Advanced Econometric Analysis for Finance
FE 522 고급금융계량분석
2019 1st-half semester: 8 weeks (2019.9.2 – 2019.10.25)

Instructor : Lee, Hoe Kyung (이회경) hklee@kaist.ac.kr (Rm 9611, Tel. 3639)
Classes : Monday and Wednesday, 2:30 – 3:50 p.m.
Office Hours : Monday, 4:00 - 5:30 p.m. or by appointment
T.A. : TBA
Final Exam : 2019.10.23 (Wed), 1: 00 – 3:50 p.m.

Course Description:

FE 522 is the second course in a two course sequence representing the core of econometric theory and methods required for MFE students. The objective of this course is to familiarize students with topics such as IV estimation, MLE, GMM, panel data models, SUR, and simultaneous equations models. The prerequisite is FE 512 or an equivalent course from other departments.

Textbook and references:
There is no required textbook for this course. I will use my lecture notes. Following books can serve as auxiliary or reference texts.

1. Greene, W. H., *Econometric Analysis*, 7th ed., Pearson, 2012.
2. Wooldridge J., *Econometric Analysis of Cross Section and Panel Data*, 2nd ed., MIT Press, 2010.

Less Advanced:
3. Brooks, C., *Introductory Econometrics for Finance*, 3rd ed., Cambridge University Press, 2014.
4. Wooldridge J., *Introductory Econometrics: A Modern Approach*, 6th ed., Cengage Learning, 2016.
5. Hill, R. C, W. E. Griffiths and G. C. Lim, *Principles of Econometrics*, 4th ed., John Wiley & Sons, 2011.

Grading:

Homework and Quiz	: 30%
Exam(s)	: 70%

Topics to be covered:

1. Partitioned Regression: Frisch-Waugh-Lovell theorem
2. Introduction to Asymptotic Theory
   - Large sample properties of OLS estimators
3. Maximum Likelihood Estimation
4. Endogenous Regressors:
   - Instrumental variable (IV) estimation
   - Tests for exogeneity: Hausman test
5. Generalized Method of Moment (GMM) Estimation
6. Models for Panel Data:
   - Fixed effects (FE) and random effects (RE) Models
   - Dynamic panel data models
7. Multiple Equations
   - Seemingly unrelated regressions (SUR) models
   - Simultaneous equations models: identification, estimation
8. Qualitative Choice Models (if time permits)