

COURSE INFORMATION

Class Meeting: T/TH 2:00-3:15pm

TBD

Final (**TBD**)

Instructor: Alyssa Carlson

235 Professional Building

Email: carlsonah@missouri.edu

Office: 573-882-3161

Website: <http://courses.missouri.edu>

Office Hours: T 3:30-4:30pm (In office), or by appointment in office or on Zoom

COURSE DESCRIPTION

This class is the second course in the Economics PhD first year econometrics sequence. The course will build upon what was taught in 9471 covering more advanced econometric methods such as Instrumental Variables, Generalized Methods of Moments, Panel Data methods, and Maximum Likelihood methods of estimating Limited Dependent Variables.

LEARNING OBJECTIVES

- Articulate the big picture concepts of IV, GMM, and ML estimation.
- For a variety of econometric methods, describe their critical assumptions, computation, and output/interpretation.
- Judge which of two methods is “better” in a given situation, articulating tradeoffs between the two (imperfect models)

TEXT AND MATERIAL

We will be using Wooldridge, Jeffrey M. Econometric Analysis of Cross Section and Panel Data. MIT Press, 2010. In addition to the textbook, lecture slides will also be provided. Please print (or have access to) slides during class so you may take additional notes to those provided.

Optional Texts:

- Greene, William H. Econometric Analysis. Pearson, 2018. This is a standard graduate (PhD) level econometrics textbook. This reads more like an encyclopedia and covers much more than what we can cover in this course.

- Cameron, A. Colin and Trivedi, Pravin A. Microeconometrics: Methods and Applications, 2005. This is another commonly utilized graduate level reference (but a little more dry of a read compared to Wooldridge).
- Pischke, Jörn-Steffen, and Angrist, Joshua D. Mostly Harmless Econometrics: An Empiricist's Companion. Princeton University Press, 2008. This is a short and relatively cheap text that focuses on treatment effects estimation and simplifying econometrics methods for applied researcher. This is not a stand-alone textbook but is a useful accompaniment to other texts.

TOPICS

Chapters	Topic
2	Conditional Expectations and Related Concepts in Econometrics
-	Introduction to Stata
4	Review of Single Equation Linear Model and Ordinary Least Squares Estimation
5	Instrumental Variables Estimation of Single-Equation Linear Models and Control Function Approaches
14 and 8	Generalized Methods of Moments and application to System IV
10	Basic Linear Unobserved Effects Panel Data Methods
13	Maximum Likelihood Methods
15	Binary Response
21	Treatment Effect (If time allows)

GRADE COMPOSITION

Problem Sets – 35%

Midterm – 30%

Final (**TBD**) – 35%

Problem Sets – There will be 4-6 problem sets assigned throughout the semester. While collaboration on the assignments is encouraged, each student must turn in his/her own problem set, written in his/her own words (no direct copies or photocopies allowed). Assignments must be turned in on time and in hard copy format (email submissions only allowed if discussed with me before the due date). If an assignment is turned in within 24 hours after the due date, it will automatically lose 50% of the grade.

No credit is given to problem sets handed in more than 24 hours late. All homeworks will be distributed at least a week before they are due.

At Home Midterm – You will have 24 hours to complete the at home midterm exam. This exam is open note and open book, but you are not allowed to discuss the questions with your classmates. You will type or write up your answers and submit them online as a PDF. Your submission should be clear as to which answers go to which questions (label your answers and pages!). The midterm will cover everything in the first half of the course. The format of this exam will be similar to the qualifying exam (3 questions), and the format of the questions will be similar to the problem sets. You should think of this exam as a practice for the summer qualifying exams, but with a longer time constraint and complete access to lecture and textbook resources. As we get closer to the qualifying exams, you should practice by trying to answer the problems quicker and with less dependence on outside resources.

Final Exam – You will have the entire final exam time (2hrs) to complete the final. The final exam questions will focus on material on the second half of the course. But do keep in mind that material learned in the first half is still pertinent in understanding the second half. Therefore the final will be cumulative in that sense. The exam is not open book or open note, but you are allowed 5 sheets of 8.5x11 pieces of paper with your own study material. These cheat sheets can be typed or hand written, but should be created on your own (no multiple prints of the same cheat sheet for several students).

If you have a significant reason that you believe would justify rescheduling an exam, you must contact me **as soon as possible**. Significant reasons that can be anticipated (e.g. any schedule conflicts with final exams, required participation in University-sponsored activities, conferences, etc.) must be given to me at least **two weeks** before the exam. For reasons that cannot be anticipated, see me immediately to make appropriate arrangements. Generally, if circumstances warrant it, makeup exams will only be provided *before* the regularly scheduled exam. However, the resolution of any conflicts will be handled on a case-by-case basis.

COURSE EXPECTATIONS

You can expect me to

- Be available during office hours or appointments to talk all things econometrics!
- Be prepared for class by having lecture slides uploaded at least 24 hours before class.
- Provide clear and quick communication. I will notify you of all due dates in class and via Canvas. I will respond to emails within 24 hours (mostly likely faster).
- Fair grading of homework and exams.

I expect you to

- Be prepared for class with access to lecture slides and materials for taking notes. I allow phones, computers, tablets, etc. as long as they are on silent or vibrate.
- Actively participate in the course. What you get out of it is what you are willing to put into it.

- Be vocal on where you are confused or where we are moving too quickly. If you are having trouble understanding the material, it is likely others in the class are also confused. I will only be able to help you if you tell me you need help.

DECREASING THE RISK OF COVID-19 IN CLASSROOMS AND LABS

MU cares about the health and safety of its students, faculty, and staff. To provide safe, high-quality education amid COVID-19, we will follow several specific campus policies in accordance with the advice of the Center for Disease Control and Boone County health authorities. This statement will be updated as information changes.

