

## HKUST Business School - Department of Economics

### Course Outline ECON 5370 – Using Data for Economics Analysis (Spring 2017)

<b>Lecture Time:</b>	Friday 15 to 17:50
<b>Venue:</b>	G021 (Computer Lab), Lee Shau Kee Business Building
<b>Course Website:</b>	CANVAS
<b>Instructor:</b>	SIU, Kam Wing (蕭錦榮)
<b>Office:</b>	Room 6054, Lee Shau Kee Business Building
<b>Email / Phone:</b>	<a href="mailto:eckwsiu@ust.hk">eckwsiu@ust.hk</a> / (852) 2358-7617
<b>Office Hours:</b>	By appointment
<b>Teaching Assistant</b>	Jeremy TO
<b>Office:</b>	Room 6066 (Computer Lab), Lee Shau Kee Business Building
<b>Email / Phone:</b>	<a href="mailto:ecjeremy@ust.hk">ecjeremy@ust.hk</a> / (852) 2358-7629
<b>Office Hours:</b>	By appointment

#### A. Course Description

This course puts econometrics theories and models students learnt into practice by working with real data, students need to write their own program with R to do data analysis.

The course mainly focuses on data analysis with R. Students are expected to have knowledge in 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 exercise. 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:

- “R In A Nutshell”, Joseph Adler, published by O’Reilly.
- “Data Analysis and Graphics Using R, Third Edition” written by John Maindonald and W. John Braun.
- “Mostly Harmless Econometrics – An Empiricist’s Companion”, Joshua D. Angrist and Jörn-Steffen Pischke, published by Princeton University Press.
- “Introductory Econometrics: A Modern Approach, Second Edition” written by Jeffrey M. Wooldridge, published by Thomson, South-Western.

Students may find the following being useful references:

- “Guide to Modern Econometrics, Third Edition” written by Marno Verbeek, published by John Wiley & Sons
- “Applied Econometric Time Series, Third Edition” written by Walter Enders, published by John Wiley and Sons.

Besides, journal articles would be used for in-class student presentation.

**C. Learning Outcome – Program Intended Learning Outcomes (“PILOs”):**

1. To apply econometric theories and models in analyzing economic issues in real world with solid support by data, including: identification of research questions, looking for suitable datasources, establishing solid research methodology according to research questions and data availability
2. To achieve 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 computer exercises, (3) in-class student presentations on journal articles, (4) course project (including presentation of findings)

Teaching & Learning Activities	Roles in the Course	PILO Addressed
Lectures	Explain key concepts and applications; Examples to enhance student’s understanding	1,2
In-class programming exercises	Having hand-on experience to familiarizing the R platform	1,2
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 5 (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 period of instruction. This arrangement aims at providing you 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. In-Class Programming Exercises (15%):

On an individual basis, exercises are related to lecture materials. You are required to submit your answers during the classes.

2. Course project (70% + 15%):

On a group basis, you are required to choose a topic (research questions) and write a course project based on original research. Please note that data analysis techniques adopted in your course project should be related to those covered in this course.

The topic and datasources must be approved by me on or before March 10, 2017 (Fail in meeting this deadline will be subject to grade penalty). Every group must come to see me to discuss the possible topics, methodology, and data sources for their course project as soon as possible.

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, June 2, 2017. You have to submit the written report, all data files and R program. I may replicate your findings described in your written report by using your R program.

Please note that the course project will contribute 70% of your final grade and your performance in course project presentation will contribute 15%. In other words, course project in total will contribute 85% of your final grade.

### **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 lecture on time and I will start and end the lecture on time. You should demonstrate respect for the 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 classroom. Please visit the following site for general guidelines on proper classroom behavior:

[http://tl.ust.hk/conduct/good\\_learning\\_experience.pps](http://tl.ust.hk/conduct/good_learning_experience.pps)