



# HANYANG UNIVERSITY

## 2018 HISS Syllabus

### [Introduction to Econometrics]

Professor: **Jong-Min Kim**  
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Home Univ.: University of Minnesota at Morris  
Dept.: Statistics

**Description:** First, this course will cover the statistical concepts for econometric analysis such as single (multiple) regression analysis, ordinary least squares (OLS), Logit and Probit Models and violations of standard assumptions such as heteroskedasticity and multicollinearity. Second, this course will introduce the basic models for time series analysis such as stationary and nonstationary time series, analysis of trends using regression methods, ARIMA, model specification, transformations, parameter estimation, model diagnostics, forecasting, Seasonal ARIMA time series models, and GARCH models.

**Objective:** The objective of this course is to introduce basic concepts and theory of econometric analysis with practical applications, mainly stock financial data.  
**Textbook:** Damodar Gujarati, Econometrics by Example, 2<sup>nd</sup> Edition, Palgrave Macmillan (2014).  
**Preparations:** **Pre-knowledge:** Basic College Algebra.  
**Materials:** Regular Calculator needed.

**Schedule:**

Week 1	Chapter 1: The linear regression model: an overview Chapter 2: Functional forms of regression models Chapter 3: Qualitative explanatory variables regression models
Week 2	Chapter 4: Regression diagnostic I: multicollinearity Chapter 5: Regression diagnostic II: heteroscedasticity Chapter 6: Regression diagnostic III: autocorrelation Chapter 7: Regression diagnostic IV: model specification errors
Week 3	Chapter 8: The logit and probit models Chapter 10: Ordinal regression models

#### Hanyang International Summer School

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	<p>Chapter 12: Modeling count data: the Poisson and negative binomial regression models</p> <p>Chapter 17: Panel data regression models</p> <p>Chapter 20: Beyond OLS: quantile regression</p>
Week 4	<p>Chapter 13: Stationary and nonstationary time series</p> <p>Chapter 14: Cointegration and error correction models</p> <p>Chapter 15: Asset price volatility: the ARCH and GARCH models</p> <p>Chapter 16: Economics forecasting</p>

	Midterm (%)	Final (%)	Attendance (%)	Assignments (%)	Participation (%)	Etc. (%)
Evaluation:	25	50	5	15	5	00