

**ECON 3720 Introduction to Econometrics
Fall 2021**

Dr. Stefan Ruediger (he/him/his)

Office Hours:

Tuesday (Zoom) /Thursday (in-person) 11 am-12:30 pm Monroe 256

Twitter: [@stefan_ruediger](https://twitter.com/stefan_ruediger)

E-mail: gyq8rh@virginia.edu

Teaching Assistant:

Shengyu Wang

sw9vn@virginia.edu

Office Hours:

5:30 pm to 7:30 pm Thursdays at Monroe Hall basement

Course Description

Econometrics is about using data to answer economic questions. This combines a thorough understanding of the statistical techniques combined with a thoughtful approach to the questions of interest. The course will provide an introduction to the theory and practice of econometrics. We will cover the theoretical underpinnings of econometrics through an analysis of the properties of different estimation methods, such as ordinary least squares (OLS); however, the focus will be on the application of the tools to answer causal questions. The course will help you to foster the skills necessary to plan and execute research projects to answer causal questions. We will study many examples and do a fair amount of number crunching ourselves.

Prerequisites

A good understanding of basic statistics (such as Stat 2120 or 3120) and multivariate calculus (such as Math 1220 or 1320) will be assumed. You may not take intro statistics concurrently with Econ 3720. Economics 2010 and 2020 are also highly recommended

Course Objectives and Course Learning Outcomes

Upon completing this course, you should be able to:

1. Explain how simple and multiple regression are different
2. Explain the assumptions of the least-squares method
3. Build a basic econometric model
4. Interpret and explain the results of a common basic regression output
5. Work with Dummy Variables as dependent and independent variables

The goal is that you develop practical knowledge of basic econometric theory, methods, and applications.

Teaching Philosophy

My primary teaching philosophy is that teaching should be student-centered and learning should be collaborative. Through every interaction, I try to share my enthusiasm for economics and statistics with students. I believe that successful learning starts with a positive and inclusive learning environment and that learning economics and statistics is the same as learning to walk, talk, or throw a ball. It takes time and effort and includes failure, but if you stick with it, you will succeed. Learning from your own mistakes is one of the best ways to demonstrate progress in mastering a topic. Going on this learning path together we can grow as students and educators. I strive to prepare students for the workplace but also to give them the analytic tools to self-educate and become independent critical thinkers and researchers.

Required Textbook and Other Materials

Textbook and Interactive Homework:

Wooldridge, Introductory Econometrics with Mindtap. Student prices start at \$130. Access to MindTap is required for this course to earn credit for homework assignments. Register for your MindTap Course. Use the course registration link:

<https://www.cengage.com/dashboard/#/course-confirmation/MTPQG3ZQ20HM/initial-course-confirmation>

Course Key: MTPQG3ZQ20HM

Software:

- Stata/BE. You can purchase a 6-month license for \$48 (STRONGLY RECOMMENDED): <https://www.stata.com/order/new/edu/profplus/student-pricing/>
- Stata is also freely accessible on the hive: <http://its.virginia.edu/hive/>
- Stata can also be accessed through remote desktop, and the remote desktop can be accessed here: https://virginia.service-now.com/its/?id=itsweb_kb_article&sys_id=f9dc08eddb1d1380f032f1f51d96192d

Grading

Participation (clickers - TBD): 5%

HW assignments (MindTap): 15%

Exam #1: 15%

Exam #2: 15%

Exam #3: 15%

Final exam: 15%

Final project: 20%

Grading Procedure

Your grade in this course will reflect your performance on assignments and adherence to deadlines. Please contact me if you believe your grade contains an error. You have one week after a grade is posted to bring up any grading issues. After one week, your grade is considered final. I do *not* adjust the exam scores. I do, however, reserve the right to adjust the final scores (upwards only). If done, this will be for *everyone* in the class. I decide this at the end of the

course. It is possible that curves will be applied to assignments. This will be determined based on the overall performance of the class on an assignment.

Grading Scheme

A+	100-97%
A	<97%
A-	<93%
B+	<90%
B	<87%
B-	<83%
C+	<80%
C	<77%
D	<70%
E	<60%

Grades will be rounded following basic math rules. Exams will likely be curved, such that the average score of the best 5 students is equal to 100%.

