Economics 8828-001

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Location: ECON 5
Meeting Times: MW 9:00 – 10:15 am
Office Hours: T 1:30 – 4:30 pm

Course Description:

Econ 8828 is an advanced level econometrics course that focuses on asymptotic theory and estimation methods for cross-sectional data. This course begins by reviewing the OLS and IV estimators for linear models. Following this, the course covers asymptotic theory for data with independent (and possibly heterogeneously distributed) observations, with some illustrating examples of the OLS and IV estimators. If time permits, nonlinear estimators like quasi-ML and GMM estimators will be introduced.

Text:


Other Useful Books:


Prerequisites:

Economics 7818 and 7828.

Assessment:

There will be a midterm exam, a final exam, and periodic problem sets.

1. Homework assignments (15%)
2. Midterm examination (40%)
3. Final Examination (45%)
**Tentative Course Outline:**

1. Review of Linear Models (White, Ch 1)
   - OLS and IV estimation

2. Consistency (White, Ch 2)
   - Limits; Strong and weak convergences

3. Laws of Large Numbers (White, Ch 3)
   - LLN for IID and INID observations

4. Asymptotic Normality (White, Ch 4)
   - Convergence in distribution, hypothesis testing, and asymptotic efficiency

5. Central Limit Theory & Estimating Asymptotic Covariance Matrices (White, Ch 5&6)
   - CLT for IID and INID observations; Asymptotic covariance matrix estimation.

6. M-Estimation (Cameron and Trivedi, Ch 5)
   - ML and NLS estimation.

7. Generalized Method of Moments (Cameron and Trivedi, Chapter 6)
   - 2SLS and GMM estimation.

**University Policies:**

University policies regarding classroom behavior are available at [http://www.colorado.edu/policies/classbehavior.html](http://www.colorado.edu/policies/classbehavior.html) and at [http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code](http://www.colorado.edu/studentaffairs/judicialaffairs/code.html#student_code)

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