

Econ 9472
Econometric Theory I
Fall 2019

Instructor	J. Isaac Miller	millerjisaac@missouri.edu
Course	MW 2:00-3:15PM	Middlebush 11
Office Hours	by appointment	Professional 221
Website	courses.missouri.edu	

The objective is to introduce the student to econometric analysis of data at an advanced level. The emphasis of the course is on theoretical analysis of cross-sectional methods and of least squares in particular. Although all econometric tools are designed with an eye toward empirical application, a solid theoretical understanding of these tools is critical to sound application of them. These tools are used in nearly all fields of research in economics and econometrics, as well as in business, finance, political and other social sciences, and also in some natural sciences.

Prerequisite: PhD standing in economics or instructor's consent.

Texts

- Hansen, B.E. (2017). *Econometrics*. (**required**)
- Stachurski, J. (2016). *A Primer in Econometric Theory*. (recommended)

Topics Covered

- I. Mathematical and Statistical Tools**
 - Conditional Expectation and Projection (Chapter 2)
 - The Algebra of Least Squares (Chapter 3)
- II. Econometrics 101**
 - Least Squares (OLS) (Chapter 4)
 - Normal Regression and Maximum Likelihood (ML) (Chapter 5)
 - Asymptotic Theory (Chapters 6 & 7)
 - Hypothesis Testing (Chapter 9)
- III. Extensions**
 - Additional topics as time allows

Grade Composition

HW Assignments 40% of the course grade

Homework assignments will require programming using a statistical package. I expect you to complete HW assignments **on your own** with only **limited** collaboration. I will provide documentation, sample programs, and **limited** classroom instruction for GAUSS. Free or heavily discounted options for students are available from <http://www.aptech.com/>.

You may use an alternative software package at your own risk.

Test #1 (in-class, closed-book) 30% of the course grade

2:00-3:15PM, Wednesday, October 23

Test #2 (in-class, closed-book) 30% of the course grade

8:15-9:30AM, Tuesday, December 10 (not cumulative, scheduled during final exam week)

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 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.