

Econ 8473  
**Applied Econometrics**  
*Fall 2017*

<b>Instructor</b>	J. Isaac (Zack) Miller	<a href="mailto:millerjisaac@missouri.edu">millerjisaac@missouri.edu</a>
<b>Course</b>	MW 3:30-4:45PM	Middlebush 11
<b>Office Hours</b>	MW 10:00-noon	Professional 221
<b>Website</b>	<a href="http://courses.missouri.edu">courses.missouri.edu</a> (Canvas)	

### Objectives

- Learn some key econometric techniques not covered in a first semester linear regression/econometrics course (Econ 8472: Econometric Methods I or Econ 7371 Introductory Econometrics).
- Emphasis is on applications of theory to estimation and inference, with some limited theoretical development and some limited empirical applications in class. The course is *neither* predominantly theoretical *nor* predominantly empirical.
- Gain experience with applying econometric methods to data using SAS.

### Prerequisites

- Econ 8472, Econ 7371, or equivalent; mathematical statistics.
- Matrix/linear algebra is *strongly recommended*. I will use matrix notations and manipulations throughout the course.
- Programming experience in SAS or similar software.

### Expectations

You are responsible for attending class and completing all assigned work. If you need to miss class, you should get the lecture notes from a classmate. Assignments will require the SAS statistical software package. I will provide limited SAS instruction in class, and there are SAS support resources on Canvas and on campus.

### Topics Covered and Recommended Text

Greene, W.H. (2012). *Econometric Analysis*, 7<sup>th</sup> (or other) ed.

- Review of Matrix Algebra and Statistics
- Review of Least Squares (Chapters 2-4)
- Review of Hypothesis Testing (Chapter 5)
- Nonlinear Least Squares (Chapter 7)
- Numerical Optimization (Appendix E)
- Maximum Likelihood Estimation (Chapter 14)
- Instrumental Variables (Chapter 8)
- Generalized Least Squares (Chapter 9)
- Panel Data Methods (Chapter 11)
- Time Series Techniques (Chapter 20-21)
- Additional topics may be covered if time allows

In general, my lectures do *not* closely follow the text. The chapters listed above provide a rough guide. I will give additional suggested reading assignments during the semester.

## **Grade Composition**

Grades will be assessed using a +/- scale.

*Homework Assignments* ..... 40% of the course grade  
Although you may consult with your classmates, ***I expect you to do your own work.***

*First Test (in-class, closed-book)* ..... 30% of the course grade  
I will announce the date at least two weeks in advance.

*Second Test (in-class, closed-book)* ..... 30% of the course grade  
**Tuesday, December 12, 12:30-1:15PM.** (Not cumulative, scheduled during exams.)

## **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**

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 register with the Office of Disability Services (<http://disabilityservices.missouri.edu>), S5 Memorial Union, 882-4696, and then notify me of your eligibility for reasonable accommodations. For other MU resources for students 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 (<http://osrr.missouri.edu/>); or the MU Equity Office (<http://equity.missouri.edu/>), or by email at [equity@missouri.edu](mailto: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 not make audio or video recordings of course activity, except students permitted to record as an accommodation under Section 240.040 of the Collected Rules. All other students who record and/or distribute audio or video recordings of class activity 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.

Those students who are permitted to record are not permitted to redistribute audio or video recordings of statements or comments from the course to individuals who are not students in the course 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.