- **If you are experiencing any COVID-related symptoms**, or are otherwise feeling unwell, do not attend in-person classes and contact your health care provider and/or student health immediately. COVID symptoms include: fever greater than 100.4 or chills; cough, shortness of breath or difficulty breathing; fatigue; unexplained muscle or body aches; headache; new loss of taste or smell; sore throat; congestion or runny nose; nausea or vomiting; diarrhea.
- We will all wear **face coverings while in the classroom**, unless you have a documented exemption due to a disability or medical condition.
- We will maintain a **6-foot distance from each other at all times** (except in specific lab/studio courses with other specific guidelines for social distancing).
- We will enter the classroom and **fill the room starting at the front, filing all the way across a row**. When class ends, we will exit the row nearest to the door first; the instructor or TA will give the signal for the next row to exit, in the same manner.
- In any small section or lab class that requires them, **additional measures will be listed in the syllabus and be mandatory for class participation**.
- Online office hours will be available for all students.
- This course may be recorded for the sole purpose of sharing the recording with students who can't attend class. The instructor will take care not to disclose personally identifiable information from the student education records during the recorded lesson.

Compliance with these guidelines is required for all; anyone who fails to comply will be subject to the [accountability process](#), as stated in the University's [Collected Rules and Regulations](#), Chapter 200 Student Code of Conduct.

If an instructor has concerns about how a student is following COVID-19 policies and protocols, please report those concerns to the Office of the Dean of Students. You can fill out a COVID Safety Measures Reporting Form [here](#).

By taking the above measures, we are supporting your health and that of the whole Mizzou community. Thank you in advance for joining me and your peers in adhering to these safety measures.

ACADEMIC INTEGRITY

Academic integrity is fundamental to the activities and principles of a university. All members of the academic community must be confident that each person's work has been responsibly and honorably acquired, developed, and presented. Any effort to gain an advantage not given to all students is dishonest whether or not the effort is successful. The academic community regards breaches of the academic integrity rules as extremely serious matters. Sanctions for such a breach may include academic sanctions from the instructor, including failing the course for any violation, to disciplinary sanctions ranging from probation to expulsion. When in doubt about plagiarism, paraphrasing, quoting, collaboration, or any other form of cheating, consult the course instructor.

ACCOMMODATION OF DISABILITIES

Students with Disabilities:

If you anticipate barriers related to the format or requirements of this course, if you have emergency medical information to share with me, or if you need to make arrangements in case the building must be evacuated, please let me know as soon as possible.

If disability related accommodations are necessary (for example, a note taker, extended time on exams, captioning), please establish an accommodation plan with the [MU Disability Center](#), S5 Memorial Union, 573-882-4696, and then notify me of your eligibility for reasonable accommodations. For other MU resources for persons with disabilities, click on "Disability Resources" on the MU homepage.

INTELLECTUAL PLURALISM

The University community welcomes intellectual diversity and respects student rights. Students who have questions or concerns regarding the atmosphere in this class (including respect for diverse opinions) may contact the departmental chair or divisional director; the director of the [Office of Students Rights and Responsibilities](#); the [MU Equity Office](#), or equity@missouri.edu.

All students will have the opportunity to submit an anonymous evaluation of the instructor(s) at the end of the course.

ACADEMIC INQUIRY, COURSE DISCUSSION, AND PRIVACY

University of Missouri System Executive Order No. 38 lays out principles regarding the sanctity of classroom discussions at the university. The policy is described fully in Section 200.015 of the Collected Rules and Regulations. In this class, students may make audio or video recordings of course activity unless specifically prohibited by the faculty member. However, the redistribution of audio or video recordings of statements or comments from the course to individuals who are not students in the course is prohibited without the express permission of the faculty member and of any students who are recorded. Students found to have violated this policy are subject to discipline in accordance with provisions of [section 200.020](#) of the Collected Rules and Regulations of the University of Missouri pertaining to student conduct matters.

TITLE IX

University of Missouri policies prohibit discrimination on the basis of race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, pregnancy, age, genetic information, disability and protected veteran status. Discrimination includes any form of unequal treatment such as denial of opportunities, harassment, and violence. Sex-based violence includes rape, sexual assault, unwanted touching, stalking, dating/interpersonal violence, and sexual exploitation.

If you experience discrimination, you are encouraged (but not required) to report the incident to the MU Office for Civil Rights & Title IX. Learn more about your rights and options at civilrights.missouri.edu or call 573-882-3880. You also may make an anonymous report online.

Students may also contact the Relationship & Sexual Violence Prevention (RSVP) Center, a confidential resource, for advocacy and other support related to rape or power-based personal violence at rsvp@missouri.edu or 573-882-6638, or go to rsvp.missouri.edu.

Both the [Office for Civil Rights & Title IX](#) and the [RSVP Center](#) can provide assistance to students who need help with academics, housing, or other issues.

MENTAL HEALTH

The University of Missouri is committed to supporting student well-being through an integrated network of care, with a wide range of services to help students succeed. The MU Counseling Center offers professional mental health care, and can help you find the best approach to treatment based on your needs. Call to make an appointment at 573-882-6601. Any student in crisis may call or go to the MU Counseling Center between 8:00 – 5:00 M-F. After hours phone support is available at 573-882-6601.

Visit our website at <https://wellbeing.missouri.edu> to take an online mental health screening, find out about workshops and resources that can help you thrive, or learn how to support a friend. Download Sanvello, a phone app that teaches skills and strategies to help you maintain good mental health. Log in with your Mizzou e-mail to unlock all the tools available through Sanvello at no cost to you.