EF8075: TOPICS IN ECONOMETRICS

Effective Term
Semester A 2025/26

Part I Course Overview

Course Title
Topics in Econometrics

Subject Code
EF - Economics and Finance
Course Number
8075

Academic Unit
Economics and Finance (EF)

College/School
College of Business (CB)

Course Duration
One Semester

Credit Units
3

Level
R8 - Research Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
EF8090 Advanced Econometrics or equivalent

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

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.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Derive the theoretical results covered in this course.	60%	x	x	
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%	x	x	x

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 real-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.

Learning and Teaching Activities (LTAs)

	LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	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.	1, 2	3 hours lecture per week

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks ("-" for nil entry)	Allow Use of GenAI?
1	Individual project, homework assignments, discussions	1, 2	100	-	Yes

Continuous Assessment (%)

100

Additional Information for ATs

Remark on the use of Generative AI (GenAI) tools:

- It is crucial to properly attribute all sources, including the ideas derived from GenAI tools (suggested style guide here (https://libguides.library.cityu.edu.hk/citing/)). Students are highly encouraged to keep a journal of the GenAI conversation. This practice not only protects students from potential infringements of the Rules of Academic Honesty, but also promotes transparency, critical thinking, and the ethical use of GenAI tools.
- See the section below on further guideline on the use of GenAI tools in the coursework.

Guideline on the use of GenAI tools:

Allowed Uses

a. **Preliminary Insights**:
   - Use Generative AI to gather initial ideas and perspectives on your topic.
   - Explore different angles or approaches to deepen your understanding.

b. **Grammar and Style Checks**:
   - Utilize AI tools to proofread your work for grammatical errors and typos.
   - Enhance your writing style by asking for suggestions on clarity, coherence, and tone.

c. **Research Assistance**:
   - Leverage AI to find relevant sources or summarize information, but ensure you evaluate and cite these sources appropriately.

Not Allowed

a. **Completing Majority of Tasks**:
   - Do not use Generative AI to write entire essays or complete significant portions of your assignments without adding your own analysis or insights.
   - Your work should reflect your understanding and critical thinking.

b. **Submitting AI-Generated Content as Your Own**:
   - Avoid submitting content primarily generated by AI. Always ensure the final product is your own work.

Best Practices

- **Integrate Your Voice**: While using AI, ensure that your unique perspective and arguments are prominent in your work.
- **Cite Sources**: If AI provides specific information or data, make sure to cite it properly, following your institution's guidelines.
- **Review and Revise**: Always review AI-generated suggestions and adapt them to fit your style and intent.

By following these guidelines, you can effectively incorporate Generative AI into your academic work while maintaining integrity and originality.

Assessment Rubrics (AR)

Assessment Task

Individual project, homework assignments, discussions (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Demonstrate the capability of comprehending the advanced topics on econometrics that were discussed in classes.

Excellent

(A+, A, A-) High

Good

(B+, B, B-) Significant

Fair

(C+, C, C-) Moderate

Marginal

(D) Basic

Failure

(F) Not even reaching marginal levels

Assessment Task

Individual project, homework assignments, discussions (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Demonstrate the capability of comprehending the advanced topics on econometrics that were discussed in classes.

Excellent

(A+, A, A-) High

Good

(B+, B) Significant

Marginal

(B-, C+, C) Basic

Failure

(F) Not even reaching marginal levels

Part III Other Information

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

Reading List

Compulsory Readings

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