# COURSE CONTENT

**Course Coordinator**: Wang Wei Siang  
**Course Code**: HE2005  
**Course Title**: Principles of Econometrics  
**Pre-requisites**: HE1005 Introduction to Probability and Statistical Inference or  
At least an A- in HE1004 Introduction to Statistical Theory and Methods  

For MAEC students  
MAS215 Probability & Statistics I or  
MTH214/MH2500 - Probability & Introduction to Statistics or  
Co-requisite with MH2500 Probability & Introduction to Statistics or  
Co-requisite with MAS315 / MTH351 / MH3500 - Probability and Statistics II  

**No of AUs**: 3 AU  
**Contact Hours**: 39 hours (2 hours lecture and 1 hour tutorial per week)  

**Course Aims**  
This course offers students in economics and mathematics a firm foundation in the theory and methods of econometrics. The course teaches you the main tools of estimation and inference. Applications of econometric techniques will be illustrated by empirical examples based on economic analysis. In addition, further topics such as goodness-of-fit, prediction, dummy variables, heteroskedasticity, functional form misspecification, time series data will be discussed.  

**Intended Learning Outcomes (ILO)**  
By the end of this course, the students would be able to:  

1. differentiate three types of economic data structures  
2. explain the statistical properties of OLS estimators  
3. illustrate the classical linear regression model and its assumptions  
4. modify and propose a suitable model when the classical assumptions are violated  
5. formulate regression models and interpret empirical results  
6. collect and summarize economic data  

**Course Content**  

1. The Nature Of Econometrics And Economics Data  
2. The Simple Regression Model  
3. Multiple Regression Analysis: Estimation  
4. Multiple Regression Analysis: Inference  
5. Multiple Regression Analysis: Ols Asymptotics  
6. Multiple Regression Analysis: Further Issues  
7. Multiple Regression Analysis With Qualitative Information: Binary (Or Dummy ) Variables  
8. Heteroskedasticity
9 More On Specification And Data Issues
10 Basic Regression Analysis With Time Series Data
11 Further Regression Analysis With Time Series Data
12 Asymptotic Properties Of Time Series Ols

Assessment (includes both continuous and summative assessment)

1. Quizzes : 15%
2. Problem Set : 15%
3. Participation/Presentation : 10%
4. Final Examination : 60%
   Total : 100%

Reading and References

Main Textbook

Supplementary readings

Course Instructors

<table>
<thead>
<tr>
<th>Instructor</th>
<th>Office Location</th>
<th>Phone</th>
<th>Email</th>
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<tbody>
<tr>
<td>Wang Wei Siang</td>
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Planned Weekly Schedule

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