This is the second semester of the core sequence in econometrics (a.k.a. quantitative methods), which develops the procedures used for empirical implementation and validation of economic relationships. Successful completion of Economics 240A or a comparable graduate-level course (e.g., Statistics 200B) is a prerequisite.

The grade for the course will be based upon (approximately) biweekly problem sets (30%) and two in-class midterm exams (35% each). The first midterm exam will be given in class on March 15, and the second is scheduled for April 28; no comprehensive final exam will be given. Any time conflicts should be discussed with the instructors well before the exam date.

The required text for this half of the course will be *An Introduction to Classical Econometric Theory* by Paul Ruud; as supplemental texts, *A Course in Econometrics* by Arthur Goldberger and *Econometrics* by F. Hayashi may be useful, and lecture notes for many of the topics covered will be posted on the course website. Some of the problem sets will require use of statistical packages on the Econometric Microcomputer Laboratory (EML); details will be given in the discussion sections.

**COURSE OUTLINE, Revised**

<table>
<thead>
<tr>
<th>Weeks</th>
<th>Topic</th>
<th>Readings</th>
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<tr>
<td>1-2</td>
<td>Asymptotic Theory of Least Squares</td>
<td>Ruud, Ch. 13, Section 16.6.</td>
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<tr>
<td>3</td>
<td>Time Series Models</td>
<td>Ruud, Ch. 25</td>
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<tr>
<td>4-6</td>
<td>Generalized Least Squares, Seemingly Unrelated Regressions, Heteroskedasticity, Serial Correlation, Panel Data.</td>
<td>Ruud, Sec. 26.2, Ch 18, 19, 22</td>
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<td>7</td>
<td>Instrumental Variables Estimation</td>
<td>Ruud, Ch. 20</td>
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<td>8</td>
<td>Generalized Method of Moments</td>
<td>Ruud, Ch. 21,.</td>
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<td>9-10</td>
<td>Maximum Likelihood Estimation, Computation. and Testing</td>
<td>Ruud, Ch. 13-17.</td>
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<tr>
<td>11-13</td>
<td>Limited Dependent Variable Models</td>
<td>Ruud, Ch. 27, 28.</td>
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LECTURE PLAN, Revised

Jan. 20: Review of Classical Least Squares

Jan. 25: Introduction to Asymptotic Theory; Limit and Slutsky Theorems

Jan. 27: Asymptotics of Best Linear Predictor Estimator

Feb. 1: Time Series Models

Feb. 3: Estimation of Time Series Models

Feb. 8: Aitken’s GLS; Zellner’s Seemingly Unrelated Regression Model

Feb. 10: Models and Consequences of Heteroskedasticity

Feb. 15: (President’s Day Holiday)

Feb. 17: Testing and Corrections for Heteroskedasticity

Feb. 22: Models and Consequences of Serial Correlation

Feb. 24: Testing and Corrections for Serial Correlation

Mar. 1: Panel Data Models

Mar. 3: Correlated Regressors and Instrumental Variables

Mar. 8: Two-Stage Least Squares; Generalized Instrumental Variables Estimation

Mar. 10: Midterm Review; Introduction to Extremum Estimation

Mar. 15: (First Midterm Exam)

Mar. 17: Nonlinear Least Squares and Generalized Method of Moments

Mar. 22: (Spring Break)

Mar. 24: (Spring Break)

Mar. 29: Maximum Likelihood: Setup and Consistency

Mar. 31: Maximum Likelihood: Asymptotic Distribution and Efficiency

Apr. 5: Maximum Likelihood: Computational Methods
Apr.  7:  Likelihood-Based Hypothesis Tests
Apr. 12: Limited Dependent Variable Models; Binary and Ordered Response
Apr. 14: Multinomial Response Models
Apr. 19: Censored and Truncated Regression Models
Apr. 21: Selection and Disequilibrium Models
Apr. 26: Midterm Review; Preview of Econ 241
Apr. 28: (Second Midterm Exam)