Learning Means Failing

Learning from your own mistakes is one of the best ways to demonstrate progress in mastering a topic. Each question on the homework will allow for 3 attempts and the best score of your attempts will be counted for your final grade. Exams can be resubmitted for a new grade, regaining up to 50% of the previously missing points, after they were graded. Additional rules of resubmission depend on the specific assignment and will be announced after grades are returned.

Assignments

Homework (Problem Sets)

There will be several problem sets using Mindtap. You may form study groups to work on the problem sets together. You may use the discussion sections to get help for completing the assignments. However, each student must submit their own answers

Tentative Homework schedule

HW #1 Chapter 1&2 due 09/10/21 11:59 pm EDT - moved to 9/13/21

HW #2 Chapter 3 due 09/17/21 11:59 pm EDT - moved to 9/20/21

HW #3 Chapter 4&5 due 10/01/21 11:59 pm EDT

HW #4 Chapter 6&7 due 10/15/21 11:59 pm EDT

HW #5 Chapter 8 due 10/22/21 11:59 pm EDT

HW #6 Chapter 9 due 10/29/21 11:59 pm EDT

HW #7 Chapter 13&15 due TBD

HW #8 Chapter 14&17 due TBD

Participation

We will use some form of classroom participation system in this course. Which system we will use depends on which systems you use in other courses to avoid that you have to pay extra.

Final Project (Due last day of classes)

Projects will be done in teams of no more than 4 students. The team will prepare a short (4-5 pages double spaced text not including tables, figures, or bibliography), clearly written, and well-organized paper on a research question of their choice. There are several intermediate assignments as part of this project:

- Research Proposal: The first step is to produce an outline of your proposed research project. The proposal needs to include a clear research question, a description of the planned analysis, a description of the data that will be used (including sources), and a short annotated bibliography. Due at the end of the day 10/13/21
- Peer review: You will exchange a draft of your research paper with a fellow student working on a related topic and provide constructive feedback to each other. You may work with your peer review partner in person or by email, but either way, you should send your partner an email, copying me, with your main comments on her/his draft. Due at the end of the Day 11/22/21

Extra Credit/Bonus Points

There will be several opportunities during the semester to earn bonus points and extra credit. All extra credit opportunities will be offered to the whole class with announced due dates.

Muddiest Point

At the end of each chapter, we will run an anonymous online survey called Muddiest Point. In this survey, you can submit whatever concept was “muddiest”, most difficult to comprehend, most unclear, during the week. You need to be specific in your responses, statements like “heteroscedasticity” or “dummy variables” don’t count. I will carefully read your responses and create a reply video for everyone to watch. Remember that learning from your mistakes is part of the process of gaining mastery in a new subject.

Examinations

I am planning to hold in-class open book exams. However, I reserve the right to change how exams will take place based on the public health situation. All work must be done independently. Students who cannot be present for an exam due to UVA sanctioned activities or UVA sanctioned religious accommodations must notify me by the second week of class. If adequate documentation is provided, the student’s average score on all other exams will be substituted for the missed exam. Otherwise, a zero will be recorded.

Exam Schedule (all times refer to AZ time)

Exam	Chapters	Date
Exam #1	1, 2, 3, 4, 5	10/5/21
Exam #2	6, 7, 8, 9	11/4/21
Exam #3	13, 14, 15, 17	Last week of classes

Final	All Chapters!!!!!!	Dec 14th
--------------	--------------------	----------

Schedule:

Week 1	8/24/21 First Day of Classes Introduction to the course	8/26/21 Chapter 1 & 2
Week 2	8/31/21 Chapter 2	9/2/21 Chapter 2
Week 3	9/7/21 Chapter 2	9/9/21 Chapter 3
Week 4	9/14/21 Chapter 3	9/16/21 Chapter 4
Week 5	9/21/21 Chapter 4	9/23/21 Chapter 4
Week 6	9/28/21 Chapter 4 & Parts of Chapter 5	9/30/21 Review for Exam #1
Week 7	10/5/21 Exam #1	10/7/21 Chapter 6
Week 8	10/12/21 Reading Day	10/14/21 Chapter 7
Week 9	10/19/21 Chapter 8	10/21/21 Chapter 8
Week 10	10/26/21 Chapter 9	10/28/21 Chapter 9
Week 11	11/2/21 Review for Exam #2	11/4/21 Exam #2
Week 12	11/9/21 Chapter 15	11/11/21 Chapter 15
Week 13	11/16/21 Chapter 13	11/18/21 Chapter 14
Week 14	11/23/21 Chapter 17	11/25/21 Thanksgiving
Week 15	11/30/21 Chapter 17	12/2/21 Review for Exam #3
Week 16	12/7/21 Last Day of Classes Exam #3	

