HKUST Business School - Department of Economics

Course Outline
ECON 5370 – Using Data for Economics Analysis (Spring 2020-21)

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	Sunny WONG
Office:	Room 6066, Lee Shau Kee Business Building
Email	ecswong@ust.hk
Office Hours:	By appointment

A. Course Description

Students puts econometrics theories and models students learned into practice by working with real data in this course. Students need to find their research questions, datasets, use the R program to perform data analysis, and report their findings in written reports.

The course mainly focuses on data analysis with R. Students are expected to know econometric theories and models, e.g., linear regression, panel data analysis, and time series analysis regarding estimation, hypothesis testing, and statistical interference. Students need to do a course project with R on top of in-class programming exercises. Prerequisite: ECON 5130 or 5140 or equivalent.

Please note that this is a three-credit course.

B. Textbook:

There is no assigned textbook for this course. Lecture materials will be mainly based on the following:

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 in analyzing economic issues in the real world with solid support by data, including identification of research questions, looking for suitable data sources, establishing reliable research methodology according to research questions and data availability
2. To achieve a fundamental understanding of the R platform, including familiarizing R working environment, performing data management with R, using graphic functions for presentation, writing R scripts for specific research projects
3. To enhance 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) Midterm exam, (4) Course project + Presentation

Teaching & Learning Activities	Roles in the Course	PILO Addressed
(1) Lectures	Explain key concepts and applications; Examples to enhance student's understanding	1,2
(2) In-class/Take home programming exercises	Having hand-on experience to familiarizing the R platform	1,2
(3) Course project + Presentation	Applying materials covered in the course; Building up analytical and problem-solving ability; Enhancing writing and presentation skills	1,2,3

This is a three-credit course. We will meet once (each meeting lasts for two hours and fifty minutes) every week from week 1 to week 6 (tentatively) for the discussion of the course materials, in-class computer exercises. You are required to present your course project during the last two weeks of the period of instruction. This arrangement aims at providing you with enough time and flexibility to work on your course projects.

E. Course Website

Course materials and announcements will be posted on the CANVAS. It is YOUR responsibility to check 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 lecture.

(2) <u>Course project</u>

i. Report/Paper – 60% (group basis)

ii. Regular Progress Meeting – 10% (individual basis)

iii. Presentation – 10% (individual basis)

iv. Peer Evaluation – 10% (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 2021).

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 2021. 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 are 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