

BASIC INFORMATION

COURSE PREREQUISITE(S): ECONOM 9472 or instructor's consent

CLASS MEETINGS: 2:00–3:15pm, Mondays and Wednesdays, 111 Geological Sciences Building

INSTRUCTOR: David M. Kaplan, 227 [Professional Bldg](#), office hours Mondays 3:15–4:20pm or by appointment (email me), kaplandm@missouri.edu

TEXTS AND MATERIALS: the main text is *Econometric Analysis of Cross Section and Panel Data* (2nd ed.) by Jeffrey Wooldridge. The Wooldridge website (with datasets and such) is <https://mitpress.mit.edu/books/econometric-analysis-cross-section-and-panel-data>. Optional: a more comprehensive but perhaps less accessible tome on microeconomic methods is [Microeconometrics: Methods and Applications](#) by Cameron and Trivedi. Optional: [Mostly Harmless Econometrics](#) by Angrist and Pischke provides a less comprehensive but more humorous (and econometrically sound) treatment of the most common microeconomic methods. Optional: a GMM-focused text that some like is [Econometrics](#) by Fumio Hayashi.

SOFTWARE: Stata can be used (if for this or another class) at Windows computing sites on campus (like in the Middlebush basement) or from home via [Software Anywhere](#).

COURSE WEBSITE: there will be a Canvas course website (<https://courses.missouri.edu>). I'll mostly just post announcements and exercise sets.

LEARNING OBJECTIVES

The course catalog says about this class, “Analysis of nonlinear regression models and other essential econometric tools not covered in ECONOM 9472 from an advanced statistical perspective.”

More specifically, I hope you'll be able to:

- articulate the big picture concepts of IV, GMM, and ML estimation (or at least know what those acronyms stand for!)
- for a variety of econometric methods, describe their critical assumptions, computation, and output/interpretation
- interpret assumptions and results in both statistical and economic terms
- judge which of two methods is “better” in a given situation, articulating the tradeoffs between the two (imperfect) methods

SCHEDULE OF TOPICS AND ASSIGNMENTS

See [Table 1](#) for the schedule of topics/chapters and exams. There will be four exercise sets consisting of both theoretical and practical (Stata) exercises, spaced throughout the semester.

IMPORTANT DATES TO REMEMBER

See the [Academic Calendar](#) and the [Other Academic Calendar](#) (including various deadlines).

Table 1: Order of topics/chapters and exams.

Chapter	Title
1.1,1.3	Introduction
2.{1,2.1,2.2,2.5}	Conditional Expectations and Related Concepts in Econometrics
4.{1,3.1,3.2,4}	Single-Equation Linear Model and Ordinary Least Squares Estimation
5.1–3	Instrumental Variables Estimation of Single-Equation Linear Models
8.{1,2,3,1–3,5}	System Estimation by Instrumental Variables
14.{1,4.3,5}	Generalized Method of Moments and Minimum Distance Estimation
1,2,4,5,8,14	Midterm, in class
10.1–7	Basic Linear Unobserved Effects Panel Data Models
13.{1–6,8.1–3,11.1}	Maximum Likelihood Methods
15.{1–4,6,7.5}	Binary Response Models
16.{1,2.1,3.1}	Multinomial and Ordered Response Models
19.3–5	[time permitting] Sample Selection
21.1–4	[time permitting] Estimating Average Treatment Effects
cumulative	Final exam, TBA per registrar (during finals week, sit-down)

GRADING CRITERIA

Plus/minus grading is used in this course, and the final exam is mandatory. Relative weighting of assignments is shown in Table 2.

Table 2: Relative weighting of assignments.

Assignment	Percent of total
ES #1	10
ES #2	10
Midterm exam	25
ES #3	10
ES #4	10
Final exam	35
Total	100

You will be allowed to use the textbook, your notes, and any other printed materials on exams, but you may not have any electronics (laptop, phone, etc.). You may discuss exercise sets with your classmates, but you must turn in your own work. As in research, always cite your sources, whether the textbook, a classmate, something online, etc.; see the Academic Integrity section below.

Letter grades will be mapped in the usual way, i.e., A range is 90–100%, B range 80–89.99%, C 70–79.99%, F below that. Any “curve,” if it seems appropriate, will *not* enforce predetermined grade *proportions* but rather move everyone up together—that is, you are not competing with the student next to you for a fixed number of A grades.

PENALTIES FOR LATE WORK

Assignments turned in late but before the beginning of the next class will receive half the points earned. After the beginning of the next class, no credit will be given, though I am happy to still give feedback on the work if you turn it in.

You are expected to take the exams at the scheduled times. In case of an emergency such as serious

injury/illness, you must contact me immediately (i.e., before the exam) to request a makeup and provide documentation of the emergency. If you miss (and don't make up) the midterm or final, then you will receive an "incomplete" for your semester grade.

GRADING QUESTIONS

Graded work will be returned at the end of class. You will have time to review the comments and ask questions. If you think something may be amiss—points added incorrectly, logic of proof misunderstood, etc.—then you may write a note and leave the work with me to review. If it is a non-trivial question, I may review the work in its entirety and adjust other parts up or down if there are other inconsistencies with the grading rubric. After leaving the classroom, you may still ask questions (and expect reasonable responses from me), but I won't change the recorded grade.

ACADEMIC INTEGRITY

As will be the case after you graduate, collaboration and use of whatever books/papers/tutorials you can find will be generally permitted in this class, except as noted for exams. However, as will be the case after you graduate, integrity is still important. If you use something, cite it, whether a paper, book, person, or URL. If you collaborate with other students, note this at the top of your ES. If you're not sure whether to cite something, err on the side of including too many citations.

Last updated: January 9, 2019

<https://faculty.missouri.edu/~kaplandm/personalTeaching.html>