Add, Drop, and Withdrawal:

Please see the UVA webpage for information on important administrative dates:

<https://college.as.virginia.edu/calendar>

Honor

Because of the UVA Honor System, I assume that students in EC3720 are truthful with teaching assistants and me and do not cheat on tests and assignments. In the unlikely event that you observe an incidence of cheating, I assume you will contact an Honor Advisor. Students deemed by Professor Ruediger to have violated the University's Honor System are not eligible for a final grade. All exams must be completed independently.

Flexibility and Contingency:

There are many unknowns this fall that could impact our course and university. We will, as a community, need to be flexible and take things one step at a time. Flexibility also includes communication. I encourage you to have a plan for communicating with instructors in case you become ill. In the event that I become ill, I will contact a colleague and/or my department chair to communicate with you about how our course will proceed. Please pay close attention to email communications and/or UVACollab announcements throughout this semester.

An Inclusive Environment:

I recognize and value the many perspectives my students bring to the classroom. Many factors—social identities, visible and invisible disabilities, family circumstances, physical location, mental health, access to the internet—all influence the experiences that every individual can have in my courses this and every semester. I am committed to building an environment to support your learning, one in which you will be supported and rewarded for going out on a limb to communicate and defend your ideas. I believe that economics as a discipline is constrained to a narrow set of topics unless it opens itself up and attracts more diverse students and becomes a more inclusive field.

Students of all races and ethnicities are welcomed and valued in this class. I acknowledge that racism and white supremacy are baked into both the history of UVA as an institution and the history of higher education as a whole. It is my goal as an educator to work towards eliminating these inequities. I am committed and actively working to be a better, more careful listener; continuing to learn about the ways systemic injustices disadvantage my Black students and colleagues and other students and colleagues of color in and out of the classroom, and advocating for and implementing anti-racist educational practices. I will hold myself accountable, encourage you to help me do so, and invite you to join me in this work.

Students of all immigration statuses are welcomed and valued in this classroom, including undocumented students, students from mixed-status families, and students with Temporary Protected Status. As an educator and immigrant, I aim to create a learning environment that respects and affirms the diversity of students' experiences and perspectives. If your status is impacting your success in the course, please come see me discuss things I can do to

accommodate you (assignments, attendance, etc.). I pledge to keep your status confidential unless required by a judicial warrant.

Mental Health and Well-being

The Student Health and Wellness Center offers Counseling and Psychological Services (CAPS) for its students; call 434-243-5150 to speak with an on-call counselor and/or schedule an appointment. If you prefer to speak anonymously, you can call Madison House's HELP Line at any hour of any day: 434-295-TALK. Alternatively, you can call or text the Disaster Distress

Helpline (1-800-985-5990, or text TalkWithUs to 66746) to connect with a trained crisis counselor; this is toll-free, multilingual, and confidential, available to all residents in the US and its territories.

All students enrolled in Fall 2021 courses, and who have successfully completed a FAFSA for the 2021-2022 academic year, can request funding for expenses related to the disruption of fall campus operations due to the pandemic. For information on CARES Act Student Emergency Funding, Bridge Scholarships, and Emergency Loans, please visit Student Financial Services Operational Updates. You might also be eligible for an Honor Loan.

Classroom Policy:

Please respect your fellow students' desire to learn and refrain from talking or engaging in other disruptive behavior during class. You are not allowed to talk on your cell phones during class. Please mute your cell phones for the duration of the class. Cell phone and computer use is only allowed for the purpose of note-taking, (possibly as a classroom response system), and following the material discussed during class.

Our Contract:

This syllabus is an important document if you remain in the course. Continued enrollment in the course indicates agreement with all the stipulations laid out in this document. All future discussions between you and me assume your agreement with this syllabus.

Legal Notice:

Students are prohibited from selling or sharing materials from this course to any person or commercial firm (or being paid to take notes) without the express written permission of Professor Ruediger. It is considered a violation of academic integrity to utilize course materials that are illegally sourced. Please ensure that you are ordering and paying for your own materials as outlined in the ordering instructions.

