HKUST Business School - Department of Economics

Course Outline
ECON 5370 – Using Data for Economics Analysis (Spring 2024-25)

Lecture Time:	Friday 13:30 – 16:20
Venue:	
Course Website:	CANVAS
Instructor:	SIU, Kam Wing (蕭錦榮)
Office:	Room 6054, Lee Shau Kee Business Building
Email / Phone:	eckwsiu@ust.hk / (852) 2358-7617
Office Hours:	By appointment
Teaching Assistant	Jeremy TO
Office:	Room 6066, Lee Shau Kee Business Building
Email	ecjeremy@ust.hk
Office Hours:	By appointment
Credits:	3
Pre-requisite:	ECON 5130 OR ECON 5140 OR ECON 5210 OR ECON 5250

A. Course Description

In this course, students apply the econometric theories and models they've learned to real data. The students must establish their research questions, obtain datasets, analyze the data using the R program, and write their findings in written reports.

The course focuses on data analysis with R. The students are expected to have basic knowledge of econometric theories and models, including linear regression, panel data analysis, time series analysis, estimation and hypothesis testing. Students must complete a course project using R.

B. Textbook:

This course has no assigned textbook. The lecture materials will be mainly based on:

1) R-related

- "R-intro. pdf", download at https://cran.r-project.org/doc/manuals/r-release/R-intro.pdf

- "Data Analysis and Graphics Using R, Third Edition" by John Maindonald and W. John Braun. *Textbook companion website: https://maths-people.anu.edu.au/~johnm/r-book/daagur3.html*

2) Econometric Theory and Knowledge

- "Introductory Econometrics: A Modern Approach, Second Edition" by Jeffrey M. Wooldridge, published by Thomson, South-Western.

- "Guide to Modern Econometrics, Third Edition", written by Marno Verbeek by John Wiley & Sons

C. Learning Outcome – Program Intended Learning Outcomes ("PILOs"):
1. To apply econometric theories and models to analyze economic issues in the real world with solid data support, including identifying research questions, selecting

suitable data sources, and establishing a reliable research methodology based on research questions and data availability
2. To achieve a fundamental understanding of the R platform, including familiarizing yourself with R working environment, managing data using R, using graphic functions for presentations, and writing R scripts for specific research projects
3. To improve report writing and presentation skills

D. Course Format / Teaching Approach:

This course is delivered through (1) lectures, (2) Programming exercises, (3) Course project + Presentation

Teaching & Learning Activities	Roles in the Course	PILO Addressed
(1) Lectures	Explain key concepts and applications; Provide examples to enhance student's understanding	1,2
(2) Programming exercises	Gaining hands-on experience with R programming	1,2
(3) Course project + Presentation	Applying materials covered in the course; Developing analytical and problem-solving skills; Enhancing writing and presentation abilities	1,2,3

We will meet once a week (for two hours and fifty minutes each meeting) from week 1 to week 6 (tentatively) for a review of course materials and in-class computer activities. You are required to present your course project during the last two weeks of the period of instruction.

E. Course Website

Course materials and announcements will be posted on the CANVAS. It is YOUR responsibility to check the CANVAS regularly for the latest information.

F. Assessment:

(1) Programming exercises (15%)

On an individual basis, You may be required to submit your answers individually.

(2) Course project (85%)

    i. Report/Paper – 45% (group basis)

    ii. Progress Meeting – 15% (individual basis)

    iii. Presentation – 25% (individual basis)

For the Course Project, you are required to choose a topic (research questions) and write a report based on your team's original research. The topic and data sources must be approved by me before (7 March 2025).

Every group must meet and discuss their progress with me at least two times before the presentation. Failure to do this will result in an individual rating deduction.

You are required to present your course project (draft) in class during the last two weeks of the instruction period. Every member of a team must participate in the presentation and Q&A. Performance will be graded individually.

However, the deadline for submitting the final version of the course project to me (electronic copy) is 12:00 noon, 6 June 2025. You have to submit the written report, all data files, and the R program. I may replicate the findings described in your written report by using your R programs and datasets. Failure to do that will affect your grading of the Report/Paper.

G. Academic Honesty and Integrity:

Academic integrity and honesty are key values at HKUST. Please read the information on academic integrity carefully. It is your responsibility to be familiar with the Academic Honor Code and the content on the Academic Integrity website. The address is:
http://tl.ust.hk/integrity/student-1.html

Plagiarism and copying will be STRICTLY punished. I will report any cases to the University WITHOUT EXCEPTIONS.

H. Classroom Etiquette

You are expected to arrive for a lecture on time, and I will start and end the lecture on time. You should demonstrate respect for others during lecture time. Especially, please try to avoid side conversations when your classmates raise questions or give comments. You are welcome to bring your laptop or other devices to lectures to take notes or perform calculations.

Surfing the internet, checking email, or instant messaging is to be done outside the classroom. Please visit the following site for general guidelines on proper classroom behavior: http://tl.ust.hk/conduct/good_learning_experience.pps