HKUST Business School - Department of Economics

Course Outline
ECON 5370 – Using Data for Economics Analysis (Spring 2021-22)

Lecture Time:	Friday 1:30-4:20pm
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

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 up their findings in written reports.

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

Prerequisite: ECON 5130 or 5140 or equivalent.

This is a three-credit course.

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" written 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" written by Jeffrey M. Wooldridge, published by Thomson, South-Western.
- "Guide to Modern Econometrics, Third Edition" written by Marno Verbeek, published 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) in-class/Take home programming exercises, (3) Quiz, (4) 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) In-class/Take home programming exercises	Gaining hands-on experience with R programming	1,2
(3) Quiz	Assess understanding of course materials	
(4) 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. Also, there is a quiz to assess your understanding of the course materials.

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) <u>In-class/Take home programming exercises (10%)</u>

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

(2) <u>Quiz (20%)</u>

On an individual basis. Questions will be familiar to those as problem sets

(3) <u>Course project (70%)</u>

i. Report/Paper – 50% (group basis)
ii. Regular Progress Meeting – 5% (individual basis)
iii. Presentation – 10% (individual basis)
iv. Peer Evaluation – 5% (group 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 (5 March 2022).

Every group must meet and discuss with me your progress once every two weeks. Fail in doing this will lead to deduction of rating.

You are required to present your course project (draft) in class during the last two weeks of the period of instruction.

However, the deadline for submitting the final version of the course project to me (electronic copy) is 12:00noon, 4 June 2022. You have to submit the written report, all data files, and the R program. I may replicate your findings described in your written report by using your R program.

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