Syllabus

Time and Location  Tuesday and Thursday, 9:30 AM–11:18 PM, 110 Ramseyer Hall
Instructor  Jason Blevins <blevins.141@osu.edu>
Office Hours  Tuesday and Thursday, 1:30-2:30 PM, 415 Arps Hall
Teaching Assistant  Jian Shen <shen.179@buckeyemail.osu.edu>
TA Office Hours  Monday and Wednesday, 3:30-4:30 PM, 373 Arps Hall
Website  http://jblevins.org/courses/econ741s11/

Course Description

This course is the third quarter of the first-year Ph.D. sequence in econometrics. Students are assumed to have had two quarters of graduate-level probability and statistics (Econ 640 and 740, Stat 520 and 521, or equivalent). The course begins with a brief review of probability, stochastic convergence, and limit theorems. The main part of the course focuses on the classical linear regression model and several parametric, linear estimation methods. Time permitting, a brief introduction to nonlinear estimation methods will be given at the end of the course.

Textbooks and Reading Materials

The recommended texts for this course are Wooldridge (2010) and Greene (2012). Any other first-year graduate econometrics textbooks, such as the following, are also acceptable:


If you are interested in econometrics, the following books might be useful for leisure reading:

Course Outline

This is a tentative and incomplete outline and is subject to change.

0. Review of Probability and Asymptotic Statistics
   • Random variables
   • Probability inequalities
   • Modes of stochastic convergence
   • Laws of large numbers and central limit theorems
   • Continuous mapping theorem and Slutsky’s theorem
   • Readings: Wooldridge, Ch. 2-3; Greene, Appendices B and D

1. Linear Regression and Least Squares
   • The Classical Linear Regression Model
   • Ordinary Least Squares (OLS)
   • Finite-sample properties of OLS
   • Large-sample properties of OLS
   • Interval estimation
   • Tests of linear hypotheses
   • Model selection criteria
   • Readings: Wooldridge, Ch. 4; Greene, Ch. 2-5

2. Endogeneity and Instrumental Variable Estimation
   • Instrumental variables (IV)
   • Two-stage least squares (2SLS)
   • Specification tests
   • Readings: Wooldridge, Ch. 5-6; Greene, Ch. 8

3. Systems of Equations and the Generalized Regression Model
   • Generalized Least Squares (GLS)
   • Generalized Method of Moments (GMM)
   • Readings: Wooldridge, Ch. 7-8; Greene, Ch. 9-10

4. M-Estimation of Nonlinear Models
   • Maximum Likelihood
   • Nonlinear Least Squares
   • Quantile Regression
   • Binary Response Models (Logit and Probit)
   • Readings: Wooldridge, Ch. 12 and 15; Greene, Ch. 7, 14, and 17
Assignments and Exams

Homework assignments will be posted online and will usually be due in class one week later. The grade distribution will be:

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Percentage</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Homework</td>
<td>20%</td>
<td></td>
</tr>
<tr>
<td>Midterm examination</td>
<td>40%</td>
<td>Thursday, April 28, in class</td>
</tr>
<tr>
<td>Final examination</td>
<td>40%</td>
<td>Thursday, June 9, 9:30-11:18 AM</td>
</tr>
</tbody>
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Policies

- Students are expected to attend each class and are responsible for all material covered in class. Exams will be based on material covered in class, readings, and assignments.

- A student expecting to miss an examination must give an acceptable explanation, with documentation, in advance. Note that personal travel or vacation plans are not acceptable reasons for missing an examination. If a student misses an examination without prior arrangement, then a grade of zero will be assigned, except when the student presents a signed statement documenting a medical condition or emergency which made it impossible to take the scheduled examination. In the case of an excused absence from an exam, a makeup exam will be scheduled.

- The previous policy also applies to late homework assignments, which will not be accepted except in special circumstances as described above.
Code of Student Conduct

Academic Integrity (Academic Misconduct)

Academic integrity is essential to maintaining an environment that fosters excellence in teaching, research, and other educational and scholarly activities. Thus, The Ohio State University and the Committee on Academic Misconduct (COAM) expect that all students have read and understand the University’s Code of Student Conduct, and that all students will complete all academic and scholarly assignments with fairness and honesty. Students must recognize that failure to follow the rules and guidelines established in the University’s Code of Student Conduct and this syllabus may constitute “Academic Misconduct.”

The Ohio State University’s Code of Student Conduct (Section 3335-23-04) defines academic misconduct as: “Any activity that tends to compromise the academic integrity of the University, or subvert the educational process.” Examples of academic misconduct include (but are not limited to) plagiarism, collusion (unauthorized collaboration), copying the work of another student, and possession of unauthorized materials during an examination. Ignorance of the University’s Code of Student Conduct is never considered an “excuse” for academic misconduct, so I recommend that you review the Code of Student Conduct and, specifically, the sections dealing with academic misconduct.

If I suspect that a student has committed academic misconduct in this course, I am obligated by University Rules to report my suspicions to the Committee on Academic Misconduct. If COAM determines that you have violated the University’s Code of Student Conduct (i.e., committed academic misconduct), the sanctions for the misconduct could include a failing grade in this course and suspension or dismissal from the University.

If you have any questions about the above policy or what constitutes academic misconduct in this course, please contact me.

Other sources of information on academic misconduct (integrity) to which you can refer include:

• The Committee on Academic Misconduct:
  http://www.oaa.osu.edu/coam/home.html

• Ten Suggestions for Preserving Academic Integrity:
  http://www.oaa.osu.edu/coam/ten-suggestions.html

• Eight Cardinal Rules of Academic Integrity:
  http://www.northwestern.edu/uacc/8cards.html

Students with Disabilities

Any student who feels she/he may need accommodation based on the impact of a disability should contact the instructor privately to discuss your specific needs. Please contact the Office for Disability Services at (614) 292-3307 in 150 Pomerene Hall to coordinate reasonable accommodations for students with documented disabilities.