The following are questions that many of you will have about the class.

Q: I have a very active social life. Is it OK if my cell phone rings during class?

A: Sure, that would be OK, even a good thing, although answering phones in class is not acceptable. However, I want to make my policy on this clear. Since a loud phone disrupts class attention for approximately a minute (that is, creates a negative externality on your fellow students), and since each student is paying for each lecture, if your cell phone sounds during class, you will be creating a sizable negative externality. So, if your cell phone interrupts class to a degree I find significant, you will lose all points from your problem sets until you make sufficient restitution to the class in the form of cookies or the like. I'm not joking; don't let this happen. (An important Public Choice point comes up here. Just as people who work for the government may vote for more government spending so as to increase their own incomes, so may some students in the class be tempted to phone other students in the hope of extracting payment. That's a fine example of how the world works.)

Q: Is it OK if I surf the web and watch crazy videos whenever your lectures get too boring?

A: This puts me in a difficult position. I understand that some of you like to take notes on your computer. However, I take a pretty decent salary with the expectation that in return I am to teach you economics. So, the temptation to look at distractions online during class is likely to diminish your learning in lecture, and worse still, people who are web surfing distract the people around them, creating a negative externality. My difficult decision on this front is to allow you to use your laptop in class, but...if you don't seem to be paying attention, consider your laptop or other electronic device to be a lightning rod, and me to be a very dark storm cloud. As such, you will be asked to provide insight to your classmates about the content of the lecture for that day. So, I will call on people who are using laptops, with impunity!

Q: Can I expect any leniency if I'm caught cheating or engaging in any unethical behavior?

A: No. I will give you a grade of "F" for the class and the dean will be notified and asked to pursue further action. I'm serious about this and have busted six people in the past year. It's not fun for me and it's really not fun for them.

Q: If I suspect that during class I may fall prey to the urge to talk to a classmate, read the newspaper, or take a nap, what should I do?

A: Stay home.

Q: The lecture is running a few minutes over, what should I do?

A: Stay put and observe a rare occurrence.

Q: Averaging my grades, I come out very close to a higher grade. How about if you give it to me?

A: No... unless you are deserving of special consideration.

Q: Am I deserving of special consideration?

A: That depends. I may feel you deserve a higher grade than you earn on the tests if I feel that your comments in class and office hours improve the education of your fellow students and show you are able to and have been thinking intelligently about the material.

Q: What is the most important thing?

A: "Most important, please be assured that I want students to learn and to receive the good grades they deserve. So please make an appointment with me should you have undue difficulty with your work in the course."

Cengage and Mindtap Access

Course: Section 1 of ECON 3720 Introduction to Econometrics

Instructor: Stefan Ruediger

This course requires an online homework platform called MindTap. Follow the instructions below to get started.

Register for your MindTap Course

1. Use the course registration link

<https://www.cengage.com/dashboard/#/course-confirmation/MTPQG3ZQ20HM/initial-course-confirmation>

2. Follow the instructions on screen to create your Cengage account and register for this MindTap course.

3. Begin your temporary access* period.

Need help? Visit the Cengage Start Strong Website (<https://startstrong.cengage.com>) for step-by-step instructions.

*Temporary Access: You can access your MindTap course until 4:00 AM (UTC) on 9/6/2021 for free. At the end of the temporary access period, you will be prompted to purchase access. Your work will be saved and will be available to you again once you've completed your purchase.

NOTE: If the cost of your course materials is included in your tuition, you will not need to purchase access.

MindTap Tips & Training Tools

Learn more about navigating your MindTap course:

(<https://help.cengage.com/mindtap/mt-student/introduction.html>)

Technical Support & Troubleshooting

Our US-based support team delivers answers and advice via 24/7 online chat, Twitter, live phone support (1-800-354-9706) and through support.cengage.com, which includes helpful articles, and tutorials.

If you are having trouble loading MindTap, run the MindTap browser check (<https://ng.cengage.com/static/browsercheck/index.html>) to make sure your browser is compatible or refer to the MindTap System Requirements (<https://help.cengage.com/mindtap/MindTap-System-Requirements.pdf>). If MindTap isn't loading, be sure to visit Techcheck (<https://techcheck.cengage.com>) to see if there is an outage.

Information contained within this syllabus (except grading and absence policies) is subject to change.