

## **Chinese University of Hong Kong, Fall 2018**

### **ECON5121A: Econometric Theory and Applications**

#### **Instructor:**

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#### **Teaching Assistant:**

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#### **Lecture Hours and Venue:**

Starting from September 7, every Friday 8:30 - 11:15pm, ELB 205

#### **Topics (tentative):**

This course is an entry-level graduate econometrics course. Knowledge of econometrics and statistics at the undergraduate level is prerequisite.

- Review of probability theory
- Conditional expectation and linear projection
- Least squares estimator
- Basic asymptotic theory
- Hypothesis testing
- Panel data model
- Endogeneity and instruments
- Generalized method of moments
- Nonparametric methods

Numerical examples will be demonstrated in R.

**Textbooks:**

- Hansen (2018): Econometrics (<http://www.ssc.wisc.edu/~bhansen/econometrics/>)  
*Downloadable for free*
- Stachurski (2016): A Primer in Econometric Theory

**Lecture Notes:**

- <https://github.com/zhentaoshi/Econ5121A>. The code in the IPython notebooks can be executed either locally, or online <https://ec2-52-87-188-99.compute-1.amazonaws.com:8888> (aws accessible until the end of the course)

**References:**

*For R and more*

- Kleiber and Zeileis (2008): Applied Econometrics with R
- James, Witten, Hastie and Tibshirani (2013): An Introduction to Statistical Learning with Applications in R (<http://www-bcf.usc.edu/~gareth/ISL/>) *Downloadable for free*

**Evaluations:**

- Assignment (10%)
- Midterm (45%): **Oct 19**
- Final (45%): TBD

**Academic Honesty:**

Attention is drawn to University policy and regulations on honesty in academic work, and to the disciplinary guidelines and procedures applicable to breaches of such policy and regulations. Details may be found at <http://www.cuhk.edu.hk/policy/academichonesty/>.