

**City University of Hong Kong  
Course Syllabus**

**offered by Department of Economics and Finance  
with effect from Semester B 2018/19**

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**Part I Course Overview**

**Course Title:** Principles of Econometrics

**Course Code:** EF3450

**Course Duration:** 1 Semester

**Credit Units:** 3

**Level:** B3

**Proposed Area:**  
(for GE courses only)

Arts and Humanities  
 Study of Societies, Social and Business Organisations  
 Science and Technology

**Medium of Instruction:** English

**Medium of Assessment:** English

**Prerequisites:**  
(Course Code and Title) EF2452 Mathematics for Economics and Finance or CB2200 Business Statistics

**Precursors:**  
(Course Code and Title) CB2201 Quantitative Methods or FB2201 Management Sciences II

**Equivalent Courses:**  
(Course Code and Title) Nil

**Exclusive Courses:**  
(Course Code and Title) Nil

## Part II Course Details

### 1. Abstract

This course introduces the basic principles and methods for econometric modelling and quantitative analysis of real data in economics, finance and related disciplines. It also enables students to use econometrics software packages which are essential for students who wish to pursue further studies or a professional career in economics, finance or related disciplines.

Real-world economic and finance data will be used in this course to help students to master different econometric methods. By combining the knowledge acquired in class with software skills students will be able to discover how to apply econometric models to test economic and finance theories, and to predict economic time series. They will discover the econometrics tools and design econometric models to come up with effective solutions for a wide range of real-life questions.

### 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 <sup>#</sup>	Weighting* (if applicable)	Discovery-enriched curriculum related learning outcomes (please tick where appropriate)		
			A1	A2	A3
1.	Formulate econometric models to perform empirical investigations in business economics and finance; master basic econometric skills to analyse data in economics and finance.	80 %	√		√
2.	Compile economic and financial data for empirical analysis; learn how to conduct empirical analysis using economic and finance data, and use these skills to discover the answers to real life questions.	10 %		√	
3.	Use statistical and econometric software packages for empirical analysis; apply econometric software packages.	10 %		√	
		100%			

\* If weighting is assigned to CILOs, they should add up to 100%.

<sup>#</sup> Please specify the alignment of CILOs to the Gateway Education Programme Intended Learning outcomes (PILOs) in Section A of Annex.

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)

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

TLA	Brief Description	CILO No.			Hours/week (if applicable)
		1	2	3	
Lectures	Econometric models and case studies to illustrate applications. Demonstrate the use of econometric software (EViews). Use examples and problem sets to illustrate how to apply econometric techniques and econometric software to real life data.	√		√	3 hours lecture per week
Homework assignments	The homework assignments and mid-term examinations will test students on their understanding of basic econometric concepts, applications of econometric models, basic assumptions, and limitations of the models. They are essential in helping students discover how to conduct empirical studies.	√	√	√	
Midterm examination		√	√		

#### 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		
<b>Continuous Assessment: 50%</b>					
<b>Mid-term exam (one 1 hour exam)</b> Formulate econometric models to perform empirical investigations in business economics and finance; master basic econometric skills to analyse data in economics and finance. (CILO1)	√			30%	
<b>Contributions to in-class discussion and debate</b>		√	√	5%	
<b>Homework assignments:</b> Compile economic and financial data for empirical analysis; Use statistical and econometric software packages for empirical analysis (CILO1, CILO2 and CILO3)	√	√	√	15%	
<b>Examination: 50% (duration: 2 hours, if applicable)</b>					
<b>Final exam:</b> Formulate econometric models to perform empirical investigations in business economics and finance; master basic econometric skills to analyse data in economics and finance. (CILO1)	√			50%	
* The weightings should add up to 100%.				100%	

