Advanced   Econometrics

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Grading Policy:
Homework (20%), Quiz (20%), Mid-term Exam (30%), and Final Exam (30%)

Course Description:
This course is the continuation of Probability and Statistic Theory offered last semester. The course begins with an introduction of the classical linear regression (CLR) models, and then relaxes assumptions gradually. Besides CLR models, this course covers linear regression models with I.I.D. observations, linear regression models with dependent observations, linear regression models with HAC disturbances, instrumental variables regression, GMM and MLE. This course also touches several frontier topics such as model and variable selection method, resampling methods and nonparametric econometrics. This course aims to provide solid econometric foundation for both theorists and empirical economists.

Textbooks:
- **Required: *Lecture Notes on Advanced Econometrics* by Yongmiao Hong(2006)**
- **Recommended: *Estimation and Inference in Econometrics* by Davidson and MacKinnon (1993); *Econometric Analysis* by W. Greene(1997); *Econometrics* by F. Hayashi (2000); and *Econometric Analysis of Cross Section and Panel Data* by J. Wooldridge(2001).**

Course Outlines:

1. **Classical Linear Regression Models**
2. **Hypothesis Testing and Re-sampling Methods**
3. **Linear Regression with Dependent Observations**
4. **Linear Regression with HAC Disturbances**
5. **Instrumental Variables Regression**
6. **GMM**
7. **Quasi-Maximum Likelihood Estimation**