

**City University of Hong Kong
Course Syllabus**

**offered by Department of Economics and Finance
with effect from Semester A 2022 /23**

Part I Course Overview

Course Title: Topics in Econometrics

Course Code: EF8075

Course Duration: 1 semester

Credit Units: 3

Level: R8

Medium of Instruction: English

Medium of Assessment: English

Prerequisites: EF5470 Econometrics or equivalent
(Course Code and Title)

Precursors: Nil
(Course Code and Title)

Equivalent Courses: EF5408 Topics in Econometrics
(Course Code and Title)

Exclusive Courses: Nil
(Course Code and Title)

Part II Course Details

1. Abstract

This course aims at providing an in-depth analysis of various advanced theoretical results in econometrics, including asymptotic distribution theory, instrumental variable methods, panel data analysis, discrete choice modeling, and topics in time series econometrics. Students will apply these techniques and concepts to real life cases and examine the usefulness of various economic and finance models. By engaging in these exercises, students further strengthen their discovery skills.

2. Course Intended Learning Outcomes (CILOs)

| No. | CILOs | Weighting | Discovery-enriched curriculum related learning outcomes (please tick where appropriate) | | |
|-----|---|-----------|---|----|----|
| | | | A1 | A2 | A3 |
| 1. | Derive the theoretical results covered in this course. | 60% | √ | √ | |
| 2. | Apply the econometric methods covered in this course to real world data; Students will solve real-world problems by using econometric software. Empirical applications focus on the underlying economic rationale and their mathematical interpretations. | 40% | √ | √ | √ |
| | | 100% | | | |

A1: Attitude

Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability

Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to self-life problems.

A3: Accomplishments

Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

3. Teaching and Learning Activities (TLAs)

| TLA | Brief Description | CILO No. | | Hours/week (if applicable) |
|---|--|----------|---|----------------------------|
| | | 1 | 2 | |
| Lectures, in-class discussions, assignments | Taught and discuss various advanced theoretical results in econometrics, including asymptotic distribution theory, instrumental variable methods, panel data analysis, discrete choice modeling, and topics in time series econometrics. | √ | √ | 3 hours lecture per week |

4. Assessment Tasks/Activities (ATs)

| Assessment Tasks/Activities | CILO No. | | Weighting | Remarks |
|--|----------|---|-----------|---------|
| | 1 | 2 | | |
| Continuous Assessment: <u>100</u> % | | | | |
| Individual project, homework assignments, discussions | √ | √ | 100% | |
| Examination: <u>0</u> % (duration: _____, if applicable) | | | | |
| - | | | 0% | |
| | | | 100% | |

5. Assessment Rubrics

Applicable to students admitted in Semester A 2022/23 and thereafter

| Assessment Task | Criterion | Excellent (A+, A, A-) | Good (B+, B) | Marginal (B-, C+, C) | Failure (F) |
|--|---|--------------------------|-----------------|-------------------------|-----------------------------------|
| 1. Individual project, homework assignments, discussions | Demonstrate the capability of comprehending the advanced topics on econometrics that were discussed in classes. | High | Significant | Basic | Not even reaching marginal levels |

Applicable to students admitted before Semester A 2022/23

| Assessment Task | Criterion | Excellent (A+, A, A-) | Good (B+, B, B-) | Fair (C+, C, C-) | Marginal (D) | Failure (F) |
|--|---|--------------------------|---------------------|---------------------|-----------------|-----------------------------------|
| 1. Individual project, homework assignments, discussions | Demonstrate the capability of comprehending the advanced topics on econometrics that were discussed in classes. | High | Significant | Moderate | Basic | Not even reaching marginal levels |

Part III Other Information

1. Keyword Syllabus

Matrix algebra; Mathematical statistics; Asymptotic distribution theory; Instrumental variables; Generalized method of moments; Maximum likelihood; Panel data; Dynamic panel regression; Discrete choice model; Forecast comparison and evaluation; Volatilities; Unit roots; Cointegration

2. Reading List

2.1 Compulsory Readings

| | |
|----|---|
| 1. | Cameron, A.C. and Trivedi, P.K. (2005) <i>Microeconometrics</i> . Cambridge University Press. |
| 2. | Greene, W. <i>Econometric Analysis</i> . Current Edition. Prentice-Hall. |
| 3. | Hamilton, J. (1994) <i>Time Series Analysis</i> , Princeton University Press. |
| 4. | Hayashi, F. (2000) <i>Econometrics</i> , Princeton University Press. |
| 5. | Hsiao, C. (2003) <i>Analysis of Panel Data</i> . 2 nd edition. Cambridge University Press. |
| 6. | Wooldridge, J. (2001) <i>Econometric Analysis of Cross Section and Panel Data</i> , MIT Press. |

2.2 Additional Readings

Nil