**Students are required to pass both coursework and examination components in order to pass the course.**

## 5. Assessment Rubrics

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

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
Mid-term exam		Strong evidence of knowing how to apply the econometrics concepts outlined in CILOs. Students have demonstrated very strong overall ability to discover and innovate, and shown very strong evidence of accomplishments of discovery.	Evidence of knowing how to apply the econometrics concepts outlined in CILOs. Students have demonstrated strong overall ability to discover and innovate, and shown strong evidence of accomplishments of discovery.	Some evidence of knowing how to apply the econometrics concepts outlined in CILOs. Students have demonstrated some ability to discover and innovate, and shown satisfactory evidence of accomplishments of discovery.	Sufficient familiarity with the subject of econometrics. Students have demonstrated marginal ability to discover and innovate, and shown marginal evidence of accomplishments of discovery.	Little evidence of familiarity with the subject. Students have demonstrated little evidence of ability to discover and innovate, and shown little evidence of accomplishments of discovery.
Contributions to in-class discussion and debate		Almost never absent without prior approval or justifications and complete all in-class assignments.	Very seldom absence without prior approval or justifications and complete most in-class assignments.	Occasionally miss classes without prior approval or justifications, and do not complete some of the in-class assignments.	Regularly miss classes without prior approval or justifications, and do not complete some of the in-class assignments.	Frequent absence without prior approval or justifications and do not hand in many of the assignments.

Assessment Task	Criterion	Excellent (A+, A, A-)	Good (B+, B, B-)	Fair (C+, C, C-)	Marginal (D)	Failure (F)
Homework assignments		Strong evidence of knowing how to apply the econometrics concepts outlined in CILOs. Students have demonstrated very strong overall ability to discover and innovate, and shown very strong evidence of accomplishments of discovery.	Evidence of knowing how to apply the econometrics concepts outlined in CILOs. Students have demonstrated strong overall ability to discover and innovate, and shown strong evidence of accomplishments of discovery.	Some evidence of knowing how to apply the econometrics concepts outlined in CILOs. Students have demonstrated some ability to discover and innovate, and shown satisfactory evidence of accomplishments of discovery.	Sufficient familiarity with the subject of econometrics. Students have demonstrated marginal ability to discover and innovate, and shown marginal evidence of accomplishments of discovery.	Little evidence of familiarity with the subject. Students have demonstrated little evidence of ability to discover and innovate, and shown little evidence of accomplishments of discovery.
Final exam		Strong evidence of knowing how to apply the econometrics concepts outlined in CILOs. Students have demonstrated very strong overall ability to discover and innovate, and shown very strong evidence of accomplishments of discovery.	Evidence of knowing how to apply the econometrics concepts outlined in CILOs. Students have demonstrated strong overall ability to discover and innovate, and shown strong evidence of accomplishments of discovery.	Some evidence of knowing how to apply the econometrics concepts outlined in CILOs. Students have demonstrated some ability to discover and innovate, and shown satisfactory evidence of accomplishments of discovery.	Sufficient familiarity with the subject of econometrics. Students have demonstrated marginal ability to discover and innovate, and shown marginal evidence of accomplishments of discovery.	Little evidence of familiarity with the subject. Students have demonstrated little evidence of ability to discover and innovate, and shown little evidence of accomplishments of discovery.

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

**1. Keyword Syllabus**

Basic statistics: Mean, variance, covariance, correlation, statistical significance.

Least squares regression, Assumptions

Hypothesis testing, Prediction

Violation of assumptions

Unobserved variables, Omitted variable bias, Instrumental variables

Model selection: including and omitting variables,

Time series data

**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.	Stock, James H., and Watson, Mark W. (2014). <i>Introduction to Econometrics</i> . Pearson, Global Edition, updated 3 <sup>rd</sup> Edition.
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**2.2 Additional Readings**

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

1.	Wooldridge, Jeffrey M. (2009). <i>Introductory Econometrics</i> . Cengage Learning, 4 <sup>th</sup> edition.
2.	Heiss F. (2016). <i>Using R for Introductory Econometrics</i> . CreateSpace.