

**City University of Hong Kong**  
**Course Syllabus**

**offered by Department of Economics and Finance**  
**with effect from Semester A 2024/25**

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**Part I Course Overview**

<b>Course Title:</b>	<u>Advanced Econometrics</u>
<b>Course Code:</b>	<u>EF5470</u>
<b>Course Duration:</b>	<u>1 semester</u>
<b>Credit Units:</b>	<u>3</u>
<b>Level:</b>	<u>P5</u>
<b>Medium of Instruction:</b>	<u>English</u>
<b>Medium of Assessment:</b>	<u>English</u>
<b>Prerequisites:</b> <i>(Course Code and Title)</i>	<u>Nil</u>
<b>Precursors:</b> <i>(Course Code and Title)</i>	<u>Background of basic statistics</u>
<b>Equivalent Courses:</b> <i>(Course Code and Title)</i>	<u>Nil</u>
<b>Exclusive Courses:</b> <i>(Course Code and Title)</i>	<u>Nil</u>

## Part II Course Details

### 1. Abstract

The aim of this course is to provide research degree students with basic econometric techniques applicable to empirical work. Students will apply these techniques and concepts to real life cases and examine the usefulness of various economic and finance models by testing them with case studies. By engaging in these exercises, students further strengthen their discovery skills.

### 2. Course Intended Learning Outcomes (CILOs)

*(CILOs state what the student is expected to be able to do at the end of the course according to a given standard of performance.)*

No.	CILOs	Weighting (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	Describe basic probability and statistical theories to conduct, estimation, inference and prediction with econometric models, and derive basic mathematical results that are useful in applications.	30%	√	√	
2.	Explain econometric models to perform empirical investigations in economics and finance.	30%	√	√	
3.	Apply economic and financial data for empirical analysis.	20%	√	√	
4.	Demonstrate simple empirical analysis using econometric software packages, and make use of the knowledge acquired from the lectures and the software techniques to analyze real-life issues and develop problem-solving skills.	20%	√	√	√
		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 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.*

### 3. Learning and Teaching Activities (LTAs)

(LTAs designed to facilitate students' achievement of the CILOs.)

LTA	Brief Description	CILO No.				Hours/week (if applicable)
		1	2	3	4	
Lectures	Students will gain basic econometric techniques and examine the usefulness of various economic and finance models by testing them with case studies.	√	√	√		<del>2 hours lecture per week</del>
Use real-world examples to illustrate the applications of econometric models	Students will engage in solving real-world empirical issues by using econometric software. Empirical applications focus on underlying economic rationale and their mathematical interpretations.		√	√	√	<del>1 hour lecture per week</del>

### 4. Assessment Tasks/Activities (ATs)

(ATs are designed to assess how well the students achieve the CILOs.)

Assessment Tasks/Activities	CILO No.				Weighting	Remarks
	1	2	3	4		
Continuous Assessment: 60%						
Midterm		√			15%	
Term Project			√		20%	
Assignments				√	25%	
Examination: 40% (duration: 3 hours, if applicable)						
Final Examination	√				40%	
					100%	

## 5. Assessment Rubrics

(Grading of student achievements is based on student performance in assessment tasks/activities with the following rubrics.)

Applicable to students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
1. Midterm	Demonstrate having good understanding of basic econometric techniques and capability of appraising various economic and finance models	High	Significant	Moderate	Basic	Not even reaching marginal levels
2. Term Project	Demonstrate the capability of solving real-world empirical issues by using econometric software.	High	Significant	Moderate	Basic	Not even reaching marginal levels
3. Assignments	Demonstrate the capability of comprehending and applying econometric techniques to solve assigned problems.	High	Significant	Moderate	Basic	Not even reaching marginal levels
4. Final Examination	Demonstrate having good understanding of basic econometric techniques and capability of appraising various economic and finance models	High	Significant	Moderate	Basic	Not even reaching marginal levels

Applicable to students admitted from Semester A 2022/23 to Summer Term 2024

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B)	Marginal (B-, C+, C)	Failure (F)
1. Midterm	Demonstrate having good understanding of basic econometric techniques and capability of appraising various economic and finance models	High	Significant	Basic	Not even reaching marginal levels
2. Term Project	Demonstrate the capability of solving real-world empirical issues by using econometric software.	High	Significant	Basic	Not even reaching marginal levels
3. Assignments	Demonstrate the capability of comprehending and applying econometric techniques to solve assigned problems.	High	Significant	Basic	Not even reaching marginal levels
4. Final Examination	Demonstrate having good understanding of basic econometric techniques and capability of appraising various economic and finance models	High	Significant	Basic	Not even reaching marginal levels

**Part III Other Information** (more details can be provided separately in the teaching plan)

**1. Keyword Syllabus**

*(An indication of the key topics of the course.)*

Statistical Inference, Ordinary Least Squares, Heteroskedasticity, Autocorrelation, Instrumental Variables, Two-Stage Least Squares, Generalized Method of Moments, Maximum Likelihood Estimation

**2. Reading List**

**2.1 Compulsory Readings**

*(Compulsory readings can include books, book chapters, or journal/magazine articles. There are also collections of e-books, e-journals available from the CityU Library.)*

1.	Verbeek, M. (2004) A Guide to Modern Econometrics, 2th Edition, John Wiley and Sons.
2.	Hayashi, F. (2000) <i>Econometrics</i> , Princeton University Press.

**2.2 Additional Readings**

*(Additional references for students to learn to expand their knowledge about the subject.)*

Nil