Hours

Office hours are your chance to speak to me individually and I strongly encourage you to take advantage of my office hours. If your schedule does not permit you to visit my office during the scheduled time, we can set another time for individual meeting. To ask for an appointment outside office hours, please email me.

Accommodation 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, students will receive an accommodation letter which must be presented to the instructor when requesting accommodation. Students with disabilities should follow this procedure as early as possible in the semester.

Course Evaluations

Students are expected to provide professional and respectful feedback on the quality of instruction in this course by completing course evaluations online via GatorEvals. Guidance on how to give feedback in a professional and respectful manner is available at https://gatorevals.aa.ufl.edu/students/. Students will be notified when the evaluation period opens and can complete evaluations through the email they receive from GatorEvals, in their Canvas course menu under GatorEvals, or via https://ufl.bluera.com/ufl/. Summaries of course evaluation results are available to students at https://gatorevals.aa.ufl.edu/public-results/.

UNIVERSITY POLICIES

Attendance

Class attendance is required. Please be aware of the [university attendance policy](link) (link).

In response to COVID-19, the following recommendations are in place to maintain your learning environment, to enhance the safety of our in-classroom interactions, and to further the health and safety of ourselves, our neighbors, and our loved ones.

· If you are not vaccinated, get vaccinated. Vaccines are readily available and have been demonstrated to be safe and effective against the COVID-19 virus. Visit one.uf for screening / testing and vaccination opportunities.

· If you are sick, stay home. Please call your primary care provider if you are ill and need immediate care or the UF Student Health Care Center at 352-392-1161 to be evaluated.

· As with any excused absence, you will be given a reasonable amount of time to make up missed work.

Grading

The University of Florida has a set system of grading and which grades corresponding to the number of points you have (i.e. percentages of 100). Please familiarize yourself with the University grading policy.

Academic Ethics

UF students are bound by The Honor Pledge which states, "We, the members of the University of Florida community, pledge to hold ourselves and our peers to the highest standards of honor and integrity by abiding by the Honor Code. On all work submitted for credit by students at the University of Florida, the following pledge is either required or implied: "On my honor, I have neither given nor received unauthorized aid in doing this assignment." The Conduct Code specifies a number of behaviors that are in violation of this code and the possible sanctions. Click here to read the Conduct Code. If you have any questions or concerns, please consult with the instructor of this class.

Recording Class

Students are allowed to record video or audio of class lectures. However, the purposes for which these recordings may be used are strictly controlled. The only allowable purposes are (1) for personal educational use, (2) in connection with a complaint to the university, or (3) as evidence in, or in preparation for, a criminal or civil proceeding. All other purposes are prohibited. Specifically, students may not publish recorded lectures without the written consent of the instructor.

A "class lecture" is an educational presentation intended to inform or teach enrolled students about a particular subject, including any instructor-led discussions that form part of the presentation, and delivered by any instructor hired or appointed by the University, or by a guest

instructor, as part of a University of Florida course. A class lecture does not include lab sessions, student presentations, clinical presentations such as patient history, academic exercises involving solely student participation, assessments (quizzes, tests, exams), field trips, private conversations between students in the class or between a student and the faculty or lecturer during a class session.

Publication without permission of the instructor is prohibited. To "publish" means to share, transmit, circulate, distribute, or provide access to a recording, regardless of format or medium, to another person (or persons), including but not limited to another student within the same class section. Additionally, a recording, or transcript of a recording, is considered published if it is posted on or uploaded to, in whole or in part, any media platform, including but not limited to social media, book, magazine, newspaper, leaflet, or third party note/tutoring services. A student who publishes a recording without written consent may be subject to a civil cause of action instituted by a person injured by the publication and/or discipline under UF Regulation 4.040.

Campus Resources

Health and Wellness

U Matter, We Care: If you or someone you know is in distress, please contact umatter@ufl.edu, 352-392-1575, or visit U Matter, We Care website to refer or report a concern and a team member will reach out to the student in distress.

Counseling and Wellness Center: Visit the Counseling and Wellness Center website or call 352-392-1575 for information on crisis services as well as non-crisis services.

Student Health Care Center: Call 352-392-1161 for 24/7 information to help you find the care you need, or visit the Student Health Care Center website.

University Police Department: Visit UF Police Department website or call 352-392-1111 (or 9-1-1 for emergencies).

UF Health Shands Emergency Room / Trauma Center: For immediate medical care call 352-733-0111 or go to the emergency room at 1515 SW Archer Road,
Gainesville, FL 32608; Visit the UF Health Emergency Room and Trauma Center website.

GatorWell Health Promotion Services: For prevention services focused on optimal wellbeing, including Wellness Coaching for Academic Success, visit the GatorWell website or call 352-273-4450.

Academic Resources
E-learning technical support: Contact the UF Computing Help Desk at 352-392-4357 or

via e-mail at helpdesk@ufl.edu.
Career Connections Center: Reitz Union Suite 1300, 352-392-1601. Career assistance and counseling services.

Library Support: Various ways to receive assistance with respect to using the libraries or finding resources.

Teaching Center: Broward Hall, 352-392-2010 or to make an appointment 352- 392-6420. General study skills and tutoring.

Writing Studio: 2215 Turlington Hall*,* 352-846-1138. Help brainstorming, formatting, and writing papers.

Student Complaints On-Campus: Visit the Student Honor Code and Student Conduct Code webpage for more information.

On-Line Students Complaints: View the Distance Learning Student Complaint Process.